

Siqi Zheng and I have just published our bullet trains paper in PNAS. [Here is the gated paper.](#) Our empirical paper is based on the following piece of deep math;  $\text{distance} = \text{speed} \times \text{time}$ . Given how fast bullet trains move relative to cars and conventional trains, the time cost between cities that are 80 to 200 miles apart shrinks sharply ( $\text{time} = \text{distance} / \text{speed}$ ). The bullet train effectively creates new suburbs for Shanghai and Beijing and this relieves costs of “mega city” growth for these Superstar Cities. In the paper, we argue that connecting bullet trains to subways in China's densely populated cities creates a low carbon transport technology that will improve quality of life and increase the menu of urban options for Chinese households. As the domestic hukou passport system is relaxed in China, Chinese urbanites will Tiebout sort across cities in a similar fashion as people in the U.S take for granted. The growth of the nearby 2nd and 3rd tier cities will act as a safety valve for China's mega cities.