

Shanghai city essay sample



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With a population of nearly 26 million, Shanghai, a city of large population density has seen a dramatic increase of issues stemming from large scale motor congestion over past decades. An exponential population growth and increase of both availability and affordability of private transport has resulted in unprecedented levels of motorway usage. This is further exacerbated by the existing infrastructure lacking capacity to accommodate these increased levels, the status associated with car ownership and inexperienced and poorly educated drivers (Custer, 2017). In recent years, this issue has become apparent in the over 80% increase in extra travel time (TomTom Travel Index 2016). However this has been an augmenting issue since early 2000's as can be seen in figure 1.

Traffic Congestion Trends and Patterns

A study conducted by the Chinese academy of Engineering in 2003 estimated a "quadrupling of cars and trucks in the city by 2020" from the then current levels of 650 000, and stated that "The city's decisions about vehicle use will be critical in shaping Shanghai's future" (Personal Cars and China, 2003). In spite of measures taken by national and city governments to correct this issue, congestion represents a daily issue for numerous Shanghainese, facing an average of 76% increase in travel time in the morning peak and an average of 77% increase in travel time in the evening peak travel times as compared to when roads are uncongested (TomTom Traffic Index, 2016)

As can be noted in both figure 2 and 3, Shanghai city experiences congestion with the average velocity between 0 to 10 km/h most significantly in the city centre, with congestion alleviating as it moves further away from this city

centre due to the higher population densities in the centres. In figure 3, the time of the day experiencing the worst congestion, is from 8. 20pm to 8. 30pm, as may be noted by the predominantly red markings on the map. In retrospect, the period between 10. 10am to 10. 20am, experiences the least congestion throughout the day. This may be attributed to most of the working class having reached their offices and school kids being at school. However, it can be noted that the trend of the city centre experiencing the most congestion prevails regardless of its period in the day.

Impacts

a) Environment

As a result of the motors in the growing number of private vehicles, air pollution has been unavoidable. Over 80% of the city's pollution of PM2. 5, a type of pollution particle that can cause health problems, at 45 micrograms per cubic meter in 2016, comes from traffic and heavy industries (Shanghai Environmental Protection Bureau 2016). Despite 80% of the air being polluted, the city has seen a significant improvement, a 15% decrease from 2015's 53 micrograms per cubic meter. The air pollution however still poses a significant issue in lives of every citizen in Shanghai city, producing smog and leaving visibility low at these times, causing numerous spill on effects to such as traffic accidents.

b) Social

As a result of this, Shanghai is no stranger to traffic accidents in the city with around 750 car accidents in Shanghai in 2016 (Statistica, 2016) and an staggering estimated figure of 260, 000 number of people killed in traffic

accidents in the entirety of China. Reasons attributing to this can be said to be mainly the massive growth in car ownership and insufficient roads to meet the demand due to Shanghai city having developed too quickly.

Citizens, as evident in figure 4, hold mainly negative attitudes to the urban stress, the biggest number of them feeling that they are delayed for about 30 minutes because of traffic congestion. This dissatisfaction, being a main cause to breaking laws, puts more stress on not only the citizens but the traffic police as well who are forced to address the issue with great difficulty. The immense number of cars produces a bottleneck effect and urges many of them to break laws in order to get to their destination as swiftly as possible. Ultimately, traffic congestion causes rule violations leading to traffic bottlenecks, worsening the issue altogether, posing an issue to the citizens as well as the traffic police

Management

In order to relieve the impacts of the urban stress, the government of Shanghai has unleashed a traffic safety campaign in 2016, stationing thousands of traffic police at many intersections around the city to catch rule violators to curb traffic bottlenecks and subsequently congestion altogether (Yan J, 2017). In a similar act, the government aims to resolve the highly population dense city centres with a development strategy of creating double centres with sub-centres

Road systems

To accommodate Shanghai's rapid expansion that sprawls out beyond the urban center's edge, the government is investing a bulk of its funds in public

transport, road infrastructure as well as local accessibility to meet the demands of the citizens. In only the first 11 months of 2017, China has spent 2.12 trillion yuan (US\$323 billion), according to government data, slightly off its goal to meet an investment target of 2.6 trillion yuan set at the beginning of 2017 (Reuters, 2018). Shanghai makes use of sophisticated road systems such as elevated highways. These elevated highways not only help in distributing traffic and alleviating congestion but takes up significantly less space as well, leaving room for growing infrastructure below. To further relieve congestion, bicycles and motorcycles are also banned from most major roads, including elevated expressways. In some of these elevated expressways, motor vehicles without a local Shanghai city license plate are banned during rush hours as well.

Public transport systems

In addition to this, Shanghai has also invested in its Public Transport systems to attempt to decrease the levels of private travel. Over the past ten years, Shanghai, following a policy of encouraging public transport in the city center, invested an average of 2.9% of its GDP annually on transport infrastructure. Of this, 41% of the investment was in the metro system (Peter Newman, Anne Matan, 2013, p. 196).

The traffic congested city is home to an extensive public transport system, in hopes to alleviate the congestion. It is most highly noted for its bus system, operating with around a thousand bus lines by numerous transportation. The ease to which the system is used is definitely of significance. For one, all payment is made through the use of the Shanghai Public Transportation Card. In addition to this, the growing importance of on-the-go technology, is <https://assignbuster.com/shanghai-city-essay-sample/>

addressed by having all estimated train/bus arrival times, transit schedules, system maps, emergency alerts and trip planners in a mobile-friendly format, allowing both riders and potential ones to access information no matter their location (World Cities Best Practices - Innovations in Transportation (Part 2c), 2007). Furthermore, to decrease the environmental impacts by motorised buses, by 2020, 50% of buses to be e-buses which will be subsidised by the government. Electronically powered vehicles will also be exempt from participation in the admission auction.

License plate auctions

In addition to this, Shanghai city has also implemented market based solutions in order to decrease the excessive purchasing of cars, by imposing quotas on car registration.

Private cars are no longer able to be driven until owners purchase a local license during the monthly license plate auctions. Commencing in 2011, Shanghai has implemented a system of auctioning off these registration rights, which have increased in value over the past 10 years from US \$7 600 in 2013 (X. Chen J. Zhao, 2013) to over US \$14 000 in 2017 (The Economist, 2018), which is often more expensive than buying a car itself. The system entails an auction held on the third Saturday of each month, in which about 8, 000 plates are put up for auction. In order to bid for these registration plates, the applicant must go to a branch of Bank of Communications to register, with a 2, 000 yuan (US \$302) deposit compulsory to get an account number and a computer disk (used to connect to the bidding system at the action). At the auction, the applicant has only three chances to bid within the next 6 months, which cost 100 yuan (US \$15) each. (Wall Street Journal Blog, <https://assignbuster.com/shanghai-city-essay-sample/>)

2013). According to statistics provided by the Information Office of Shanghai Municipality, the probability of being successful in purchasing a registration plates is less than 4.3%, forcing the vast majority of car owners to wait for other auctions, or to turn to other transport options. The loophole of registering vehicles outside of Shanghai was also eradicated with tightened laws in April of 2015 forbidding cars registered outside Shanghai from driving on elevated roads during peak hours (7 am to 10 am and 4 pm to 7 pm) (W. Han, the Global times, 2015). This system not only limits the number of cars on the roads, thus reducing congestion, but acts as an incentive for the public to turn to alternate transport systems, such as public transport, due to the unaffordable prices.