



## **Importance Monopoly and Importance Competition on the Urban Network Infrastructure (Case study: Public transportation lane No.10 and 96 of Mashhad bus system)**

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### **Abstract**

Urban long-lived basic facilities and facilities, which are necessary for the national economy of a country and serve only indirectly the production are the pillars and the backbone of cities and play a vital role in any development such as mobility, housing, energy, portable water, sanitation and communication and all similar facilities. So far, there would be no development without good quality and sufficient infrastructure. Traffic development as an important infrastructure has a major impact on the urban economy, sustainability, future viability and traffic is therefore a major concern for urban operators around the world. This paper aims to clarify our understanding of the functioning of competition in the local public transport sector and to evaluate its effectiveness in urban economy and management. Therefore, Mashhad's public bus system, which includes monopoly and competition markets, is selected to provide a conceptual framework to identify the best practices for providing this specific public infrastructure. The main question, therefore, is the role of private sectors and the differences between these two types of markets. In response, I will compare the costs and revenue of both the private sector and the current Mashhad bus to compare maximum efficiency and profits under competitive conditions. The main question, therefore, is the role of private sectors and the differences between these two types of markets. In response, I will compare the costs and revenue of both the private sector and the current Mashhad bus to compare maximum efficiency and profits under competitive conditions.

**Keyword:** Private sector, Economic development, Monopoly firm, competition firms, public bus transportation system

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### **Introduction**

The fabulous the cities are almost as old as their civilization. Cities were centers of wealth and power, recreation and degeneration, and bitterly disappointed. In recent times, many countries could experience very rapid urbanization. That is why a large part of the world's population today live in cities. But cities are among the most complex national creations, and in many respects least understood. This is dramatically clear with the outbreak of urban problems throughout the world from the late 1950s onwards. Since then, numerous scientists have been working in different areas to improve their understanding of the cities. Especially with regard to economics, these urban problems have triggered the birth of a new field, namely the urban economy [1]. The link between transport and economic development has far-reaching implication, which goes beyond the basic purpose of moving goods and people from one place to another. While there is no doubt that transport is indispensable in the transport

sector, there is still a lot to consider as an effective transport system can boost the productivity of the economy [2]. Transport and the transport industry also has a strong role as a model for the development and environment. Policy concerns in the next millennium will increasingly focus on the effects of transportation on where people live and on where businesses locate; and on the effects that these location decisions have on land use patterns (Figure no.1), congestion of urban transportation systems, and use of natural resources, air and water quality, and the overall quality of life [2]. That's why providing public transportation is a critical concern of urban authorities. Users of this specific infrastructure need safe and comfortable services with affordable prices and appropriate coverage. On the other hand, it must guaranty a suitable income for the owners in order to continue the business. Therefore, with regards to the role of public transportation in saving time and space, determining land use, increasing urban investment and etc., this research aims at representing a viewpoint for managing public bus transportation in a metropolis of a developing country. Furthermore, it's necessary to make appropriate decisions to develop economic policies in urban transportation section as an

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important part of urban economic developments. At this point, participation of private sectors in order to improve the quality of government services is highlighted. In between, some important questions are asked regarding which are as follows:

- 1- What is the role of public transportation network in urban infrastructure?
- 2- How does transportation infrastructure affect urban economic development?
- 3-What are the differences in providing public transportation under the coverage of public sectors and private owners?

Urban transportation networks have a major impact on the formation of urban shape, creating communities, commercial centers, municipal departments and how to move through such centers. Additionally, it can support economic development through facilitating the movement of goods, services and people between different regions. With regards to the importance of public transportation network in cities, operating of this system has high significance in urban managing. And because of this, making proper policies in public transportation management counts as a key area of economic growth. Lack of proper management in public transportation network as an essential infrastructure leads to social, economic and environmental issues in the city. In this article we are going to review different management systems, economic markets and existing system in Mashhad public transportation. Economic monopolies and perfect competition are two glare points in the economic product structure. There are some similarities between these two types of markets: both have the same legal costs and production methods, but a maximum benefit would be possible. On the other hand, the benefits of (money) saving effects may not be achievable in a highly competitive industry. Despite the higher price and the lower quality of the monoproducts in the competition, however, the companies decide to produce modestly. , from 2007 the partnerships of the private sector in Iran are activated and Mashhad has been added with two years delay. Thus, part of the public transport in Mashhad has granted private companies. Therefore, this research will take place in the current Mashhad public bus system, which is contrasted by two categories of management: firstly, part of the public transport system under the supervision of the public sector, and the second by several private operators, which is more useful under the present circumstances.

## 2. Literature review

### 2.1. Infrastructure and Private Sectors

Across the globe, infrastructure is the lifeblood of prosperity and economic confidence in the 21st century. Well-planned and well-executed investments offer developing economies the hope of basic facilities for all and a chance to compete in a global market. In developed economies, superior and well-maintained

infrastructure attracts the best talents while dynamic businesses seek reliable connectivity and a high quality of life for workers. Infrastructure (the structure or underlying foundation on which the continued growth of a community depends) is critical for countries in all stages of development [3]. Energy, water, transportation, digital communications, waste disposal networks and facilities, are essential ingredients for the success of a competitive modern economy. Research shows that well-designed infrastructure investments have long-term economic benefits; they can raise economic growth, productivity, and land values, while providing significant positive spillovers. However, investing wisely in infrastructure is critically important as over-investment could lead to projects which are inefficiently large and, therefore, have low marginal returns [4]. Historically, most infrastructure investment was undertaken by the private sector. Heavy government involvement is a more recent, 20th century, phenomenon. However, the performance of public infrastructure (airports, highways, waterways and public railways) are far from exemplary, with cost blowouts, planning and construction delays as well as commonplace safety problems, a lack of innovation and technological advances. Since the 1980s, there has been a renewed push to involve the private sector in infrastructure, either exclusively or in partnership with the public sector [5]. Infrastructure projects typically exhibit economies of scale, possibly leading to natural monopolies; they may be socially desirable but not privately profitable. In order to correct these failures, governments may regulate to private service providers or provide the services themselves [5].

### 2.2. Role of Transportation in Economic Development

The principal role of transportation is to provide or improve access to different locations for businesses and individuals, for both freight and personal movements. On the business sector's side, this involves connections between businesses and their suppliers, between businesses and other businesses, and between businesses and their markets. For the household sector, transport provides people with access to workplaces, schools and shops. It connects them to social, recreational, community and medical facilities for personal and leisure activities. The level of investment in transportation together with the amount of expenditure on transportation operations can have wider effects on the economy (as is seen when price of transport fuel increase substantially, it results in reduced household expenditures on other goods and services) [6]. The direct effects of transport investment are to reduce transport time and costs through reducing travel times, decreasing the operating costs of transport and enhancing access to destinations within the network. Additionally, transport investment may mitigate any economic dis-benefits, for example, by reducing

congestion or the risk of injury. These incremental benefits of transport investments may be measured through conventional cost-benefit analysis [6]. Other indirect consequences of transport investments had better be considered in the evaluation of transportation projects. These include effects on productivity and the spatial pattern of economic development. In the long term, transport investments contribute to economic development by stimulating a variety of inter-connected economy-wide processes, which can yield spatial and regional effects that augment Page 5 of 19 overall productivities. In particular, lower costs and enhanced accessibility, due to better transport links and services, expand markets for individual transport-using businesses and improve their access to supplier inputs. Increased access and connectivity create increased opportunities for trade, competition and specialization, which can lead to longer-term productivity gains. These changes are analogous to the gains from lowering barriers to trade and the expansion of opportunities which are borne as the result. Therefore, knowing the circumstances in which these impacts occur is an important part of understanding the economic benefits that may arise from transport investments [6].

### **2.3. Pure Monopoly**

A pure monopoly exists if only one firm produces a commodity for those which have no close substitutes. A pure monopolist faces no competition from other producers since there are no close substitutes for its product. But such a condition is rare because there are substitutes for almost all commodities. The products of firms commonly regarded as monopolies have some substitutes: a telegram substitutes for a telephone call; natural gas and fuel oil can substitute for electricity used in heating; aircraft and buses provide transportation alternatives to trains [7]. The definition and identification of monopoly depends on the closeness or similarity of such substitutes, and thus on the extent of the firm's power to affect the price of the product by controlling the quantity supplied to the market. Hence, a monopolist is described as a price maker [7]. Other firms are prevented from producing the same commodity by various barriers. Some monopolistic conditions are created by government actions, including the granting of patents, creation of public utilities, sales of franchises, and the placing of quotas or embargoes on specific imports [7].

### **2.4. Natural Monopoly**

Older industrial organization theory cites that the presence of scale economies determines whether an industry is a natural monopoly. It is important to note that much of the theory of natural monopoly is concerned with the precise meaning of increasing returns or, equivalently, decreasing average costs. Scale economies exist when a proportionate increase in output leads to a less-than-proportionate increase in cost. [8].

### **2.5. Government Monopoly**

A government monopoly is the existence of a government monopoly in a certain product or service market appearing as the monopoly of specific government enterprises (for instance, railway transport), including barriers to the entry of new firms to a particular branch (for instance, in the field of exports and imports of essential goods of strategic importance). Unlike perfect competition, this type of monopolist sets the price in the market based on market demand and its costs. Thus, in a government monopoly, the monopoly is fully or partially government-owned and is managed by a board of directors appointed by the government. In this case, prices are determined on the basis of government financial policies [9]. A government-regulated private monopoly is controlled by private individuals whose activities are most often limited by the government's tariff policies. Prices are determined on the basis of government tariff policies [9].

### **2.6. Competition**

The notion of competition is of central importance for a long time both in (micro) economics and strategic management. While these two disciplines are highly interrelated, they treat competition in distinct ways. Indifferences on how competition is treated stem primarily from conceptual differences in the concepts of markets and firms. In order to understand the concept of competition, it is important to highlight that strategic management scholars explicitly view competition as a function of firm strategy and not as a function of markets. Central to this important conceptual difference of competition is the fact that strategic management scholars perceive firms as inherently different. In fact, according to strategy scholars, it is these differences that provide firms with opportunities to appropriate economic value and endure competition [10]. One common and intuitive starting point for measuring competition is the extent to which production is concentrated in the hands of a few firms, each of which faces comparatively little rivalry. The crudest measure of this concentration is simply the number of firms that are operating in the same or a recognizably similar market. In order to be useful, this measure depends on there being some practical method of defining the relevant market [11].

### **2.7. Perfect competition**

Classic models of microeconomic theory usually treat competition in separation from strategies interaction. While the notion of competition usually suggests some sort of rival behavior among firms that are trying outperform their rivals in order to survive, such models rather treat competition only in relation to the prices invoked by firms in their respective markets. Such microeconomic models base their assumptions on the existence of perfectly competitive markets [12]. A

perfectly competitive market satisfies four basic assumptions:

- 1- The number of sellers and buyers in the market are very large.
- 2- There are no barriers to enter the market.
- 3- The products exchanged in the market are homogeneous.
- 4- Buyers have full information on the prices announced by the sellers [12].

Neoclassical economists borrowed from their classical predecessors the view that, in a production economy, perfect competition is the simple, inescapable conclusion of free entry and with free entry comes zero profits. Almost to the same extent as price-taking, the common identification of perfect competition with a free entry/zero profit equilibrium eliminates the space needed for the expression of market creativity [10].

## 2.8. Differences between perfect competition and monopoly

Monopoly and perfect competition mark the two extremes of market structures, however, there are some similarities between firms in a perfectly competitive market and monopoly firms: both face the same cost and production functions, and both seek to maximize profit yet the shutdown decisions are the same, and both are assumed to have perfectly competitive factors markets. However, there are several key distinctions. Therefore, a general comparison between monopoly and perfect competition is depicted as follows: (Table 1) Afterwards, we are facing the question of which one of these markets can perform better in existing conditions of city of Mashhad in providing public bus network?

## 2.9. Mashhad public bus transportation system

Since Mashhad is the second most populous metropolitan area in Iran with two and a half million people living in and accepting 11 million pilgrims per year, it is always facing with an increase in air pollution and traffic congestion. Thus, providing efficient public transportation is necessary. Public transportation functions as city vessels which transport passengers everywhere. Provided the system runs perfectly, there will be no time loss for passengers to reach their own destinations and there would be efficiency for passengers in time management, urban development and running projects. In Iran, due to the lack of advanced transportation system such as subway, tramway, monorail, LRT and etc. public transportation is mostly interpreted as public bus services [13]. Hence, Mashhad public bus transportation system, an important part of which works under the coverage of private sectors, is chosen to be studied in this paper. Thus, lane no. 96 which is public and lane no. 10 which is a private lane are emphasized.

### 2.9.1. Introducing Lane No. 96 (public operator)

- Lane no. 96 which is a public lane, covers region one from public transportation land zoning. The bus starts its route at Azadi Terminal and after passing 17 kilometers and stopping at 35 stations, it terminates at Niroo Havayi Terminal. Image no.1 shows the path of lane no.96.

- Right now there are 10 active buses for this specific lane (Mega Trance Benz model mostly). Each bus uses 120 Liters gasoil daily, needs 2 drivers in each shift (first shift starts from 6 A.M. to 2 P.M. and the second one is from 2pm to 10pm), carries 300-400 passengers per shift and transport 700 passengers on average per day.

- Lane no.96 covers south-west of Mashhad and counts as one of the most popular public lanes. Region of influence for this lane includes, approximately, 80,000 people.

- According to the abovementioned details, lane no.96 has 10 active buses, each of which needs 2 drivers who are paid 16,000,000.00 IRR per month. Each bus has to operate 16 hours which starts at 6 A.M. And ends at 10 P.M. Every bus transports average of 700 passengers per day and every passenger pays 3,000 IRR per travel while each bus needs 120 Liters of gasoil per day and cost of gasoil is 6,000 IRR per liter.

### 2.9.2. Introducing Lane no. 10 (private operator)

- Lane no.10 which is a private lane, covers region two from public transportation land zoning. The bus starts its path at Ghadir Terminal and after passing 42 kilometers and stopping at 55 stations, it ends its path at Vakilabad Terminal. Image no.1 shows the path of lane no.10.

- Right now there are 20 active buses for this specific lane (Scania 457 model mostly). Each bus uses 100 Liters gasoil daily, needs 2 drivers in each shift (first shift starts from 6am to 2pm and the second one is from 2pm to 10pm), carries 400-500 passengers per shift and transport 900 passengers on average per day.

- Lane no.10 connects the west of Mashhad to the east and counts as one of the most popular Private lanes because region of influence for this lane includes approximate 166170 people and covers the most important highway in Mashhad (Vakilabad highway).

- According to the abovementioned details, lane no.10 has 20 active buses, each of which needs 2 drivers who are paid 8.500,000 IRR per month. Each bus has to operate 16 hours which starts at 6 A.M. and ends at 10 P.M. Every bus transports average of 700 passengers per day and every passenger pays 3,500 IRR per travel while each bus needs 100 Liters of gasoil per day and cost of gasoil is 6,000 IRR per liter.

As mentioned before, the study includes lane no. 96 and 10 whose number of buses per lane depends on the population of affected areas. Additionally, it shows that there are no crowded bus lanes in any public path lanes and this is the result of the willingness of private organizations to manage more crowded bus lanes in order to gain more benefits.

### 3. Materials and Methods

#### 3.1. Economic evaluation of studied bus lanes

With regards to previous contents and removing annual depreciation for each bus, daily revenue of bus organization for each lane can be obtained from the following formula:

$$R = N((M \times P(T)) - \left(\frac{S}{30} + F \times P(F)\right)) = \text{Formula no. 1}$$

R = Daily revenue of studied bus lane

N = Number of active buses for each lane

M = Number of passengers for each bus per day

P(T) = Ticket price for each passenger

S = Driver's salary of each bus per month

F = Bus fuel daily

P(F) = per unit bus fuel price

- Daily revenue of bus organization for lane no.96 with public operator, is obtained using formula no.1:

N = 10 buses

M = 700 passengers for each bus per day

P(T) = 3,000 IRR

S = 32,000,000 IRR

F = 120 Lit

P(F) = 6,000 IRR

$$R = 10 \left( (700 \times 3.000) - \left( \frac{32.000.000}{30} + 100 \times 6.000 \right) \right) = 4.330.000$$

As can be seen above, lane no.96 revenue is 4,330,000 IRR for bus organization of city of Mashhad. Despite higher salaries, insurance of public bus drivers, lower ticket price for passengers as well as higher fuel consumption of Mega Trance Benz model buses, it can count as an efficient lane with almost high income

- Daily revenue of bus organization for lane no.96 with public operator, is obtained using formula no.1:

N = 20 buses

M = 900 passengers for each bus per day

P(T) = 3,500<sup>1</sup> IRR

S = 17.000,000 IRR

F = 100 Lit

P(F) = 6,000 IRR

$$R = 20 \left( (900 \times 3.500) - \left( \frac{17.000.000}{30} + 100 \times 6.000 \right) \right) = 39.600.000$$

Higher number of passengers, higher ticket price of private sectors, lower fuel consumption of Scania 457 model buses, lower driver's salary and critical path of lane no.10, led to high income of 39.600.000 IRR for private sector.

### 4. Results & Discussion

#### 4.1. Demand and supply curve for lane no.10

In this section, actions of every private bus organization to gain the most benefit possible is studied. No private firm individually has the power to change the ticket price; thus, the unique ticket price for all competitors is 3,500IRR inevitably. On the other hand, each private bus organization can have any number of buses for each lane. As obtained from figure no.6, demand curve for lane no.10 is straight and parallel to X axis. As mentioned before, in perfect competition market each organization should use the fixed ticket price in order to stay in the market. Eventually, as it can be seen in figure no.6, average revenue (AR) and marginal revenue (MR) are equal to the price (demand curve). Table no.2 echoes the message that cost of each travel by bus is fixed and is equal to 3,500 IRR. AR and MR columns present value of each variable index in cost of 3,500IRR. The table shows that AR, MR and Demand curves are matched and paralleled to X axis and on the 3,500IRR level. Figure no.7 shows Total Revenue curve (TR) which starts at zero point of coordinates and is a straight and ascending line with constant angle. This is how the amount of services by the private sector for the maximum profit must be calculated. As presented in figure no.8, Marginal Cost (MR) and Demand (D) curves coincide at (M) point and this is the place where private firm supplies 20 buses (18,000 passengers per day) and achieves the maximum profit possible and remains in an equilibrium level. Total revenue of 20 buses for the private firm is equal to shaded area and total cost of the firm is equal to the orange area and the gray area is the super abnormal profit area which is the result of short long competition in the market. In the abovementioned figure, it can be seen that provided point (M) (where MC=MR) is perpendicular to the Q (number of passengers) axis, it would cut off the AC curve at point (N). Then, point (H) is caused by extending point (N) with 90° angle at P (ticket price) axis. How to calculate point (H) is given below:

H = Total costs per day ÷ Total number of passengers per day

$$H = 23.400.000 \div 18.000 = 1.300$$

Considering the fact that total costs for maintaining the buses, parking lot, bus depreciation and other additional charges would rise by adding extra active bus for lane no.10, without provision of appropriate transportation infrastructure, the maximum profit for the private sector can be reached at this point.

1 - We should consider that actual ticket price for each passenger is 5,000 IRR which is reduced to 3,500IRR and the difference between paid by government to private section as a public subsidies. But since

additional charges for private firms are been considered, in this article we ignore the 1,500 IRR extra for each ticket in our calculation due to get the equable answer in the end.

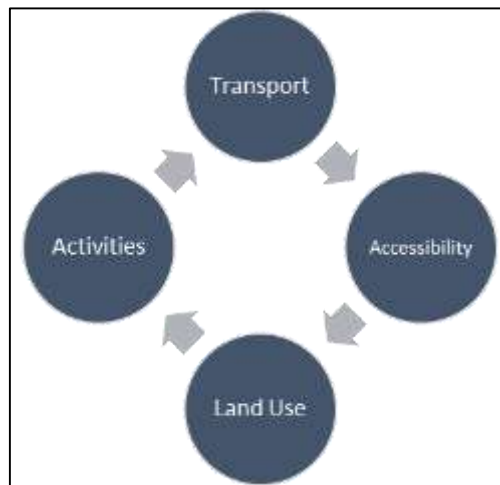


Figure no.1- Transportation and Land use interactions

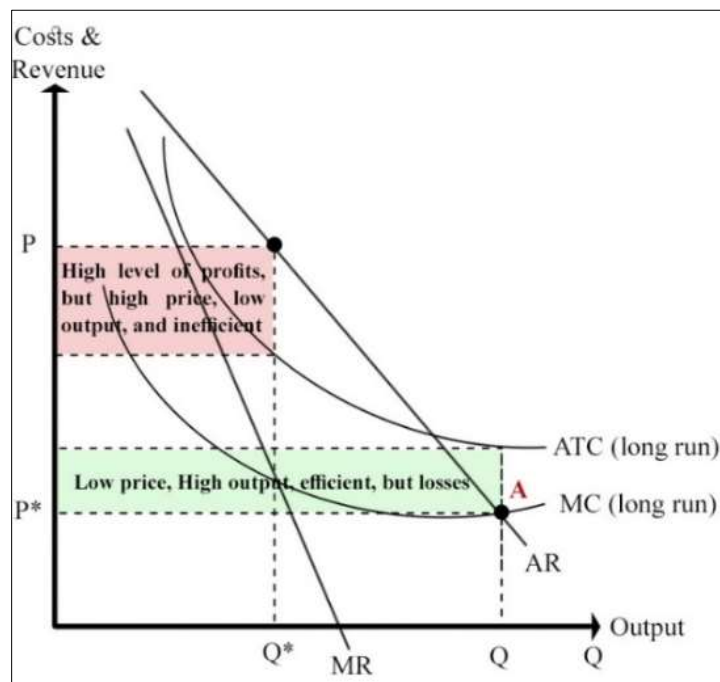


Figure no.2- Monopolist's maximum profit, output and price A Monopolist is a price maker because there will be no competitors. Therefore, demand is price inelastic. Also a monopolist seeks to maximize profits by setting output where  $MR = MC$  and this will be at output  $Q^*$  and Price  $P^*$ .

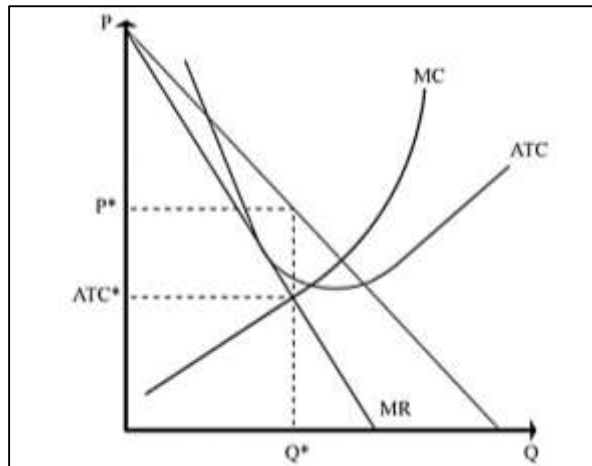


Figure no.3- Natural monopolist's maximum profit, output and price

- With a natural monopoly, average total costs (ATC) keep falling because of continuous economies of scale. In this case, marginal cost (MC) is always below average total cost (ATC) over the whole range of possible output.
- In order to maximize profits the natural monopolist would charge  $Q$  and make supernormal profits but it's likely to be inefficient. To achieve allocative efficiency, the regulator will have to impose an excessive price-cap (at  $P^*$ ). The output needed to be efficient, at  $Q^*$ , is so high that the natural monopolist is forced to make losses, given that ATC is above AR at  $Q^*$ .

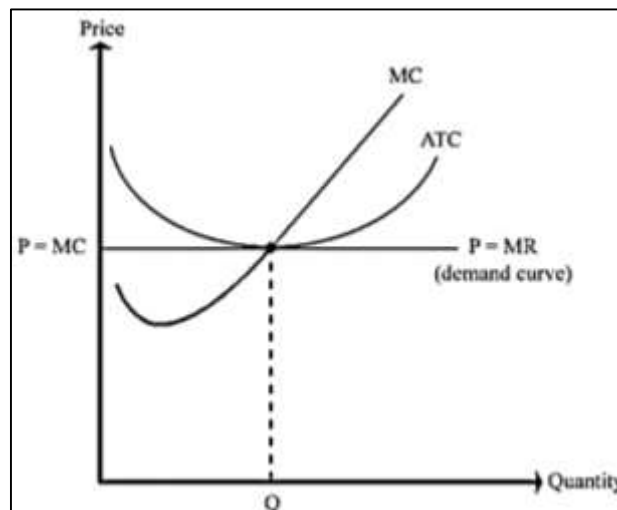


Figure no.4- Perfectly Competition Firm in the long run

- In the long-run a perfect competition firm will earn a normal economic profit. It cannot earn an abnormal profit in the long-run because firms will enter the market and the subsequent increase in supply will cause the price of the good to fall. Conversely, the firm cannot earn a loss (provided it can cover its fixed costs) in the long-run because firms will leave the market and the subsequent decrease in supply will cause the price of the good to increase.

Table no.1- Differences between perfect competition and monopoly

Feature	Monopoly	Perfect competition
1- Description	Extreme market situation, where there is only one seller. He has no competition and so controls supply and price.	A fair, direct competition between buyers and buyers; sellers and sellers; finally between buyers and sellers.
2- Buyers and sellers	Only one seller and practically all buyers depend on him; hence, he has absolute control over the market.	Large number of buyers and sellers; hence, no sellers and buyers can alter the price in the market.
3- Supply	Supply from only one seller; hence, absolute control over the supply.	Supply comes from a large number of sellers. Individual supply is negligible.
4- Demand	Demand is inelastic. Demand curve slopes downward.	Demand is perfectly elastic. Demand curve is a horizontal straight line.
5- Product	Homogeneous product.	Homogeneous product.
6- Nature of competition	No competition at all. No price or product competition.	Pure and perfect competition in price.
7- Price	Higher price. Higher than all competitive price $P > MR = MC$	Normal price $P = MR = MC$
8- Output	Small output fixed by the sole seller.	Large output fixed by $MR = MC$
9- Profit	Excess profit monopoly gain.	Normal profit realized by price competition.
10- Application	Pure monopoly is rare but elements of monopoly are there in markets.	Quite unreal.

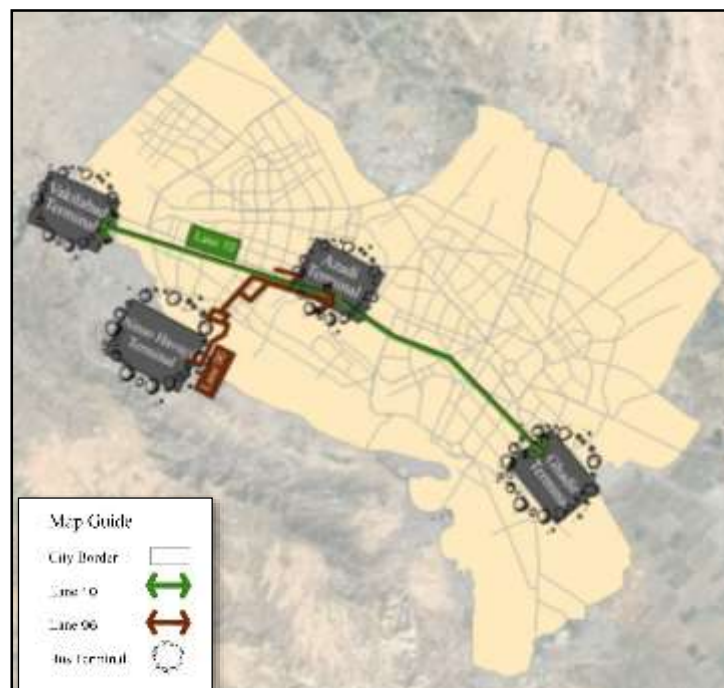


Figure no.5- Lane 96 and 10 path



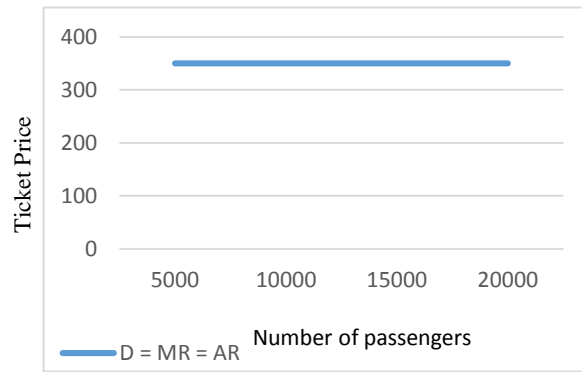


Figure no.6- Demand, Marginal Revenue and Average Revenue curves for lane no.10

Table no.2- AR, MR and TR

Q	P	TR= P.Q	AR= $\frac{TR}{Q}$	MR= TR <sub>n</sub> - TR <sub>n-1</sub>
1	350	350×1	350	350
5	350	350×5	$\frac{1750}{5}$	350
10	350	350×10	$\frac{3500}{10}$	350
15	350	350×15	$\frac{5250}{15}$	350
20	350	350×20	$\frac{7000}{20}$	350

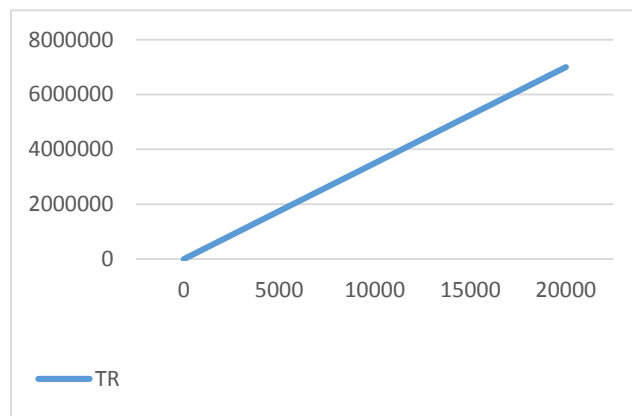


Figure no.7- Total Revenue of lane no.10

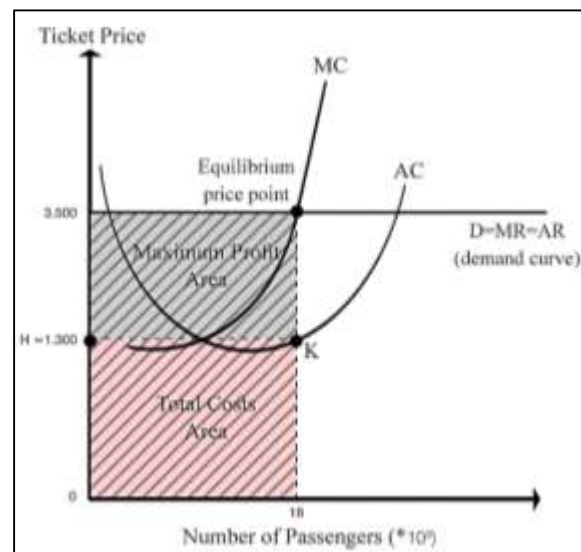


Figure no.8- Maximum profit of lane no.10

## 5. Conclusion

As pointed out in the last meeting, part of the bus organization of the city of Mashhad in the competitive state. The private sector operates under the supervision of the public sector. In order to get a certain bus lane, the private sector must announce its willingness to go public. The private sector should provide the minimum number of buses that is sufficient and capable of the population of the affected area. The ticket price is also determined by the public bus organization, and the private sector must accept it for each passenger. Bus organization pays 1,500 IRR for each passenger to the private companies to encourage them to continue their activities. Nevertheless, the private sectors are not satisfied with the situation due to delays in payment and have no tendency to invest in the provision of bus infrastructure. The private sector is still higher than public actors. It may be the result that it has the right to choose more profitable lanes from private companies and smaller regions of management. Companies determine costs for each goods and services that offer. These costs express as fees, commission, rent and etc. Between all marketing components, prices is the only factor which can effect on the revenue. Also price is the most accommodating component of marketing because it can change quickly. Although competition in pricing is an important issue that companies are faced with, but lots of companies cannot solve this issue in the best way possible. With close quality of different goods and services deliver by different competitors, competition became one of the most effective ways to attract loyal customers and satisfying them. Using an intelligent pricing in either selling goods or providing services is critical, if an investor wants to remains in a competition market. The worst that can be done by is unprincipled

and inarticulate pricing, although this is a common mistake among lots of administrators. Even though, there are different external factors which can effect on success and profitability of a particular firm, choosing a right price is crucial to guaranty a reliable profit [14]. As a result of competition, existence of several competitors can lead to choosing the best available option in the market. In order to better understand the considerable difference in the differences between monopoly, partial competition and perfect competition in the provision of public transport, we have used a cost-benefit analysis method, which is simply presented in Table 3, in this article. For this purpose return on investment has been calculated by grading each benefit and cost indicators so that each direct benefit gains 2 points, indirect benefit gains 1 point and each cost gains 2 points.

In the table above, benefits and costs of each market has been listed and graded in order to compute the return on investment. As we can see ROI of the third market is higher that two others and this is the reason why competition market is more efficient in providing public transportation. In addition, as it can be seen in many developed countries, infrastructure investment by private sectors plays a critical role in urban development. Thus, it can be concluded that in spite of the fact that private investments are main bases for infrastructure provision, it is also beneficial for people, government and the investor itself.

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