Strategies, Management of Urban Transport and its Solutions, with Sustainable Development Approach (Case Study: Tehran)

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Abstract

Sustainable transport concepts that are always changing the type of fuel and reduce fuel consumption car or use public transportation to the mind. In the meantime, pay attention to issues relating to sustainable development can be explained by causes instability and factors affecting transport in cities with a sustainable approach examined. In addition, it can transport needs and requirements to achieve sustainable urban design and planning presented. But in the meantime, variables such as dimensions of sustainable development and its axis can specify various aspects of this process. Therefore, the aim of the present study provide urban transport management strategies and solutions with a sustainable development approach, the analytical method. To achieve this goal, first to experience the world of transportation was different cities of the world, then transport axes Paydarmvrd was investigated. As well as transport and traffic studies Tehran was assessed, finally, urban transport planning and management strategies and solutions that were presented. The results show that most interest is the urban management policies, teaching and development of traffic culture as the main solution to the traffic problem in Tehran, which will help to urban planning.

Keywords: Urban transportation, Transportation management, Sustainable development, Tehran city.

Introduction

Includes the whole planning process is continuous, part of urban planning, urban transport planning that accompanies the planning departments of land use, infrastructure and other sectors, the physical form of comprehensive urban planning. Despite the failure process of urban planning and urban transport sector in particular, the effects of widespread adverse effects, such as high energy consumption, delayed arrival, pollution, reduce urban safety and increase risks to life, destroying tissues and traditional links City and so, has brought. In other words, this part of the planning and urban management has been directly associated with everyday life and everyday citizens, And weakness in this area an enormous cost to the people and urban management suite (macro and micro levels) imposes. Therefore it is necessary that a comprehensive and holistic view of urban transport field case study was carried out. This study also sought to examine the precise field of urban transport, in Tehran and practices available at the issue from the perspective of sustainable transport, The following is the statement of the problem and the need to subject the process are expressed, And to provide strategies to manage urban transport solutions with a sustainable development approach in this town, we will.
Problem Statement

Throughout the history of human civilization and the transport issue was of particular importance, so that you always have a great impact on the progress of human society. The Athens Charter cities have four vital functions of housing, work, leisure, communication (traffic) to efficiently within their own. Therefore, communication network and urban commuter and urban transport in a word that is very important. Transport is one of the most important pillars of urban development that is necessary for the movement of people and goods, and achieve productive efficiency in urban areas with relocation needs will be met. Sustainable urban transport in smooth movement of vehicles, people and commodities that require public welfare and environmental sustainability with the most favorable cost and effort. Transportation as one of the most significant elements of the controller, indicator, and a special role in sustainable development. Hence the term "sustainable transport" was created, which represents micro and macro transport policy to the development based on the concept of sustainability can be together. A modern city should have an efficient and extensive transportation system to communicate, access and communication between different parts of it. A comprehensive and sustainable transport system several problems such as air pollution, noise pollution, isolated habitats of wild species, reduce traffic and so on. Modern societies need a sustainable transport system to reduce these problems and create effective and efficient transport system. And in Tehran is no exception because from 1383 onwards the number of private vehicles and the use of it has been added in this city. As can be seen in Tehran in the status quo, with the distances and during different trips in the city are not very high, and the system bus and taxi (public and semi-public transport) and Metro access to different parts of the city provided. However, again according to the municipal authorities, most urban journeys carried out by personal vehicles that are inconsistent with the principles and criteria for sustainable transport.

The Necessity, Importance of the Subject

Transport system plays a major role in the country's economic life and also plays the everyday life of citizens. Highly sensitive political topics important role in the socio-economic structure of a community's quality plays, the basis of modern urban life and the needs of human mobility forms. So every movement should be most efficient in terms of cost-benefit and compatibility with the environment. But with a little negligence may have compromised the status of current and future generations, we must inevitably move towards the use of sustainable transport, as part of the problem is reduced. So sustainable urban development with an emphasis on protecting the environment, conserving natural resources, reducing pollution, decentralized, alternative energy use in transport, recycling, increase sustainable employment and so that the introduction of new patterns of urban development as a healthy city, ecological city, compact city and so has resulted in the need to assess, analyze the structure of efficient and sustainable transport shows (Mozaffari). Check the data on the share of each transport system in Tehran, proves that the combined studies, the share of private transport (transport by car and motorcycle) very high, further, the share of methods and species such as walking and cycling stability is very low. In fact, Tehran's main traffic problem of high levels of personal vehicles as well as traffic congestion in the central part of the city (the old problem of the city with many narrow alleys in the city's commercial center). Also due to plentiful capacity and the potential to share in the city's public transport system should also be promoted. If the above issue and expand rapid horizontal growth of the city, which increases distances and therefore greater reliance on cars for access to the city center, the importance of research in this area will be multiplied. Because if this trend continues and that a solution for this problem (high tendency towards the use of unsustainable modes of transport) will not be considered. Over the next few years traffic problems of large cities is also seen in those cities and then solve the problem much more difficult and costly it will become.

Global Experience in Urban Transport

The reality is that the development of transport can not be assumed from urban development and urban life tools. In fact, to better understand sustainable transportation, the first question is how to organize cities and populated areas, and why cities and regions of instability? For example, vehicle conversion and aristocratic luxury of a universal public good
and one of the most important events of this area. With the rapid growth of the economy, especially in developing countries, it is observed that people migrated from rural to urban areas, and expected job opportunities in industrial sectors with expected high income, has increased the demand for private car. Public transport and private car Brhml emphasize its replacement with a process that in some countries one of the most emphasized Brhml public transport and its replacement by private vehicles, a process that in some countries is one of the most effective ways of reducing average haul Sfrshnakhth. In 1923, Henry Ford produced the first Model car passengers (private) in bulk Ford began with the aim of covering all US households. Today’s average car ownership in the US is more than a machine Hrkhanvar and households with more than 2 or 3 cars there are in addition to private car use to public transport needs have been reduced. In Australia, the growth of car ownership, cities horizontally, grew and grew future land use and disseminate the activities and were more willing to use the car.

During the years 1981-1961 AD in Australian cities was the following observation:

- Per capita car ownership increases to double.
- Reducing per capita use of public transport.
- Reduce average urban density of 19 to 14 people per hectare.

But another experience occurred in Japan until 1910 and until 1965 was high in Tokyo density development around the station as lines in the road and rail system, increase the population density. In Tokyo because of the growth of private car and revenue growth during the years 1985-1965, the city for Future and rail lines between areas with double size, grew. In Bangkok during 1985-1965 due to increasing private car and revenue growth, despite the poor service of the railway transport, the fastest growing city was doubled in size. Future growth in the city made people more willing to private car use and reduce the quality of life and at the same period in the London Times of 10% due to land use management and control of the growth has been more moderate.

**Axes of Sustainable Transportation**
Sustainable transportation as a knowledge and global expertise is clear that the common principles and fundamental issues can not be determined without regard to their objectives achieved. Sustainable Transportation in explaining the various issues raised in the form of 12 axes can be examined:

- Preparing an operational plan (ACTION PLAN) to achieve program objectives.
- The coordination between residential, commercial and public offices and offices, etc. with a view to reducing car use.
- Ensure support and uphold public transport from land use.
- Increasing residential density and activity around public transport stations.
- Promoting the use of rail and urban metro system.
- Transfer of time travel in off-peak hour’s morning and afternoon.
- The parking management, bus and road traffic (traffic) passenger car.
- In terms of land-use planning centered on walking and the use of parking space.
- Relaxation traffic in order to create a safe environment for walking to reduce and control the speed of motor vehicles.
- Create urban spaces that are attractive and encourage walking.
- The use of the bike and predict the development of facilities for bike parking.
- Planning with community partners and local participation.

**History of Transport and Traffic in Tehran**
Since 1373 Transportation Master Plan activities and timing and the continued traffic in Tehran. In this regard can be performed extensive statistical harvest time in autumn this year named seven. That with careful planning and organization of and benefit from the participation of more than 1,200 student’s statistician, and about 100 thousand students have successfully accomplished through questioning. Modeling and complete activities in Tehran mobility network structure is another important aspect of the performance was in 1373. Tehran transportation and traffic studies are now in the fourth year of its operation (1374) with a broad survey results and additional information are seven other unique collection of databases transport and traffic was equipped. Of 1375 and complete information as well as efforts to prepare models for Tehran’s transport supply and
demand really took hold, and in line with the assessment of different options systematic planning of transport and traffic in Tehran was prepared for the short term. Tehran transportation and traffic master plan, by holding these steps and achievements backed up study of the solution to many of the decisions transport managers will be in Tehran.

The Urban Transport Planning and Management Strategies, Solutions and Services

Today, increasing transportation facilities through conventional methods due to the need for high capital investment and time to run can not be regarded as a fundamental right solution. The tendency in recent years to take advantage of ways to take advantage of new technologies, better use of existing resources, initiatives and urban traffic management techniques in most countries, metropolitan traffic managers have been regarded as the best solution. One of newest and most effective information technology solutions for traffic management which stems from the idea of using intelligent transport systems (ITS) is. Which can achieve the commerce up new horizons for achieving agility in a dynamic and fluent communication and information society and providing better services to its citizens. After reviewing the need for orientation of new technologies in the field of transport and urban management approach, the definition of intelligent transport systems, performance, architecture, and introduced a variety of services related subsystems or systems will be mentioned. In continuation of the measures that planning and deployment of ITS and localizing the system is necessary to be considered in each area as well as inter-agency cooperation need to be mentioned.

Disposition Need for New Technologies in the Field of Transport

Population growth increased travel demand and the subsequent use of private vehicles has increased dramatically. This pressure on existing transport networks, particularly in urban areas has multiplied. This pressure on existing transport networks, particularly in urban areas has multiplied. Problems related to transport such as congestion, wasted time increasing, accidents, violations, environmental pollution, resource depletion of energy and rapid growth trend, Transportation demand has led to the provision of safe and efficient transport is one of the most important issues faced by the most developed countries and developing to be considered. One of the ways of solving these problems is the development of transportation networks. But since the development of transport network development due to limited capacity, limited funding, commensurate with the growing environmental damage to vehicles is not, on the other hand, due to the fact that creating new networks and transport the user will be Sfrdr create more incentives to produce. Despite these techniques require high capital investment and time alone, as appropriate and definitive solution to the problem of traffic in metropolitan areas to be considered. The new user needs resulting from the increase in living standards and increase the value of time, such as information systems based procedures traditional traffic updates unless underwritten possible. The prevailing view on the activities of metropolitan traffic managers to use mechanisms to accomplish massive investment in the development of roads and road construction, optimum use of available resources and enhanced security The efficiency and productivity of urban transport networks using the advances of modern technology, innovation and initiative have been conducted to investigate the development plans related discussions were becoming more urban traffic. One of newest and most effective information technology solutions for traffic management which stems from the idea of using intelligent transport systems, Which can achieve the dynamic commerce up new horizons for achieving agility, mental, information and communication society and provide better services to its citizens. It is worth mentioning the use of ITS to solve transportation problems is not the only tool, but also to reduce the negative consequences of the twentieth century in the field of infrastructure, transport and the development of newer and more effective ways to meet the needs of public transportation in the twenty-first century life.

Structure and Performance of ITS

Intelligent transport systems based on information technologies and control work, which actually is the core tasks of the performance of such systems. ITS can be said of an overall view of the three main...
components, namely: Rahhvshmnd, intelligent vehicles and communication infrastructure.

**Figure 1: ITS infrastructure**

Smart way, road or highway that is deemed in infrastructure, and includes a variety of necessary equipment installed on the road as well as taking standard framework for integrating the various components of system performance in a wide range of services. And to exchange data between a wide ranges of users, including drivers, vehicles and pedestrians caused. Intelligent vehicles are vehicles that provide some of the services defined in ITS. Are equipped with special equipment. Communication infrastructure as technology that flow of information between intelligent vehicles and intelligent way makes is established. Current information technology referred to steps such as collecting or receiving data, data transmission, data processing, and distribution and utilization of information is processed. Which is necessary for proper performance. Defining the relationship between them and Ayjadgrd chain. There are different views for the classification of ITS systems. Each subsystem consists of several components are integrated in one structure are able to provide a range of services to users.

**ITS Approach from the Perspective of Urban Transportation and Traffic Management Perspective**

Intelligent transportation systems that will help solve traffic problems cities are classified into two general categories. The first batch systems which are directly related to traffic, and the second considered systems that although I do not have anything to do with traffic issues. But their existence is to help improve the urban traffic. To explain the issue better use of IT'S, from the perspective of transport and traffic and urban management approach will be investigated separately. From the perspective of transportation and traffic intelligent transportation systems based on multiple existing infrastructure, and using communication facilities and other subsystems, Keep the traffic flow smooth traffic flow management and urban cities do. These systems also separate performance if they are able to integrate higher levels of traffic in cities organize their administration. Including conventional systems in this regard are as follows: Intersections and arterial routes and control management systems, management systems, highways, public transport management systems, traveler information systems, electronic payment systems. Fare complications from the viewpoint of urban management, in addition to the issues raised, all of which are related to urban transport. Another reason of ITS applications in towns and cities, there needs that can not be directly linked to transport systems. However, it is appropriate to take more advantage of the benefits of gastric metropolitan management. These items can be presented in the form of the following routes: integrating information systems in cities, management of operations at the level of cities, crisis management and natural disasters, provide service facilities urban, urban emergency management, system integration.

**Use of Non-mass Public Transport System in Tehran**

The increasing number of private vehicles on the facilities inadequate transportation in large cities, particularly in Tehran several problems for citizens has created. Long traffic jams, wasting time and money, wasteful consumption of fuel, vehicle depreciation premature and environmental pollution, and unsustainable development are examples of this. Use the personal dilemma of passenger vehicles in the fleet of passenger transportation within the city, one of those problems is that in recent years suffered major cities, especially in Tehran. Do not expect and organizing the collection and inattention to the task of handling high volumes of urban journeys is responsible, moreover, the lack of organized urban transport added, many social problems have followed. Taxi fleet system inefficiencies due to lack of demand for travel, public transport available, often being worn, fleet systems, as well as the use of worn-out minibuses in some urban routes, the traffic in
the transport network in Tehran is impaired. The use of passenger cars "van" in order to reduce traffic congestion and provide a public transport system - the relatively high passenger handling capacity and comfort have a considerable journey. A suitable solution for the control and regulation of non-mass public transport system (Paratranzyt) is in Tehran. This discussion has been tried. A series of administrative measures such as the use of private sector services, through the replacement of passenger cars "van" instead of vehicles, especially in public transport corridors that travel demand is relatively high, with the aim of increasing the quality of public service vehicles and other mass transit systems and improve network performance in Tehran's streets. It is predicted through the use of private sector services, control and monitoring in this regard, to decrease the adverse effects of personal mass transit system, increasing the efficiency of public Transport systems, such as taxi and minibus racing and ultimately improve the quality of services transportation within the city.

Conclusion

Increasing the number of private vehicles on inadequate transport facilities in major cities, especially in Tehran has created several problems for citizens. On the other hand inefficient non-bulk transportation and oldness of the traffic in the transport network is impaired in Tehran, The use of passenger cars "van" in order to reduce traffic congestion and provide a public transport system Ghyranvkh the relatively high passenger handling capacity and comfort have a considerable journey. A suitable solution for the control and regulation of non-mass transport system is in Tehran. In addition to the politics of what is of most interest, the importance of educating and developing traffic culture, as a means of Tehran's main problem is traffic, which will help to urban planning. Transport networks of the major factors affecting the development potential of urban areas are. Changing the traditional transportation systems and the construction and use of new transport network development disrupts the absorption areas. The impact of rapid transit network on urban development potential by creating nodes on their stations so that urban train stations as places are developing. The most important approach to sustainable urban transport attacks against traffic congestion, access to rail transport system is integrated. Perhaps by examining a sample of some of the experiences of other countries used them. Seoul has 10 million inhabitants and more than 600 square kilometers as a compact city (condensing) with 400 km of metro network is known. Due to the increased urban density traffic (traffic) there is traffic congestion with road network of Seoul, the subway lines to achieve greater stability has caused. The creation of urban space for citizens living commensurate with the prospect of residential units, well-designed streets, street design intangible factors include short and long-time building blocks, buildings, etc. view has always been to attract people to live in Paris. In any case, in order to achieve integrated and efficient transport is necessary transportation related facilities Mvmymxsh is expected to include: Hiking trails, bike paths, urban streets, sidewalks, bicycle and pedestrian underpass and overpass, urban space, railway station and bus station. These are issues that need in different stages of cities and urban management should be considered. It should be noted that transport and its management is part of urban management that can not be considered in isolation from other sectors. Due to the growing population and number of vehicles that subsequent serious problems of transportation, such as environmental pollution, resource depletion of energy, increased losses of material and spiritual accidents, increasing the time wasted and the rapid growth in demand transportation transportation, has been created. One of the new technologies in transportation and traffic management proposed, and it can be one of the most modern techniques in the world to improve urban traffic and transportation problems mentioned, the use of intelligent transportation systems. If using intelligent transport systems to fit and proper will be able to play a significant role in the creation of direct and indirect on urban management and commerce play. As mentioned in this article although ITS services encompasses a wide range of applications, But according to the needs and conditions of different cultural, social, economic and climate in each country and the area is part of the priority programs of ITS services in the area assign fall. Therefore, it is necessary to study, examine the systems ITS from different aspects in different countries, in order to
optimize utilization of services ITS and having an ITS successful than planning and preparation of the master plan process to determine strategies and orientations, as well as the implementation of ITS fit with local conditions is necessary.

And offers Practical Strategies

Deputy Transport and Traffic Tehran municipality, must scale policy in urban traffic and using all the technologies of information, control and systems engineering, strategic management and coordination mechanisms with the appropriate decisions to improve urban traffic parameters, steps has taken important as follows.

Urban Traffic Management and Transport

The main activities of management:

- Meetings of the Technical Committee, the signage, traffic Coordinating Council.
- Check the implementation of projects and urban transport and ITS Advisory Council

- Accounting services schools
- Organize and review stations, especially taxi lines
- Adopt urban transport safety according to plan workshop in the city
- Visit, coordination, review and organize urban transport
- Training and retraining deputies and administrators traffic areas
- The preparation and communication of safety initiatives, geometric and plant safety
  - Visit and explore land with parking and terminal
  - Design and layout geometric correction taxi and bus
  - Organize traffic thoroughfares and development of urban transport stations
  - Secure passages and black spots
  - Participate in meetings, committees and Policy Council minibus Racing
  - Switching stations and public transport and pedestrian crossings [1-18].

References

3. Elders, Parviz, Endogenous Development and the City: The Case of Iran, the political-economic information, 4, 31.
4. Medical, N Sadat, Teaching and development of traffic culture, traffic news, 6,538-5000.
5. Papal Yazdi, Mohammad Hussein, The idea of the city and surrounding Tehran: the.
7. Tavassoly, Ghulam Abbas, Urban sociology, Tehran: PNU.
10. Saeidian, Vahid, case studies of urban transport and its comparison with some developing countries.
17. Wegener, Michelle, Transportation, urban development, translation Hamid Fotoohi, municipalities, 41.
18. Shhydzadh-Hossein Askari Ali Amiri, entitled Race, and a comprehensive program of urban ITS, a new season of traffic, VIII 33:34-86