

# 5

## Central Data Repository (CDR) & Its Role In The Integrated Environment

### 5.1 Section - I Need for CDR – A Point for Coordination and Consolidation

5.1.1 The importance and role of the Provincial Vehicle Registration Systems has been covered in detail in the preceding chapter. This chapter discusses in further details, the inherent limitations of the Registration Systems, as they currently reside and operate in isolated “Provincial domains”. The section also explains the need for a **Central Data Repository**, or point of coordination and consolidation (suggested as a Federal role in *Chapter 4*). It further explains how such a Central Data Repository (CDR) integrates and improves the efficiency of Provincial systems by addressing the gap that presently prevents IT-enabled Inter-Provincial Transaction Management and Reconciliation; and how the suggested concept of CDR – residing as a central hub of data in the Federal domain can further address National and Federal requirements in the integrated environment.

#### 5.1.2 Limitations of Present Provincial Systems

The Vehicle Registration Systems of the Provinces have undergone change only in recent years through the introduction of new computerised systems, standardized international quality, reflective number plates and secure documentation. The current status of

recent Provincial initiatives and of older legacy computerized systems in some Provinces is summarized in the table given in the previous chapter.

5.1.3 The computerization by Provinces has taken place at different times and therefore has focused on varying problems and priorities of the time. More recent systems have a greater focus on addressing problems which occur not just within a Province but as a result of increased inter-Provincial mobility of vehicles. Inter-Provincial requirements typically arise upon:

- Sale or transfer of the vehicle,
- Change of address,
- Road and vehicle taxes paid in a Province other than the Province of registration, etc.

5.1.4 Several aspects that relate to the wider national requirements have also not been fully considered in the past and therefore leave certain problems unaddressed. The reason appears to be a lack of inter-Provincial and Federal coordination on the subject.

5.1.5. The diagram below shows the interaction that stakeholders require with the vehicle registration system, for their respective functions. However, as

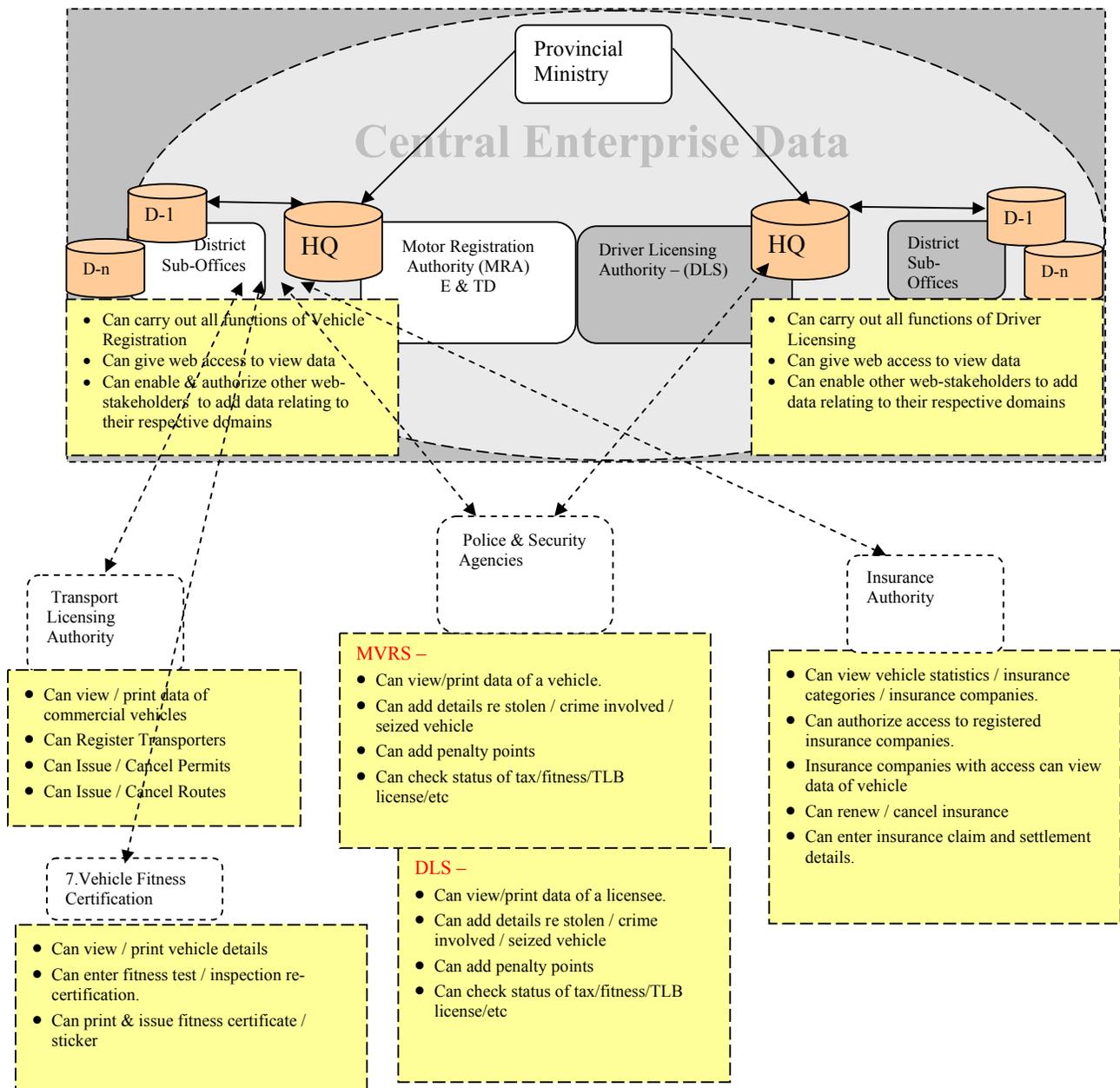
**CENTRAL DATA REPOSITORY (CDR) & ITS ROLE IN THE INTEGRATED ENVIRONMENT**

the systems reside in independent Provincial domains and lack a central point where data of all Provincial systems can be consolidated, the stakeholders cannot access data without interacting with each Provincial system.

has the same inherent limitations for serving national needs, as the vehicle registration systems. Moreover, the subject of Driver Licensing, is covered in more detail in the next chapters separately, as an important area relating to modernization of the trucking industry.

5.1.6 The diagram below also features the driver licensing system, as this system

**Figure I: Diagram of Enterprise Application Design (without Central Data Repository) as currently being progressively deployed in Provinces**



5.1.7 Vehicle Registration Systems being modernized by the Provinces, Islamabad Capital Territory and AJ&K introduce the advantages of Information Technology and Computerisation (ICT) and undeniably yield substantial improvements. However, these are at the Provincial levels. The following problems and limitations continue to persist:

i) Ineffective data and information exchange between Provinces, relating to vehicle and owner.

- ii) Un-reconcilable position of vehicle and road tax revenues collected by Provinces on behalf of each other.
- iii) Lack of control and management of NOCs issued by a Province for re-registration of vehicles in other Provinces.
- iv) Limited capability for policing and checking agencies to carry out on-the-spot checks of vehicle and owner credentials, especially when checking vehicles of other Provinces.

## **5.2 Section - II Role of the Central Data Repository (CDR)**

5.2.1 The inherent limitations of vehicle registration systems operating in Provincial domains can be overcome by establishing a **Central Data Repository (CDR)**. This enables selective data - such that requires Inter-Provincial transaction tracking and reconciliation, or Provincial data that requires access by national stakeholders - to be assembled (or centralized) at one point. It obviates the need for access by a stakeholder to each respective Provincial system. An example of this is national truck data (consolidated data of all Provincial and Territorial vehicles) being made available to NHA, NH&MP, etc. It also solves many of the issues which would otherwise still remain unaddressed, even if access to each respective Provincial system was practically made possible. An example of this is *identification and investigation of duplicate engine and chassis numbers by Customs, Police, etc.*

5.2.2 Apart from addressing national stakeholder needs, the CDR also solves the problem of inherent limitations and lack of capability for managing inter-Provincial transactions. *Reconciliation of inter-Provincial taxes collected by Provinces on each other's behalf* (of which there is currently no reconciliation or settlement mechanism); *tracking and reconciliation of NOC issued by a Province for transfer of vehicle to other Province, or NOC issued by a Province*

*for payment of road taxes and fees in other Province, etc.* are examples of such inter-Provincial requirements that have not been addressed.

5.2.3 The CDR has a central consolidating and coordinating role, similar to the role of a central bank in reconciliation and settlement of inter-bank transactions. It is, therefore, suggested that the functions of a CDR are Federal (or central) in nature.

5.2.4 In terms of the logical and physical placement of the CDR, it requires a physical location as a **"National Repository"**. The physical location would constitute the legal residence of the CDR. As **National Database & Registration Authority (NADRA)** is the registration authority that has the status of custodian for government databases (in addition to its functional responsibilities for the national identity card and the machine readable passport), it is currently the obvious choice for custodianship of the CDR.

5.2.5 While identifying NADRA as the logical custodian for the CDR, it is pertinent to distinguish the **"custodianship"** role as distinct from the **"functional"** role. As custodian, it is not necessary that NADRA should also be expected to assume a role for any registration related functions. Such functions may be viewed as a transgression on the Provincial domain. Moreover, the natural integration and interplay of

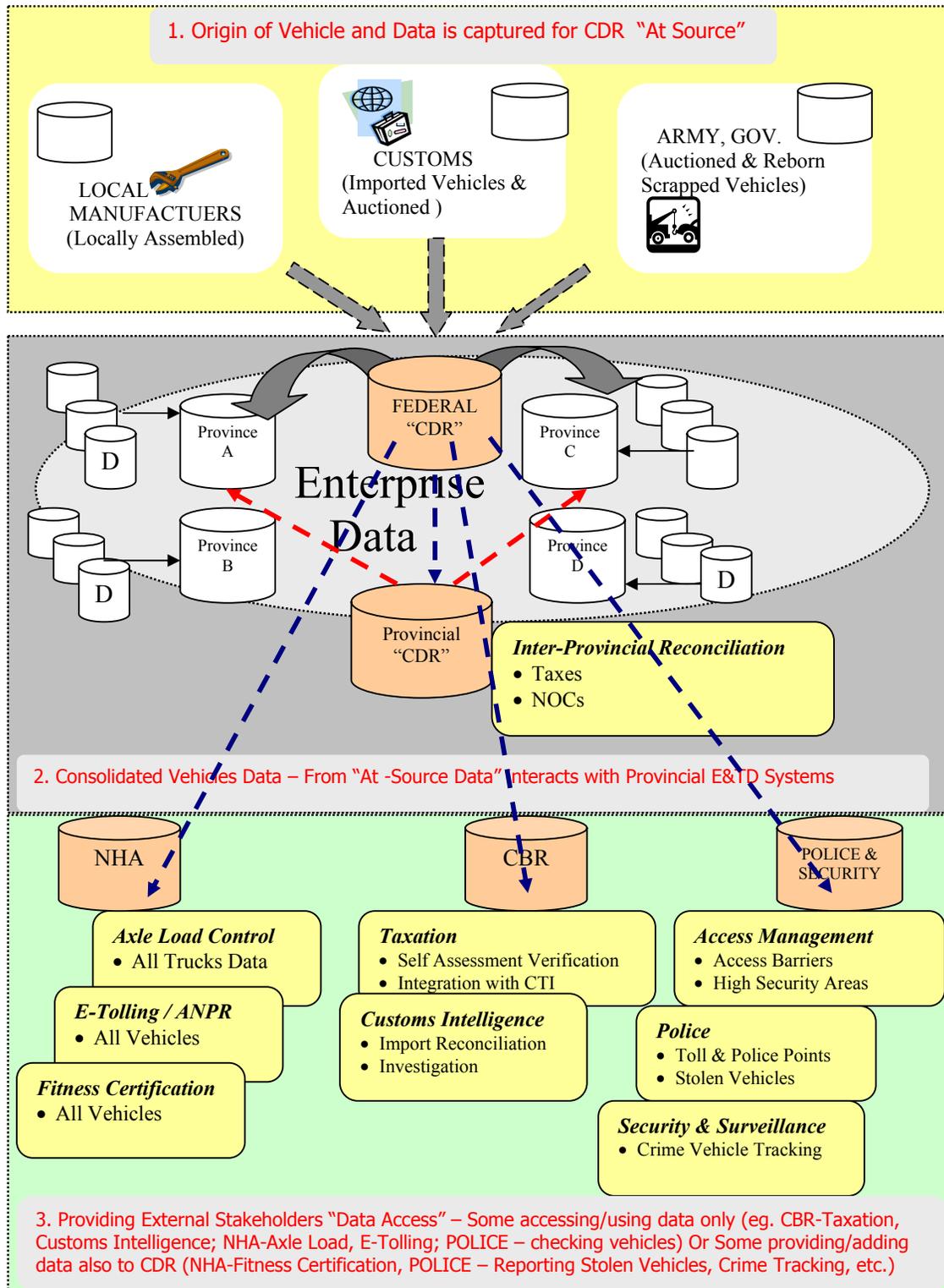
Vehicle Registration Systems is with many other domains (legal and functional). Most noteworthy is its relationship with Taxation Systems, under the concept of integration between taxation domains, the unique tax identifier for the registered tax entity and improved documentation of the economy. Further, stakeholders requiring access to central vehicle data would essentially be accessing Provincial data provided by the respective registration systems of the Provinces. This important aspect will require clarity and due consideration, keeping in view what would be politically expedient and also keeping in view the increased functional role and participation that NADRA presumes it can have in vehicle registry functions. The important point, for acceptability and success of the CDR concept, is that the Provinces should accept it and should agree to provide data, without viewing the concept as a transgression on the Provincial domain.

5.2.6 Figure-II depicts the role of the CDR in an integrated environment.

5.27. The above diagram illustrates three important aspects of the CDR, i.e:

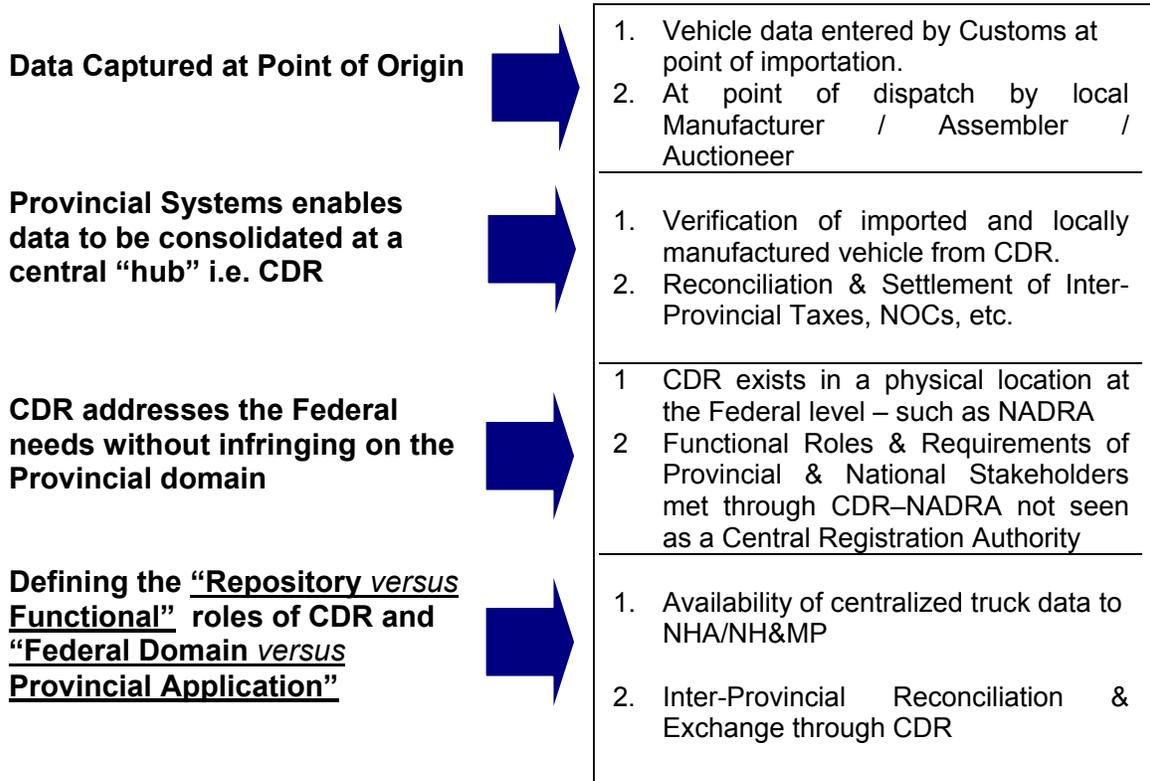
- a) Interfaces of other systems with the CDR, providing the capability to capture data of vehicle at source, as it originates. This capability is required mainly at points of importation, local manufacturing, assembly of vehicles and auction of scrapped vehicles that re-enter the system through currently weak and unregulated procedures. This capability ensures that:
  - i) Data of all vehicles entering the system through regular channels is maintained in the CDR and is available for reference and verification at the time that the vehicle is registered in any District/Province at a subsequent stage.
  - ii) The current problems experienced by E&TD, of long delays in obtaining verification from customs and manufacturers are addressed. It also takes the simple approach that Customs and Manufacturers/Assemblers should provide data of the vehicle when it is cleared and dispatched from the port/factory. The data having been provided by the point of origin, then resides in the CDR, for electronic confirmation by E&TD from the CDR, replacing the need for reverting back to the point of import (Customs) or the Manufacturer / Assembler.
- b) Creation of a central point that is capable of interfacing with each Provincial system. The CDR can receive data, update transactions and can verify enquiries from the Provincial systems {in addition to points of vehicle origin as explained in i. above} and hold consolidated data. The capability ensures:
  - i) That Provinces can carry out Inter-Provincial data exchange, transactions, co-ordination and reconciliation of transactions and revenues settlement.
  - ii) That stakeholders can access National Vehicle Data - directly from CDR or by maintaining a sub-database in their respective domains, that derives selective data from the CDR; specific to the stakeholder needs.

Figure-II: Role & Functionalities of Central Data Repository (CDR)



**5.3 Section – III Requirements for an effective CDR**

5.3.1 The requirements for an effective CDR are illustrated below:



**5.3.2 Including AJ&K, ICT, FANA & FATA in the Central System**

While defining the Policy Regime for the Modernization of the Trucking Sector, the CDR concept and indeed other subjects in the context of National Trade Corridor Improvement Programme (NTCIP), it is pertinent to mention that national truck data resides not only in the Provincial systems but also in the systems of the other territories and Federally Administered areas, namely AJ&K, ICT, FANA and FATA.

5.3.3 It is, therefore, relevant that representation of Territories and Areas, which appear to have been hitherto overlooked in forums that invite Provincial representation to deliberate upon the subject of NTCIP, etc. are also included in future Policy Regime. This is relevant both in the context of modernization of the trucking industry and in the context of other subjects such as formulation of the CDR, NTCIP, etc.

<b>5.4 Section – IV Recommendations and Policy Interventions</b>
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5.4.1 A Central Data Repository (CDR) shall be established at the Federal level (without infringing the Provincial domain), and legal aspects that relate to its physical placement, custodianship of data, repository and functional role and responsibilities of the selected custodian, are considered. GoP has consented **NADRA** to be the ideal custodian of the CDR without having a functional role in vehicle registration.

5.4.2 The design of CDR, its integration with Provincial systems, the interfaces with stakeholder systems, both for receiving data and sharing data, need to involve Provincial and other Territorial representation, for achieving consensus and agreement on the detailed role, functions and regulation of the CDR.

5.4.3 Motor Vehicle Registration Laws and Regulations, while being reviewed, need also to consider the necessary changes that provide the legal and regulatory cover for establishing the CDR, enabling its interaction with Provincial Vehicle Registration Systems and providing for interface with other Stakeholder systems.

5.4.4 **Implementation**

Ministry of Communications to establish the role, stakeholder functions of the Federal CDR, in consultation with the Provincial Stakeholders such as the E&TD, Transport Departments, while also establishing the role of NADRA, as the custodian of the Federal CDR.