

The Potential impacts of a high-speed maglev line parallel to the Sepulveda Pass



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Introduction

Severe traffic congestion affects us all in our everyday lives. The mass production of automobiles has contributed to increased vehicular traffic congestion in the region. Some projects, including the previous 405 expansion, were built primarily to relieve traffic congestion, with the belief that cars behave like water in a river. Counterintuitively, wider roads, such as those with more lanes, lead to increased traffic congestion and delays due to induced demand, as other drivers believe the road has become “faster”.

Methodology: Mixed methods

- Quantitative research on various traffic-versus-transit case studies worldwide,
- Qualitative research on the different methods people use to travel from point A to point B
- Benefits of the mixed methods approach:
- Case studies: shanghai maglev

Data analysis:

- The shanghai maglev is the fastest train in the world
- transit fares are comparably expensive, resulting in lower than expected ridership.

Findings:

- Shanghai maglev construction costs around \$1.3 billion USD to build 30km,
- Ridership was significantly lower than what is expected, despite the speed. it was related to redundancy.

	Maglev	Metro
Mileage	30km	816km total
Cost	1.3 billion usd	\$604 million usd
ridership	lower (<20%)	near capacity
fare	50 yuan	10 yuan

Recommendations

For Southern California, the maglev projects are unrealistic, so we can keep the Sepulveda Pass Metro project as is.

- study traffic congestion on the 405 and other parallel routes
- use other recently completed metro lines in the region (a line and D line extensions, plus the effect on parallel route traffic.
- Cost overruns on a massive project can limit feasibility, such as California’s high-speed rail failure.
- Assuming no cost limitations, the maglev project is possible.

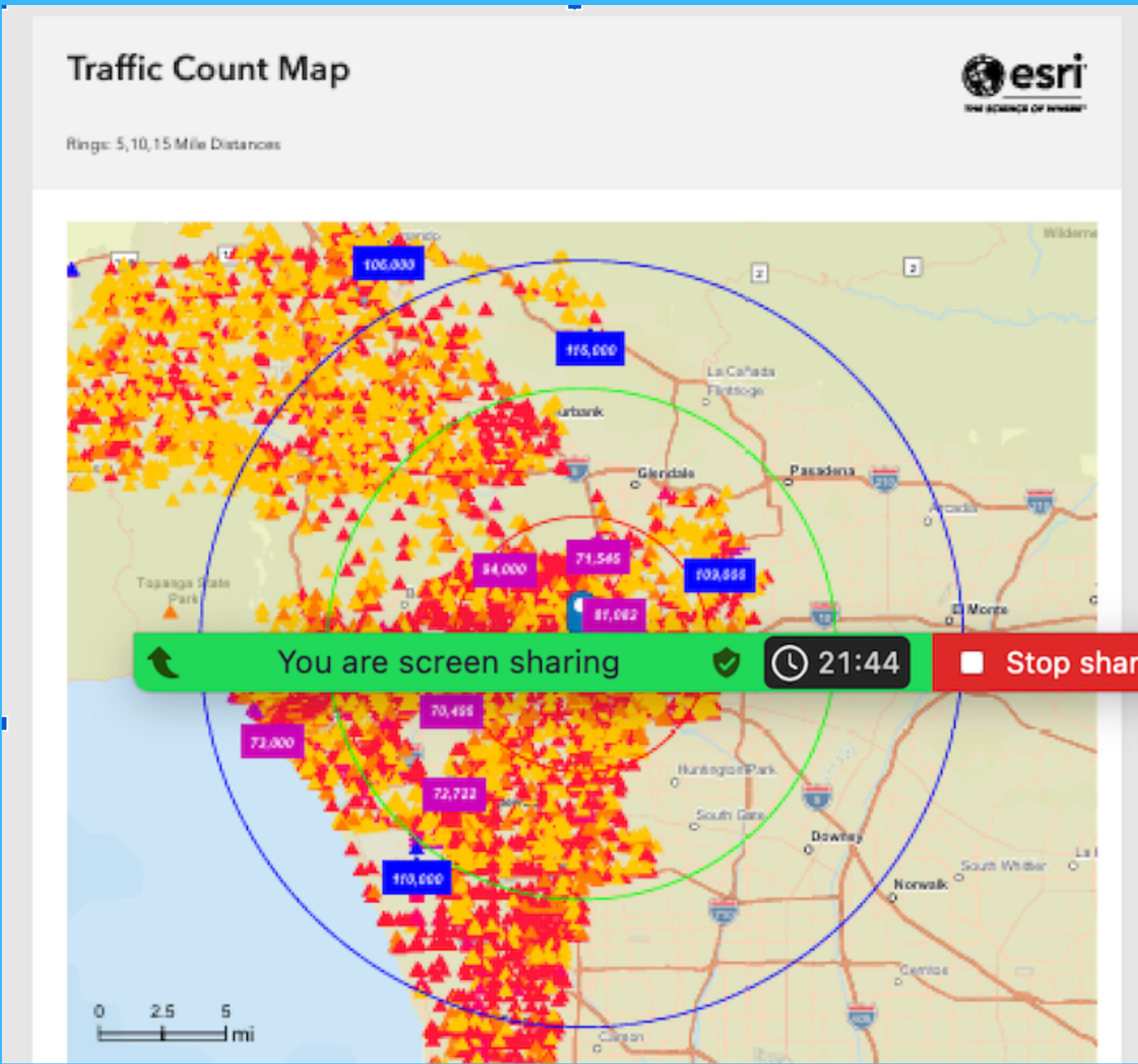
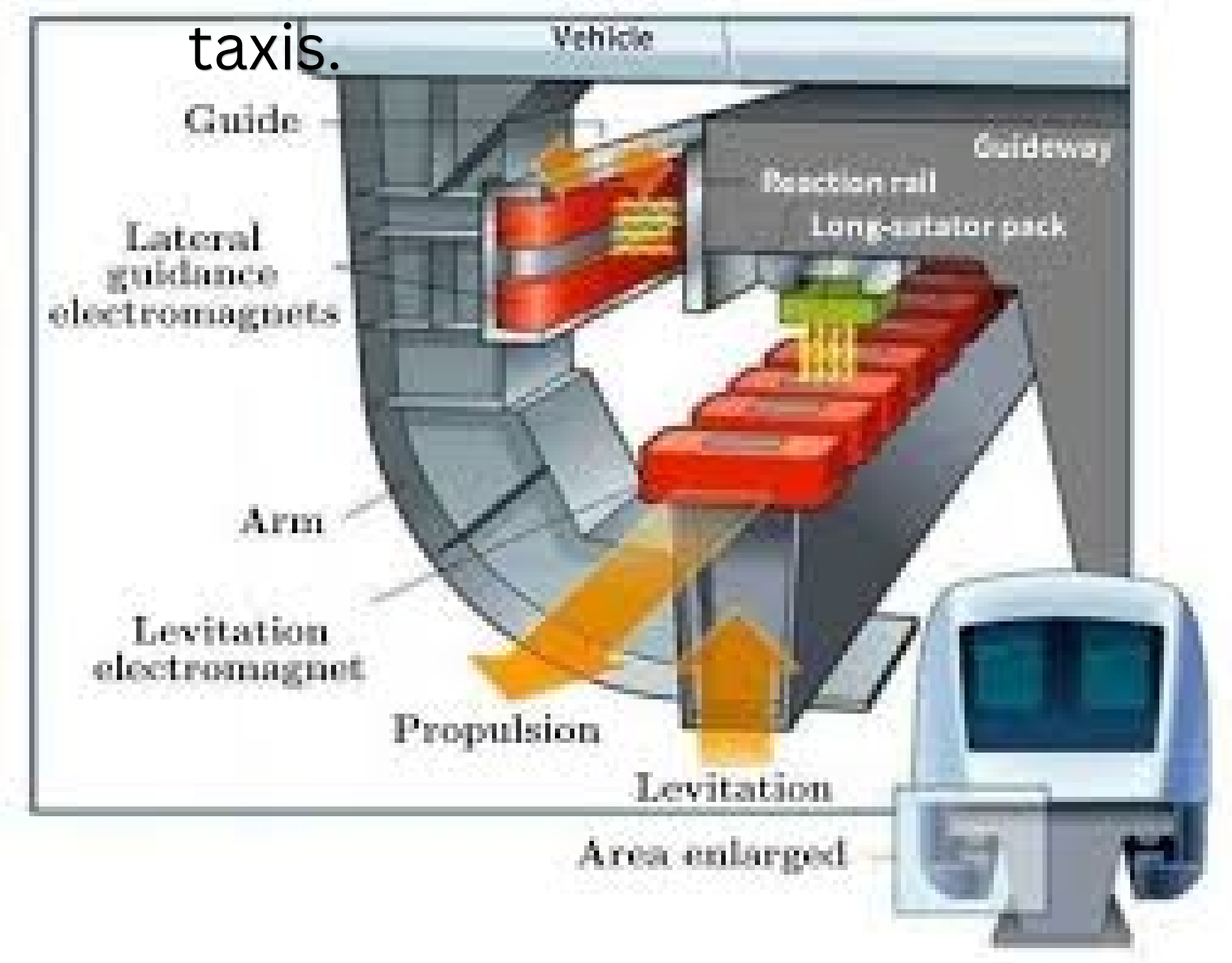
RESEARCH QUESTION(S):

What are the potential impacts of a high-speed maglev line parallel to the Sepulveda Pass relative to the previous 405 expansions

Patterns themes:

theme A:

- Studies show a strong positive relationship between increased favorable road capacity and increased vehicle miles traveled (VMT). Conversely, Congestion pricing can reduce traffic congestion by forcing drivers to pay, thereby reducing demand due to financial concerns.
- Public transport also has the potential to reduce vehicular traffic congestion, as potential commuters have a lot more travel options other than private vehicles, ride-hailing, and



Conclusion:

The Sepulveda Pass Maglev, though a theoretical game-changer, does not work as a permanent solution towards Southern California’s gridlock due to expensive construction costs, and the lack of feasibility for the magnetic levitation tech because of the potential problems with the US Government spending heavily on Defense instead of the useful infrastructure spending to solve the crumbling systems the country needs to improve.