

## Mainly talks about the traffic jams and management countermeasures

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### ABSTRACT

With the economic development of China's large and medium-sized cities and city scale expands unceasingly, city traffic congestion problem is also growing, has become a bottleneck hindering the development of the city further. At present, governance urban traffic problem is the first strategic task of traffic congestion. Congestion, maximizing efficiency, convenient travel is to be solved.

**Keywords:** urban traffic, traffic jams theory, congestion causes, management advice

### I. Introduction

Urban traffic is a necessary condition for the normal life, running a city, the urban traffic should not only satisfy the rapid development of society and economy, but also influenced by various aspects and constraints, such as the lack of ecological environment and resources, so the supply demand balance of urban traffic is particularly important to the development of the economy. Traffic congestion has aroused the concern of the world and each country can draw lessons from the successful experience of other countries, combined with their own actual situation, to find a more effective way to ease traffic congestion.

### II. The concept of urban traffic congestion.

Traffic congestion is a general appellation of congestion and traffic jams. Traffic congestion is refers to the traffic demand (per unit time through a driveway or cross section on the number of vehicles over a driveway or section of traffic supply level (per unit time content make the maximum number of vehicles through a driveway or section), the outside part of the stay on the road. That is, traffic congestion is caused by road traffic imbalance between supply and demand. The ministry of public security of our country made separately according to the intersection and road traffic congestion. No signal control

intersections, vehicles in the intersection of the lateral driveway parking queue of more than 250 m, or in the three green light time didn't pass the signal control of intersection; For road congestion, refers to the driveway vehicle parking line up to more than 1 km.

### III. The law of the urban traffic congestion and harm

#### 3.1 the law of the urban traffic congestion

- (1) Phenomenon of spatial agglomeration (Spatial Convergence): the original plan used in other sections of traffic flow, a period of time, are gathered in the road.
- (2) Time agglomeration (Time Convergence phenomenon: flat peak period plan travel traveler, travel are gathered in the peak hours.
- (3) Transportation agglomeration (Modal Convergence phenomenon: traveler had planned to use public transportation way to travel, private cars across the region now, enjoy the travel more quickly.

#### 3.2 The dangers of urban traffic congestion

- (1) greatly harm the social benefit urban traffic has close relation to the social life. First, traffic congestion brought to travel and travel cost consumption increased significantly. Second, because of the single trip costs increase, largely reduces the flexibility of

residents travel, reduce the urban residents' quality of life. Road congestion increases the traffic delay, reduces the traffic speed, the serious influence transportation efficiency, increase the travel consumption, increase the fuel cost. Most traffic accidents are caused by too frequent traffic congestion phenomenon, and contributed to the traffic jam and traffic accident, time is long, the formation of a vicious cycle of repeatedly, is not conducive to the healthy development of the social and economic level.

(2) a large amount of waste land and oil resources. Defect of primary energy sources in our country in terms of storage, a large population, the present situation of the resources per capita is lower than the world average level, make the resource and strength at a faster pace in consumption, the utilization rate is low, the reserve is insufficient, the increasingly prominent contradiction between supply and demand. The most severe cases, however, there is no reasonable structure to configure resource. Of all the available raw materials, 75% belong to primary energy resource consumption, and an energy represented by coal has the characteristics of low efficiency and high pollution. And represented by oil and gas with high efficiency, environmental resources account for only about 20%, green water accounts for only 5% of distance diversified energy configuration level there is still a long way to go. Especially the development of transportation, rely heavily on land and energy, this contradiction will hinder the development of transportation industry in our country.

(3) the urban road traffic becomes the main sources of the urban traffic road users both time-consuming and fuel waste, the worse the pollution of atmospheric environment and other aspects.

#### **IV. Urban traffic congestion management theory and methods**

The early stages of the urban transportation development is the main problem of urban traffic infrastructure, especially the width of urban roads and road surface quality cannot meet the needs of vehicle running, cause the city car speed is slow, and affect the

normal passage of other modes of transport. This phase control urban traffic congestion is focused on broadening the city roads, improve the traffic capacity, increase the length of the main operating, enhance urban traffic capacity.

#### **4.1 Traffic demand management measures and main goal**

Traffic demand management refers to the guiding role, through transport policy to promote change in the traffic of the traffic participants choose action, to reduce the amount of vehicles, reduce or eliminate the traffic congestion.

(1) To develop the modern communication and information technology, give full play to the role of the communication technology, establish a teleconference system, expanding the coverage of the Internet and improve the communication ability of the Internet, to replace the site meeting, reduce the traditional way of business communication, thus inhibiting the generation of traffic demand, reduce the total transportation.

(2) to optimize the spatial distribution of urban land, optimizing, transfer, or change some existing functions of urban area, so as to improve the traffic travel start or transportation terminal to the transfer of the congestion location or area, to optimize regional traffic distribution, and achieve the goal of reducing traffic congestion; Optimize configuration of community facilities of uniform, is also the effective measures to reduce the number of traffic demand; In urban planning as a whole to consider the regional function design and traffic demand, improve the level of city planning, both to maximize meet the needs of the residents' normal life and social activities but also, to reduce the total transportation, create the residents satisfied with public transport environment.

(3) through economic and administrative means, reasonable traffic management policy. According to the nature and function of different modes of transport, by implementing specific traffic management policies, guide urban residents choose low consumption of resources, high efficiency way to travel, balanced transportation structure.

#### 4.2 Bus priority theory

Public transport priority theory refers to the urban development and planning, the government departments to take public transport priority to the construction and management of the position to consider, give support in aspects of policy, capital, technology, can make the public transportation to clear roads, good shape, and vertical and horizontal line site, to travel to provide better and more quality services for the public. Bus priority is the priority, and not simply "let people go first", is a adhere to the concept of efficiency first. Government departments in comprehensive transportation policy clear bus priority development status, and give a high level of support on policy, funds; On the urban road network planning and construction, establish the status of bus priority development; On the use and management of city road resources, to establish the rights of bus priority.

#### 4.3 By means of intelligent traffic management governance traffic jams

A nation, if can't change the status quo of urban traffic demand in the short term, you can use the advanced traffic management and control technology, considering factors such as driver, vehicle and road, systematic management traffic congestion, solve the traffic problems. Intelligent transportation system is exactly reflected the thinking of the most effective measures. The transportation department has issued "national project planning intelligent transportation system", make clear a regulation of the seven areas of intelligent transportation systems: travel demand management system, public transportation operation system, travel and transportation management system, emergency management system, electronic charge system, commercial vehicles operating systems, vehicle control and safety systems. According to the forecast about the scientists and engineers, application of intelligent transportation system, can effectively improve the transportation efficiency, reduce traffic congestion by twenty percent, reduce car accident 5 to eighty percent, oil consumption by thirty percent,

emissions reduction of nearly thirty percent. Intelligent transportation system is the effective way to solve the problem of traffic congestion, is a high investment, high technology of systems engineering, and the successful experience of developed countries shows that the trend of its widely used throughout the world will be irreversible.

#### V. Conclusion

Urban traffic congestion problem is long-term, there are a variety of causes, the solution is also varied. But I think solve the problem of urban traffic congestion, the law and internal law is the same, should follow the law, adhere to the "tube" of supply and demand of organic unity, multi-pronged, to two or more things and emphasize particularly on, mix, rather than fight alone, each dry, coordination between the relevant departments at the same time, in this case, believe will receive better expected effect.

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