

# Moving China into the 21st Century: Modernizing China's Transportation Infrastructure to Promote Economic, Environmental and Social Good

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## Abstract

China is one of the most influential countries in the world. Its GDP has consistently increasing and the country has the largest population in the world. In it, lie many opportunities for business that strive to take advantage of this enormous growth and population. One important factor, the transportation sector creates major problems due to the extraordinary growth in the country. The transportation sector is both extremely underdeveloped and corrosive to the environment. Trying to predict the future of Chinese public transportation as well as the automobile industry in regards to pollution can reveal many lucrative business opportunities. First the economic and environmental impacts due to growth in transportation will be analyzed and predicted. Afterwards, the changes in public transportation will be studied as an alternative mode of transportation to normal automobiles. Finally, possible scenarios in the future will be discussed as well as business opportunities for these futures.

## Background

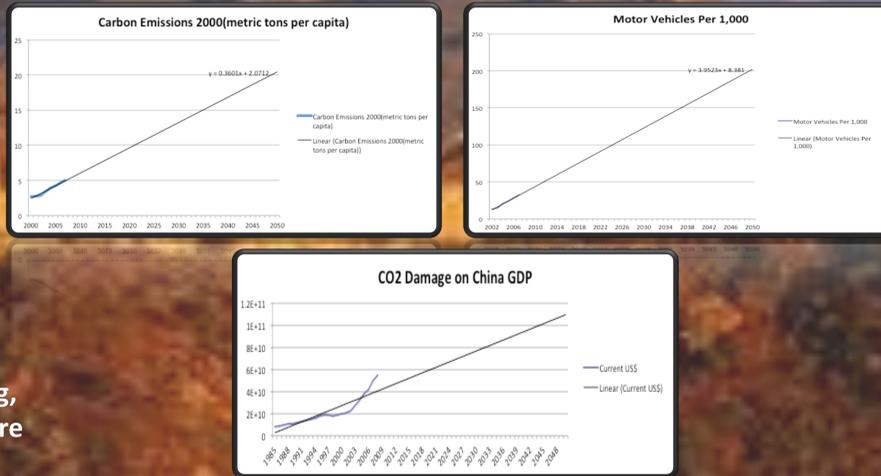
As the population in China has been continuously growing, traffic and pollution problems have also been become more severe. With GDP rising at approximately 10% per year, China has become the world's second largest economy with 20% of the world's population. Unfortunately, as China's economic power has greatly increased, its economic output, it has failed to keep up with its ecological obligations. China's carbon emission footprint has exponentially increased in the last few years and that trend looks to continue unless action is taken soon. This problem, however, becomes even more complicated as the Chinese market begins to become more wealthy and demand more convenient transportation options leading to higher greenhouse gas emissions and worldwide implications.

## Research Questions

- How will the rise in pollution affect health care costs by 2050?
- How will the rise of the Chinese Automobile market provide opportunities for business?
- How will the increase in related pollution affect China's GDP by 2050?
- How much of China's carbon footprint will be due to automobile CO2 emissions in the future?
- How is the carbon footprint of China going to change through 2050?
- How is China's public transportation expected to advance by 2050?

## Thesis Statement

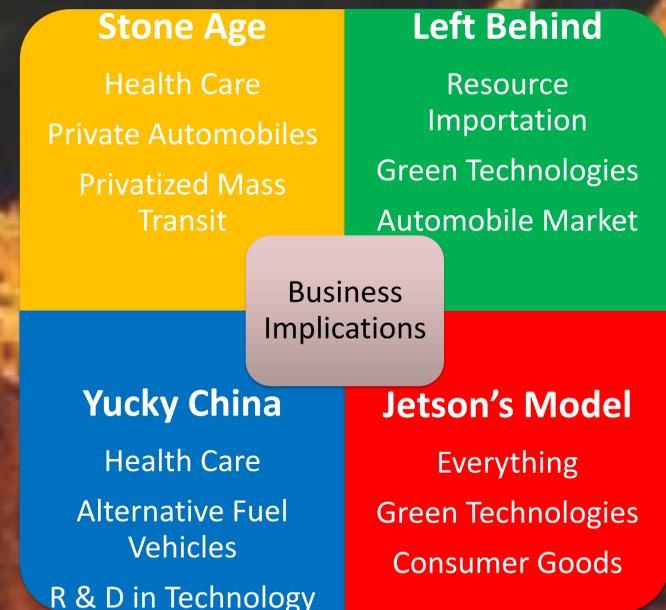
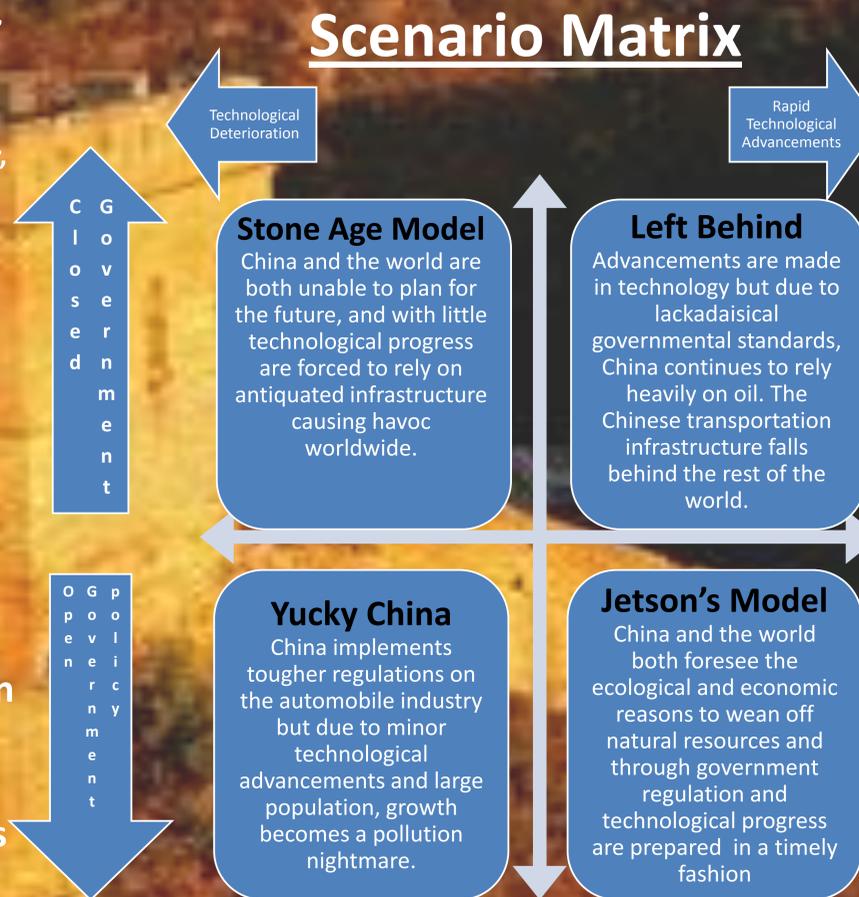
What are the ecological and economic impacts from rising automobile and public transportation demand in China?



## Results and Analysis

- Carbon emissions: Growth of .073 metric tons/year
  - Current: ~5 metric tons per person
  - Estimation: 20 metric tons per person (2050)
- Motored Vehicles:
  - Current: 32 vehicles per 1000 people
  - Estimation: 200 vehicles per 1000 people
  - Every increase in vehicle per 1000 people increases growth at a rate of .097.
- Advanced forms of public transportation:
  - Current: high-speed railroads, low carbon emission buses
  - Estimation: China will use electrical buses and other public transportation that are more efficient. (predicted by studying a case study of South Korea's efficient public transportation systems)

## Business Opportunities



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