

Traffic Impact of CSX Pittsburgh Intermodal Rail Terminal and Mitigation Plans for McKees Rocks

Purpose: A CSX intermodal rail terminal opened in late 2017 on a parcel of land located immediately north of the McKees Rocks Bridge in the Borough of McKees Rocks and Stowe Township, PA. This research project conducts an in-depth analysis of the potential traffic impact in high temporal and spatial resolutions. The team simulated individual cars and trucks, and modeled their route choices, travel time and mixed traffic flow conditions by using the data collected in the traffic impact study along with other relevant data sets possessed by CMU Mobility Data Analytics Center.

Approach: The team had four main tasks. The first was to identify various data sources for in-depth data analytics from GIS data of the Greater Pittsburgh Area, historical traffic volume count data, historical travel time data, and the number of cars and trucks to be generated by the new rail terminal. The next steps were to model the existing traffic conditions without the terminal and then future traffic conditions with the presence of the terminal. The final task was to modeling the potential benefits of traffic mitigation plans and examine the effectiveness of several potential traffic management strategies.

Key Findings: The team tested multiple scenarios either different traffic mitigation plans or traffic demand changes.

Overall, the team was able to collect data outlining the travel time, travel delay, vehicle-mile-traveled and emissions for each road segment and intersection by time of day, for both the existing traffic conditions in baseline year 2016, as well as the future traffic conditions in full buildout year 2023.

In relation to traffic management and control strategies, the team found that a new West Carson street extension (truck only) combined with prohibiting left truck turns on Angelina Avenue could be the most effective congestion mitigation strategy among the different strategies.

Conclusion: The team focused on several particular applications (trucks and roadway) to demonstrate the method and leverage our resources, the methodology can be broadly applicable and scalable to other cities or regions.



Research Team:

- Sean Qian (Principal Investigator)
<https://orcid.org/0000-0001-8716-8989>
- Xidong Pi
- Wei Ma

Project Record:

- https://ppms.cit.cmu.edu/media/project_files/60-final.pdf

Follow Us:

 www.facebook.com/traffic21.tset

 @Traffic21CMU