CHAPTER 1

INTRODUCTION

A toll road, also known as a turnpike or toll way, is a public or private roadway for which a fee or toll is assessed for passage. It is a form of road pricing typically implemented to help recuperate the cost of road construction and maintenance, which (on public roads) amounts to a form of taxation. Since from decades maintain and cost of road-ways are collected in direct manner or indirect manner in the older era the cost incurred were compensated either by tax payment on fuel or by budget allocation from national income disadvantage of this tax collection was tax payers had to pay for roads which was not at all use by them that means they have to pay extra money. However in other method, tolls are directly taken from the drivers passing road/street. Many benefits are it is a source of the capital generation, then management of traffic jam problem, firm request management.

Toll roads in some form have existed since antiquity, collecting their fees from passing travelers on foot, wagon or horseback; but their prominence increased with the rise of the automobile, and many modern toll ways charge fees for motor vehicles exclusively. The amount of the toll usually varies by vehicle type, weight, or number of axles, with freight trucks often charged higher rates than cars.

Tolls are collected at points known as toll booths, toll houses, plazas, stations, bars, or gates. Some toll collection points are unmanned and the user deposits money in a machine which opens the gate once the correct toll has been paid. To cut costs and minimize time delay many tolls today are collected by some form of automatic or electronic toll collection equipment which communicates electronically with a toll payer's transponder. Toll booths are usually still required for the occasional users who do not have a transponder. The tolls are often prepaid or collected "automatically" from an affiliated credit card service. Some toll roads have "automated" toll enforcement systems that take photos of drivers who do not pay the tolls and their license plates. They typically get the toll bill along with a fine.

In addition to toll roads, toll bridges and toll tunnels are also used by public authorities to generate funds to repay the cost of building the structures. Some tolls are set aside to pay for future maintenance or enhancement of infrastructure, or are applied as a general fund by local governments, not being earmarked for transport facilities. This is sometimes limited or prohibited by central government legislation. Also road congestion pricing schemes have been implemented in a limited number of urban areas as a transportation demand management tool to try to reduce traffic congestion and air pollution.

1.1 HISTORY

Toll roads have existed for at least the last 2,700 years, as tolls had to be paid by travelers using the Susa–Babylon highway under the regime of Ashurbanipal, who reigned in the 7th century BC. Aristotle and Pliny refer to tolls in Arabia and other parts of Asia. In India, before the 4th century BC, the Arthasastra notes the use of tolls. Germanic tribes charged tolls to travelers across mountain passes. Tolls were used in the Holy Roman Empire in the 14th and 15th centuries.

Turnpike trusts were established in England and Wales from about 1706 in response to the need for better roads than the few and poorly-maintained tracks then available. Turnpike trusts were set up by individual Acts of Parliament, with powers to collect road tolls to repay loans for building, improving, and maintaining the principal roads in Britain. At their peak, in the 1830s, over 1,000 trusts administered around 48,000 km of turnpike road in England and Wales, taking tolls at almost 8,000 toll-gates. The trusts were ultimately responsible for the maintenance and improvement of most of the main roads in England and Wales, which were used to distribute agricultural and industrial goods economically. The tolls were a source of revenue for road building and maintenance, paid for by road users and not from general taxation. The turnpike trusts were gradually abolished from the 1870s. Most trusts improved existing roads, but some new roads, usually only short stretches, were also built.

1.2 OBJECTIVES OF TOLLING

- **Finance/Revenue Generation**: To recoup the costs of building, operating and maintaining the facility. Road pricing is becoming a more appealing means of funding transportation, since revenues from federal and state gas taxes have not kept up with growth in demand for infrastructure. Moreover, toll financing allows projects to be built sooner instead of waiting for tax revenues to accumulate.

- **Demand Management**: To moderate the growth in demand on the transportation system, and to encourage more use of public transportation and carpooling. For example, vehicles are charged to enter inner London, England, as a way of regulating the demand in the region.
- **Congestion Management**: To place a price on limited roadway space in proportion to demand. In this application the toll increases with the level of congestion. In the absence of such pricing, drivers do not appreciate the costs they impose on others as a result, they cause congestion.

1.3 CHARGING METHODS

Road tolls were levied traditionally for a specific access e.g. city or for a specific infrastructure e.g. roads, bridges. These concepts were widely used until the last century. However, the evolution in technology made it possible to implement road tolling policies based on different concepts. The different charging concepts are designed to suit different requirements regarding purpose of the charge, charging policy, the network to the charge, tariff class differentiation etc.

- **Time Based Charges and Access Fees**: In a time-based charging regime, a road user has to pay for a given period of time in which he may use the associated infrastructure. For the practically identical access fees, the user pays for the access to a restricted zone for a period or several days.
- **Motorway and other Infrastructure Tolling**: The term tolling is used for charging a well-defined special and comparatively costly infrastructure, like a bridge, a tunnel, a mountain pass, a motorway concession or the whole motorway network of a country. Classically a toll is due when a vehicle passes a tolling station, be it a manual barrier-controlled toll plaza or a free-flow multi-lane station.
- **Distance or Area Charging**: In a distance or area charging system concept, vehicles are charged per total distance driven in a defined area.