West Alisal St.
Road Diet

Salinas, CA

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CSUMB | Sustainability Systems | Fall 2015

History - Salinas, CA

1850 - The purchase of Rancho Nacional and Rancho Sausal

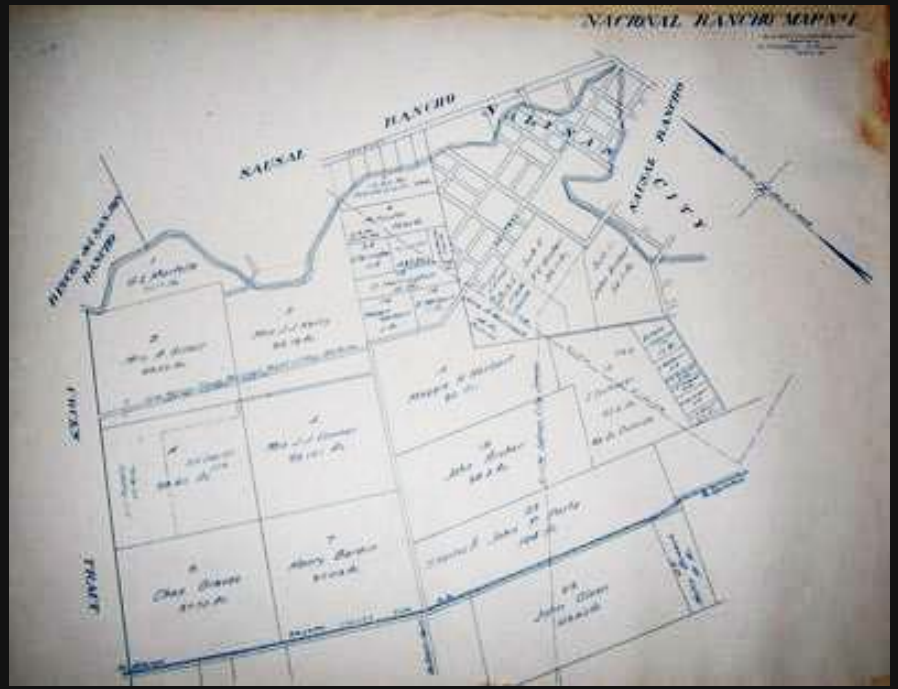
- Over 15,000 acres bought by James Hill and Jacob Leese for large scale farming

1867 - First streets laid out

1868 - From 14 Buildings to 125

1872 - Southern Pacific Railroad

1915 - Highway 101 and fully paved streets



History - Hartnell College

1920 - Founded as Salinas Junior College

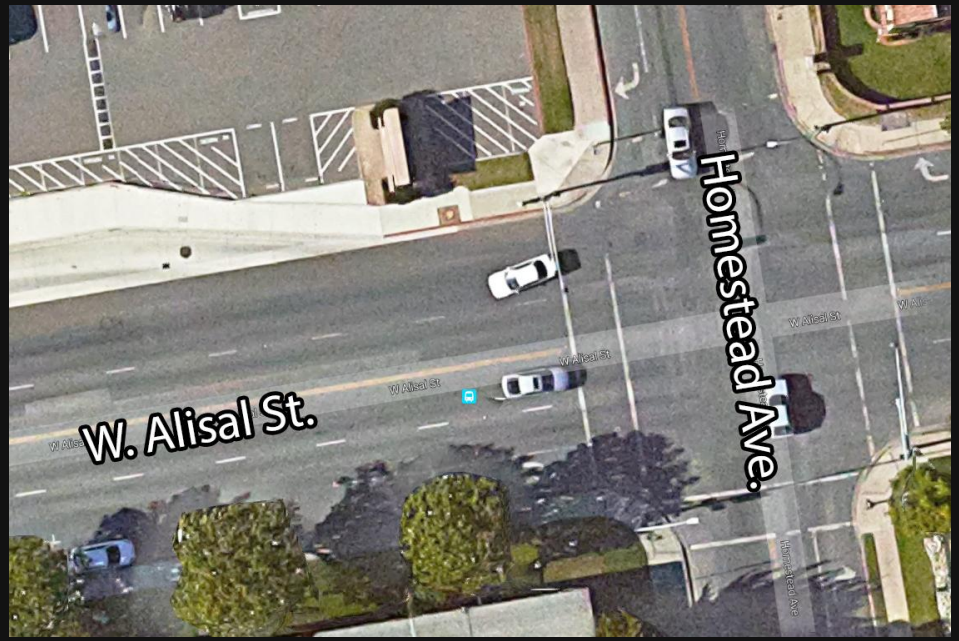
- One of the oldest educational institutions in California
- The first junior college in California

1948 - Renamed Hartnell College after William Hartnell

Today - Serves nearly 10,000 students each year

Issue

- The Sustainable City Year Project - Salinas
  - CSUMB students analyze W. Alisal as case study for road diet
- W. Alisal
  - On-street parking
  - 4 lane bi-way
- Road Diet
  - 3 lane bi-way
  - 1 shared left turn lane in center
  - Bike lanes
- Nearby community college produces high level of pedestrians



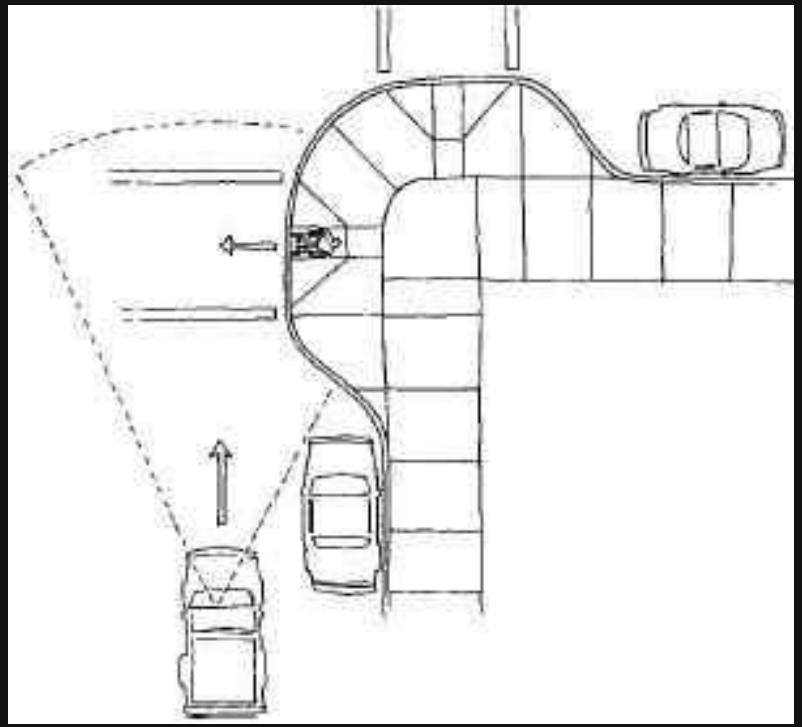
Stakeholders

Three major stakeholders

1. Residents on West Alisal
2. Students attending Hartnell College
3. Commuters within the city who use the road

Main Goal

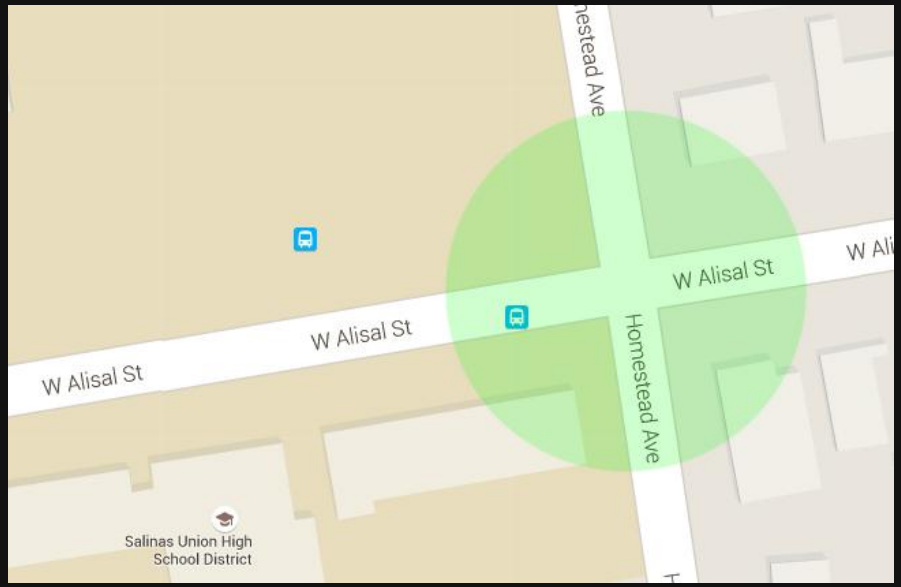
- See how W. Alisal corridor can accommodate more pedestrians, bikes, and busses
- Model Road Diet effects on
  - Traffic
  - Safety
  - Walking, biking, busing behavior
- Model parameters
  - 3 lane road width
  - Bike lane additions
  - (Optional) Crosswalk bulb outs



Example of a crosswalk bulb out http://www.greatstreetsmv.org/wp-content/uploads/2012/09/curb-ext-diagram-fhwa.jpeg

Data Collection

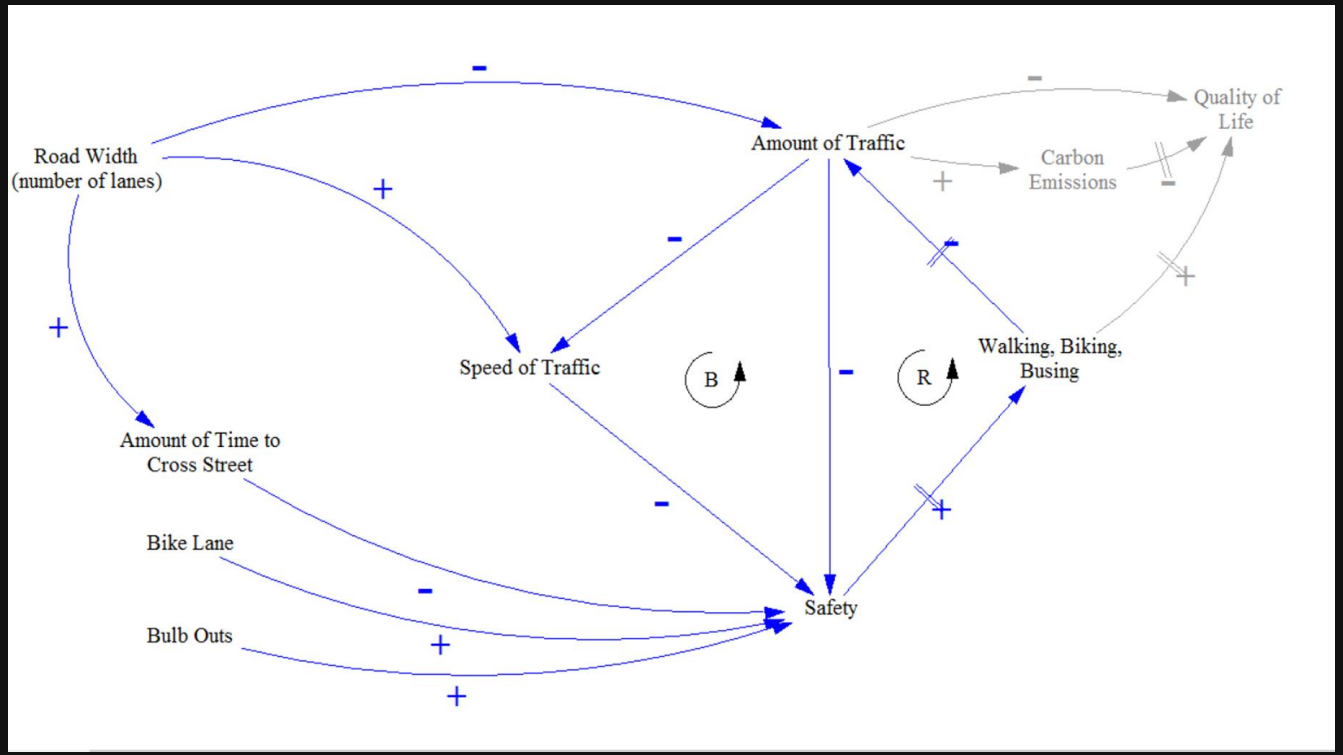
- 09 December 2015
- 10am - 11am
- Intersection at W. Alisal & Homestead



Observation	Count
Pedestrians	138
Bicyclists	7
People at Bus Stop	6
Total	151

Avg. # of Cars Backed up at stoplight	4
Avg. Time to cross W. Alisal (sec)	13.8

Causal Loop Diagram



Variables of Interest:

1. Road Width
2. Speed of Traffic
3. Safety
4. Walking, Biking, Busing
5. Amount of Traffic

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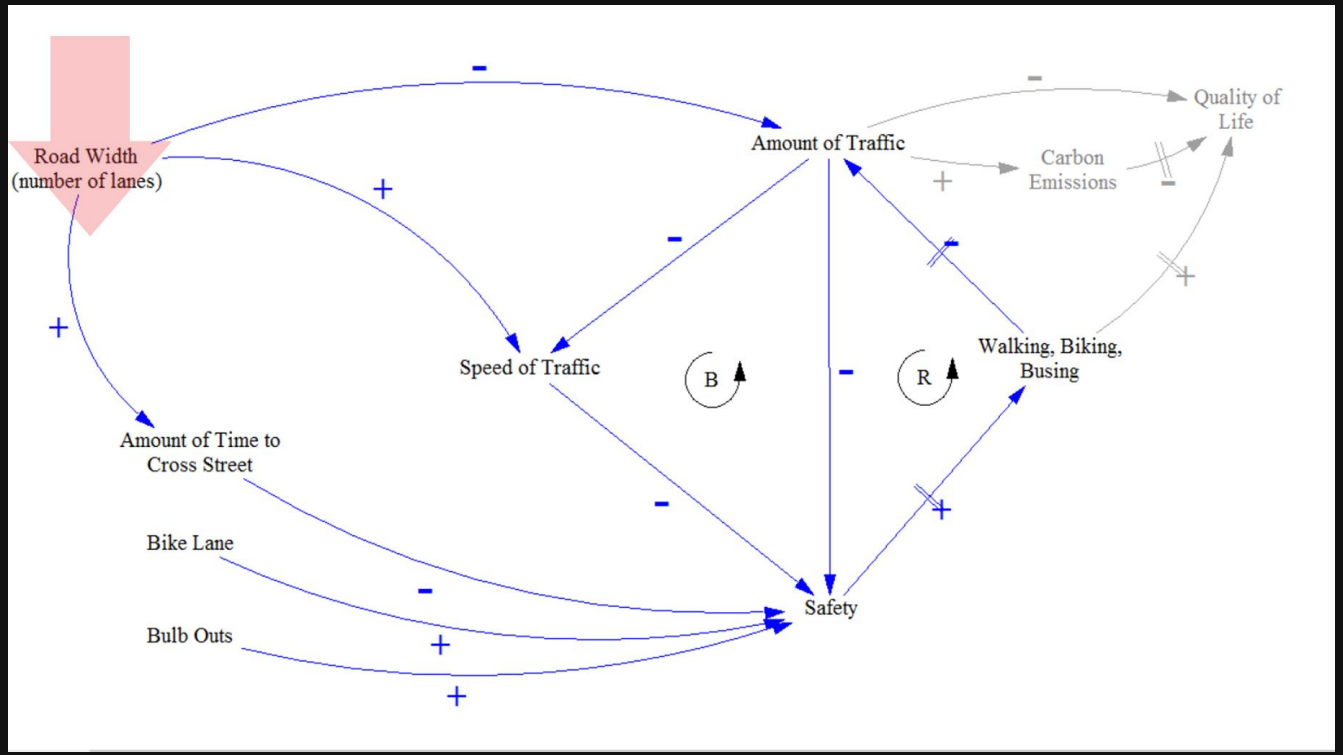

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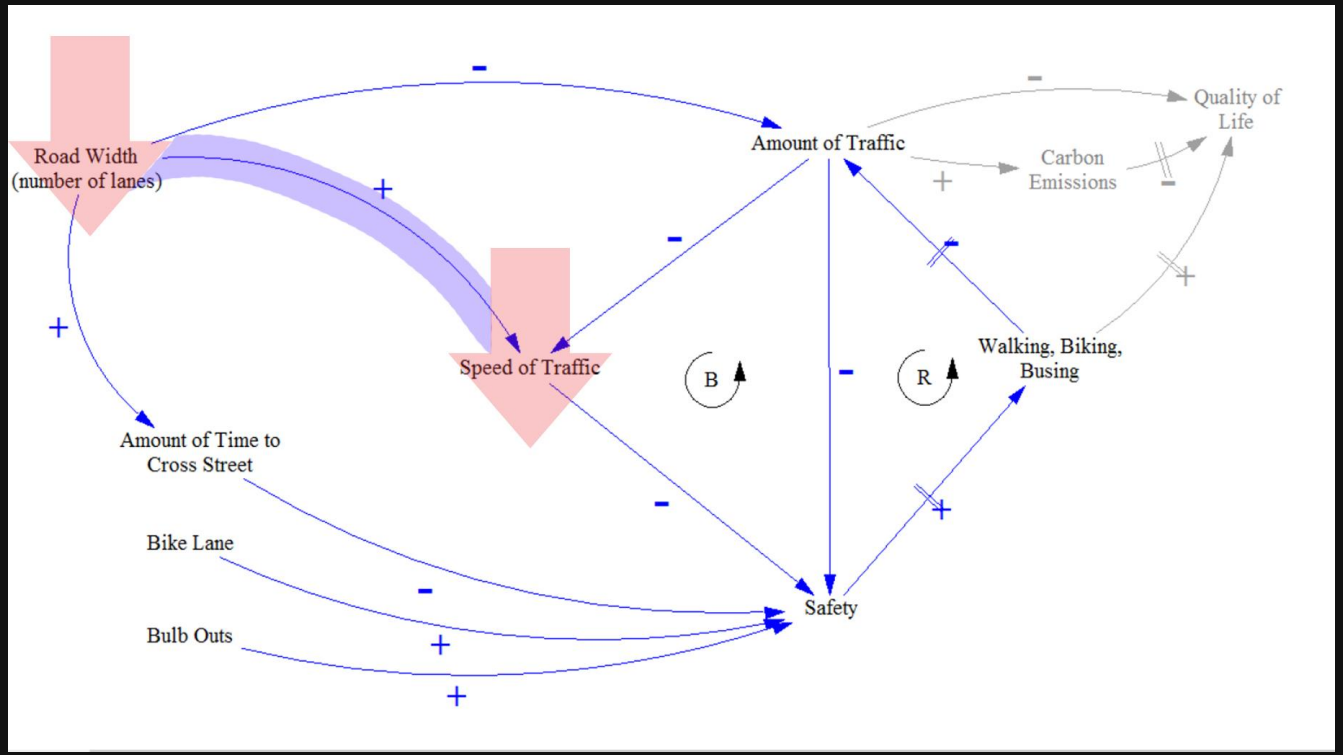

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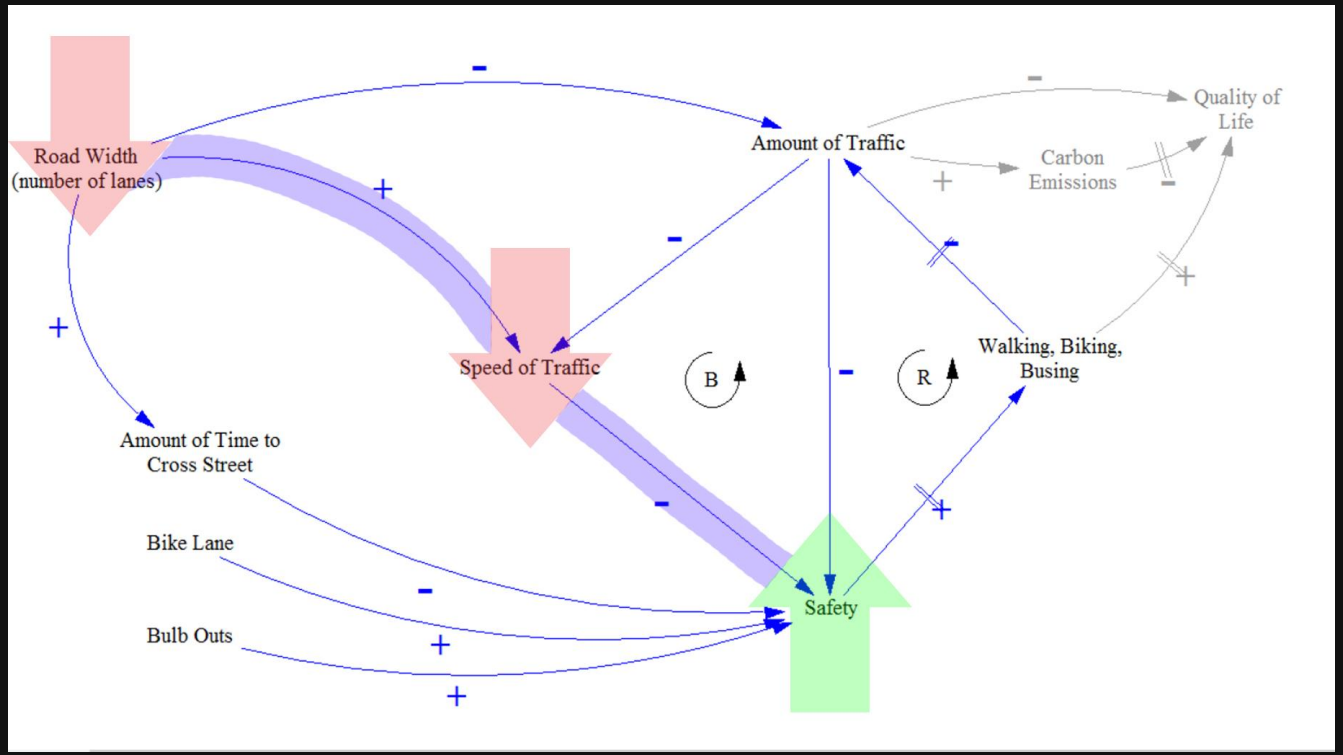

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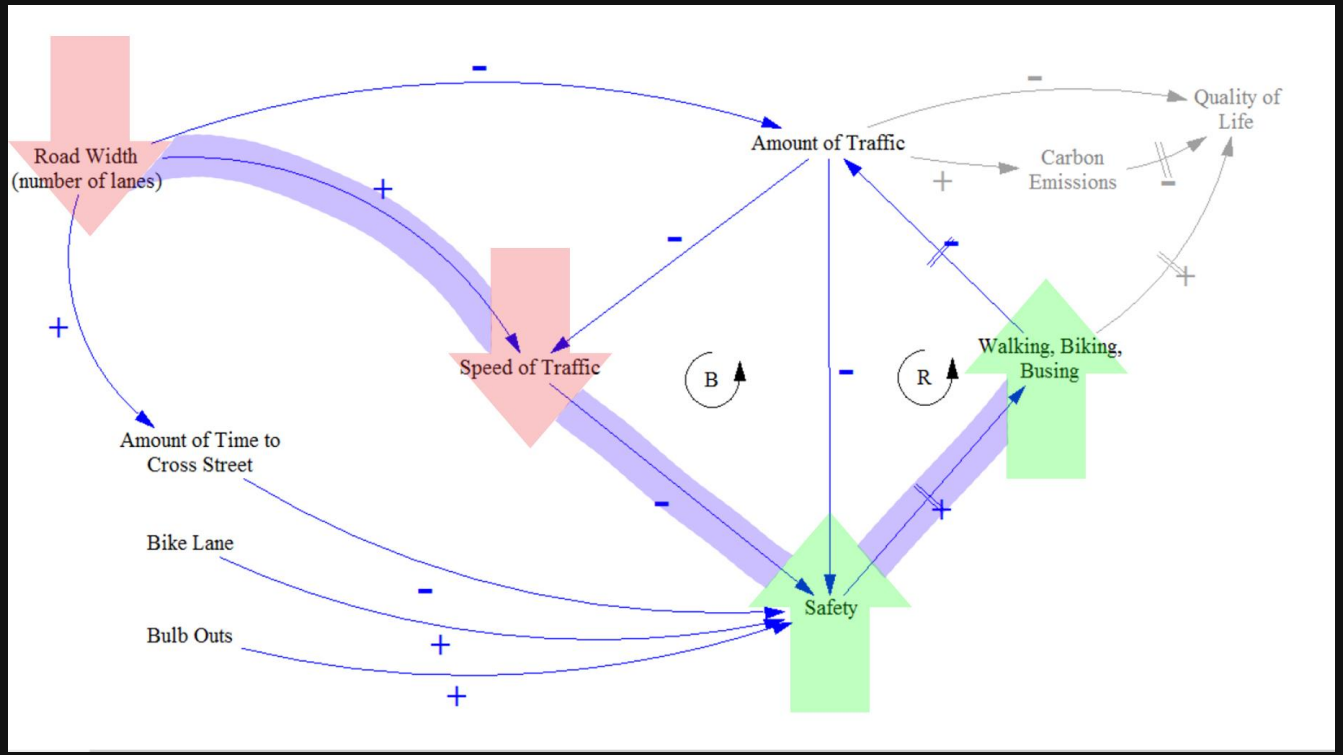

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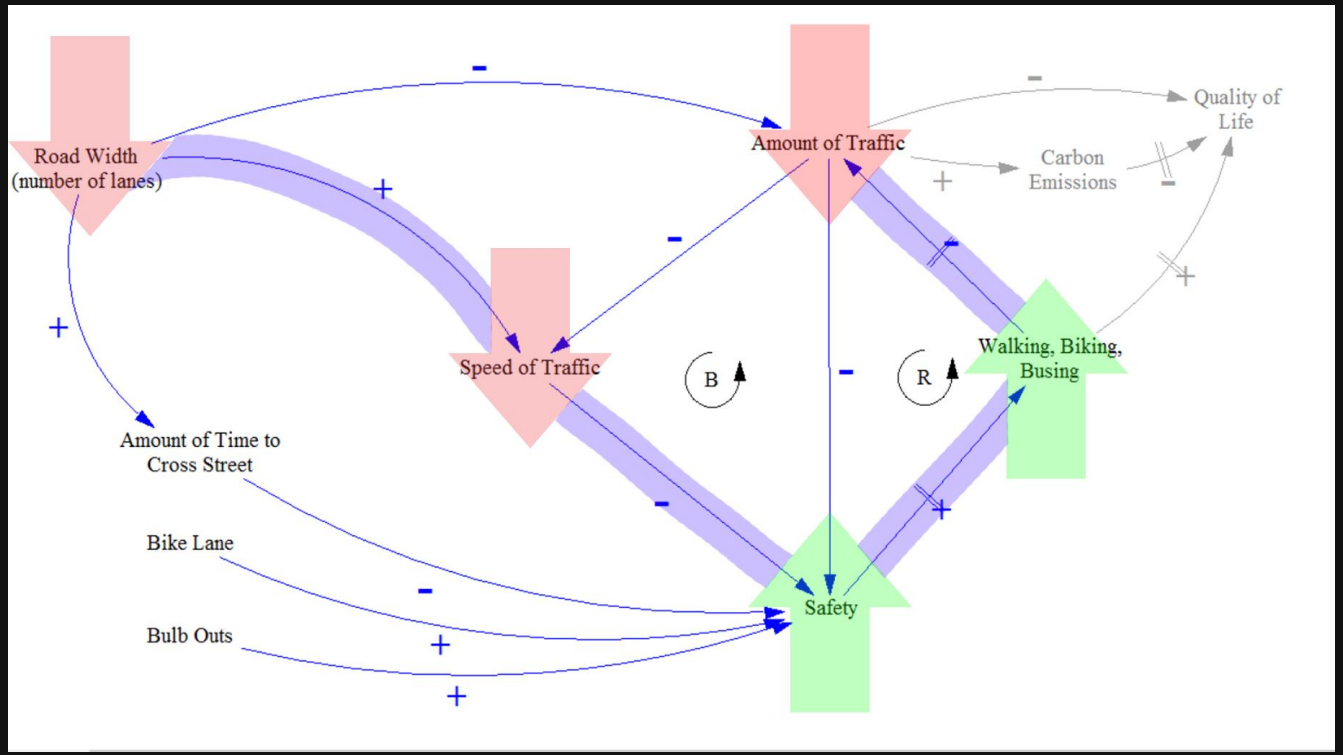

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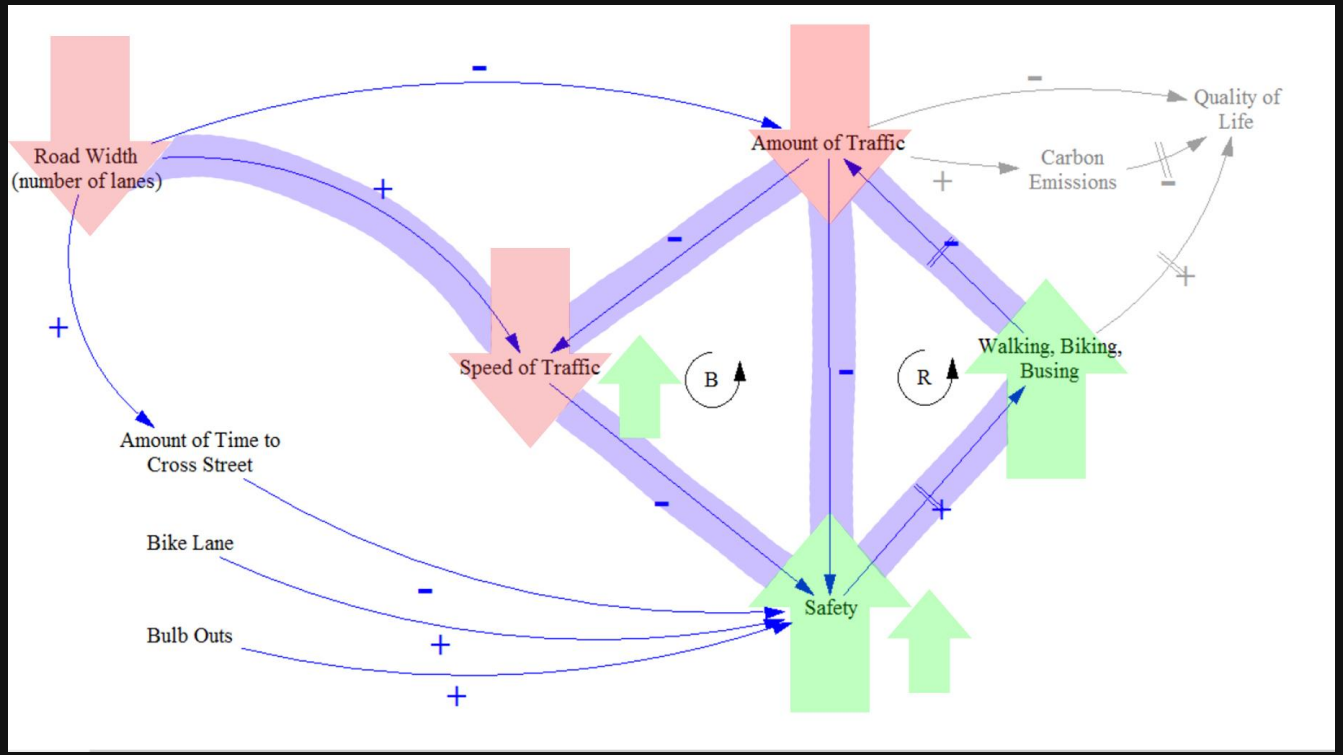

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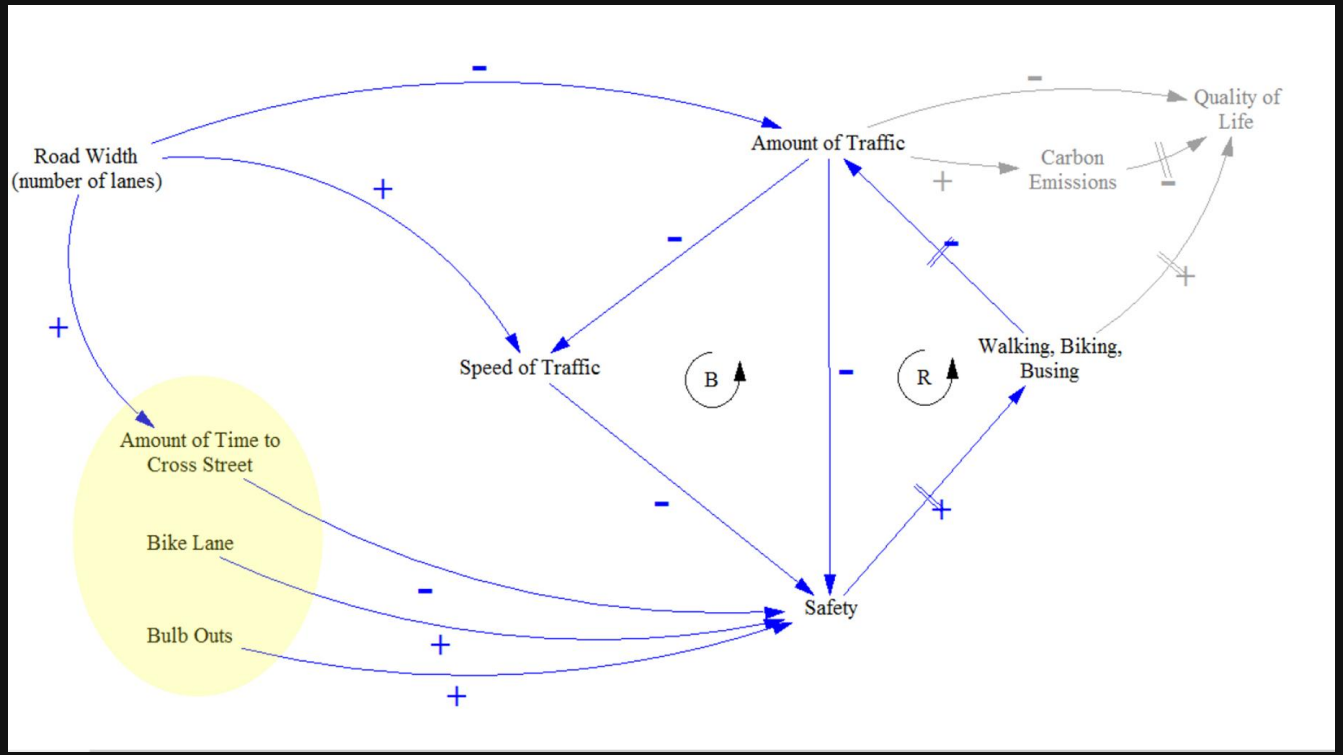

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Safety Variables

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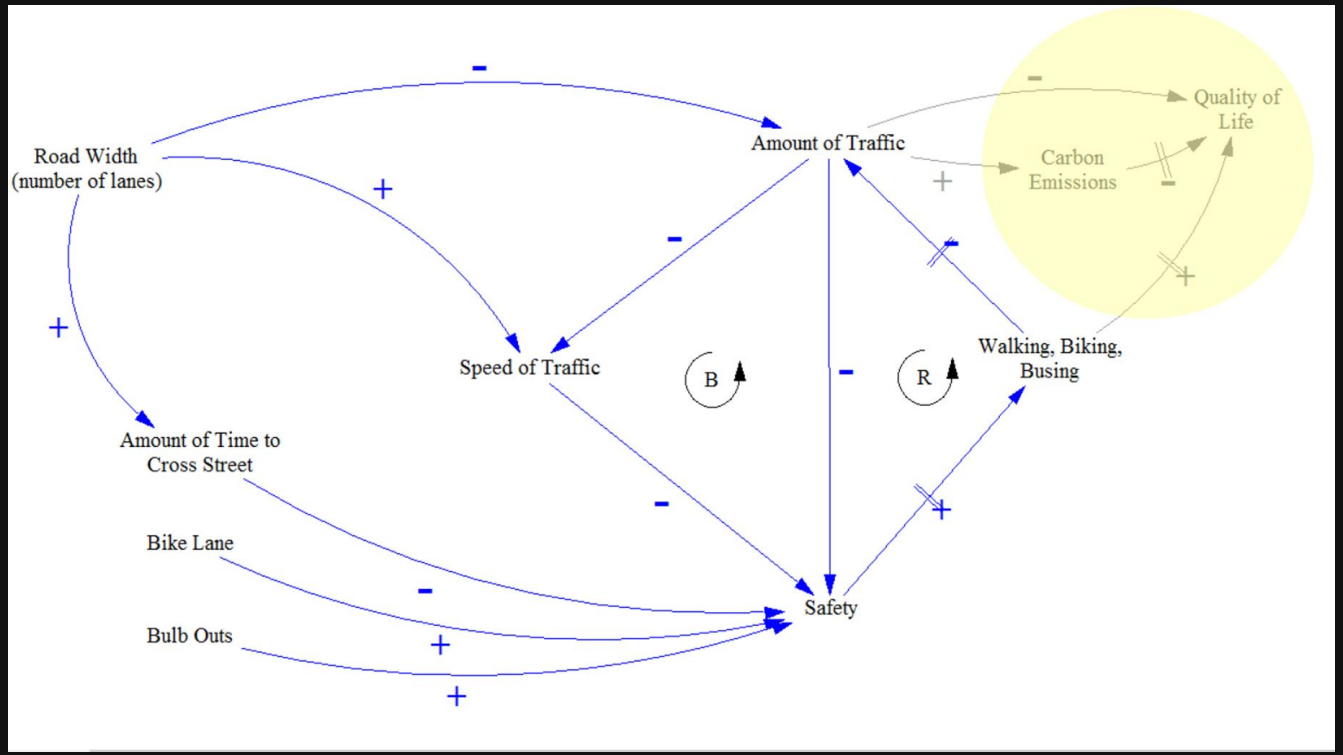

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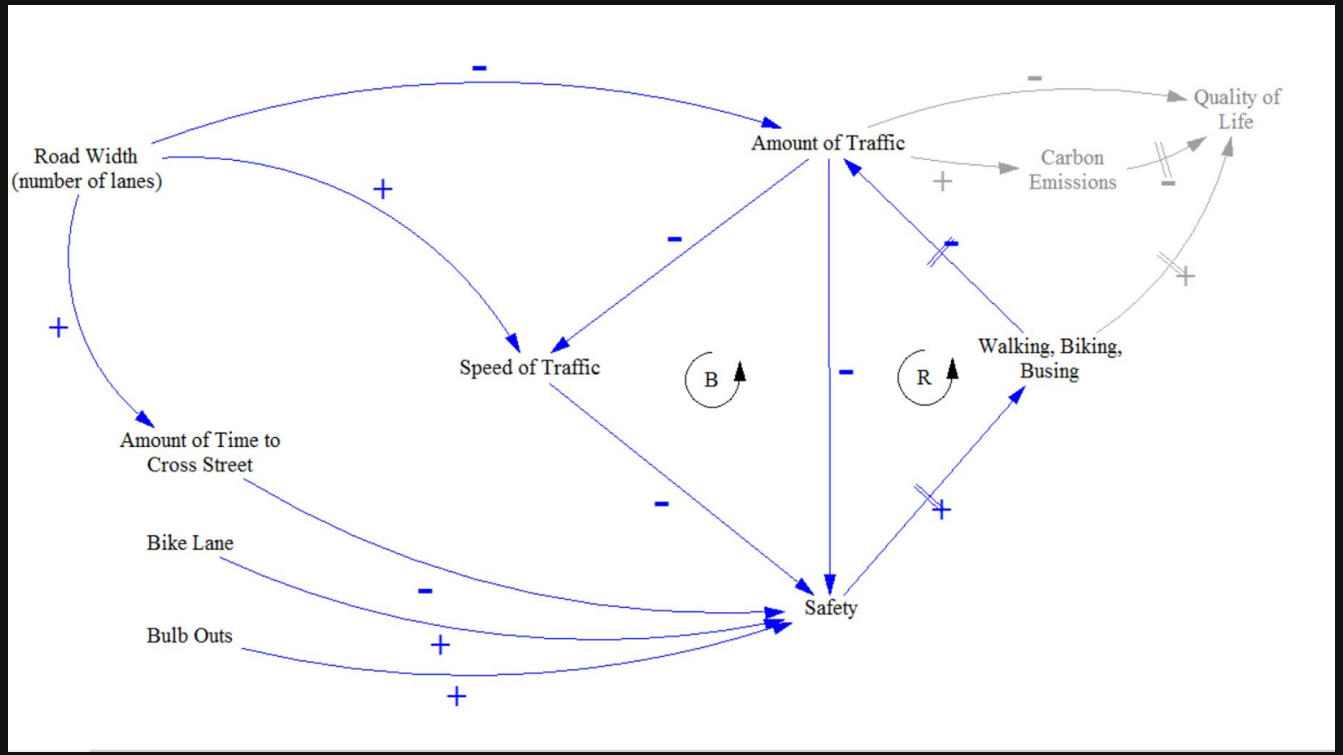
Broad Scale Variables

Causal Loop Diagram



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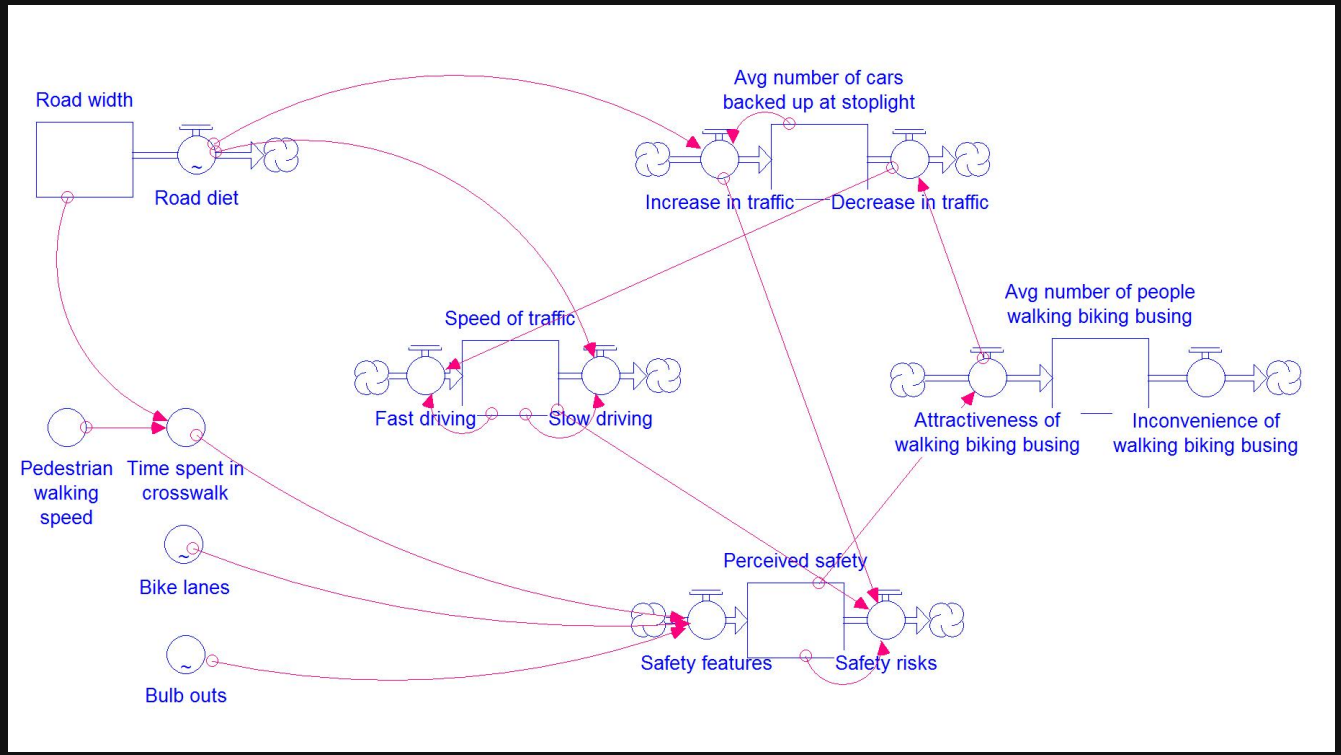
Stock and Flow Model



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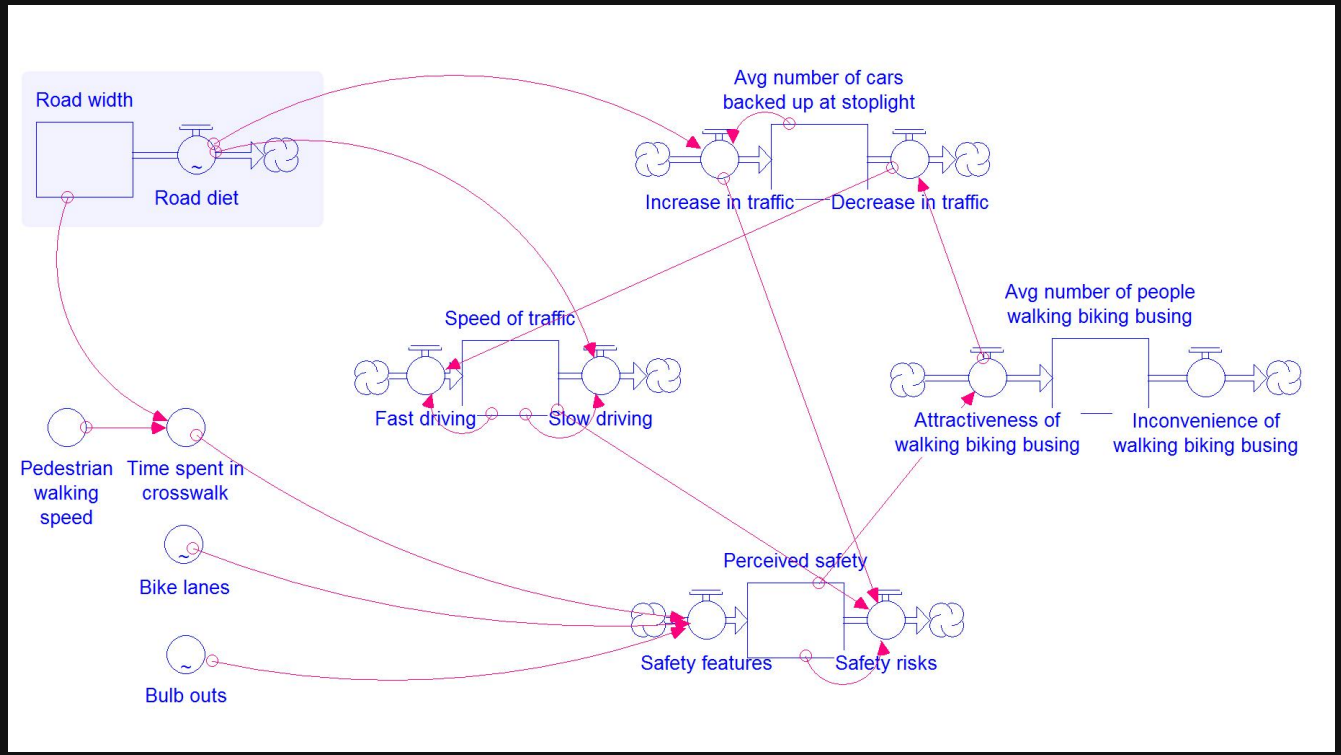

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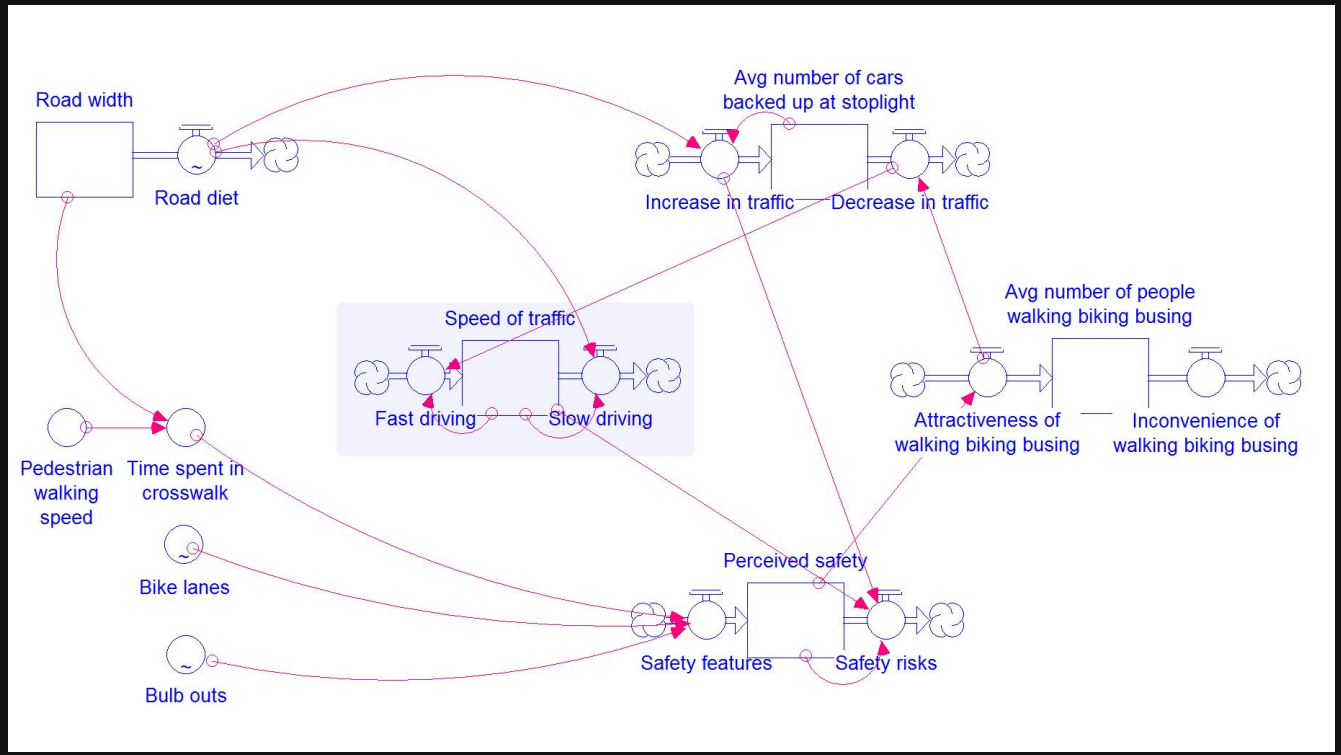

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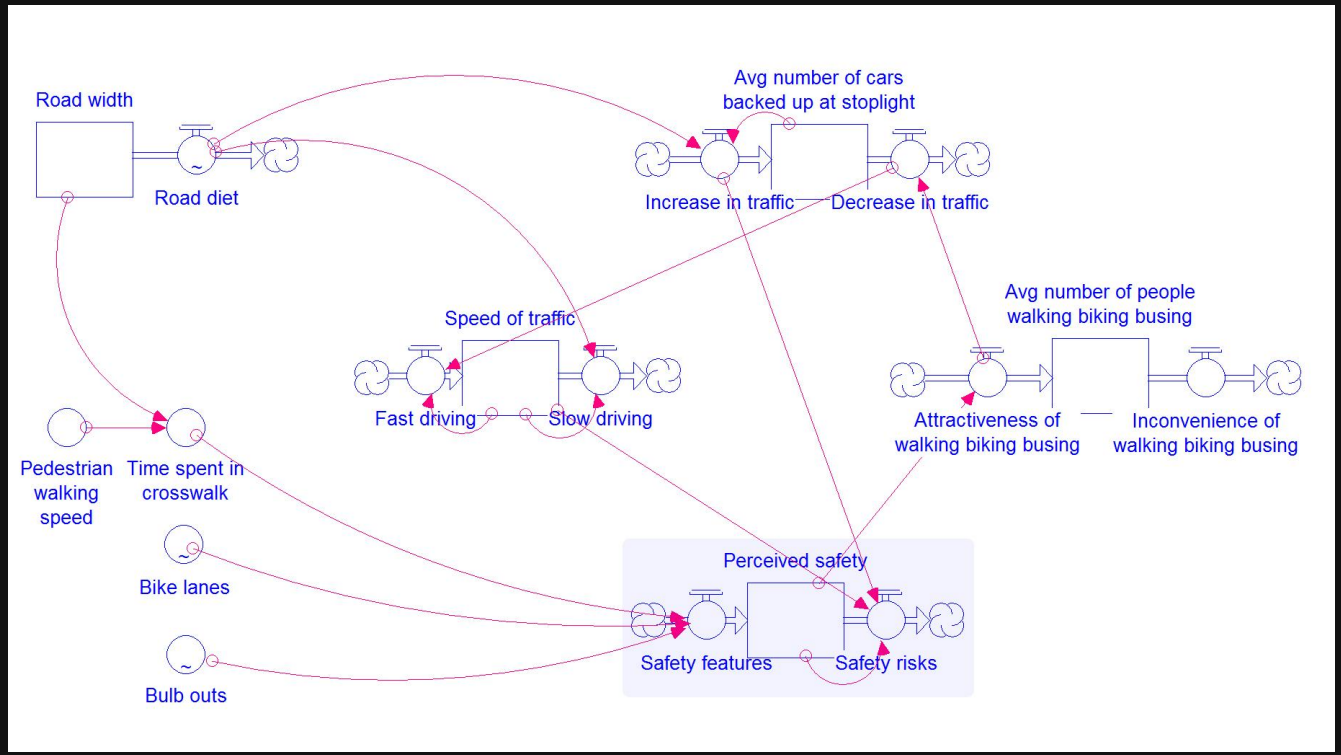

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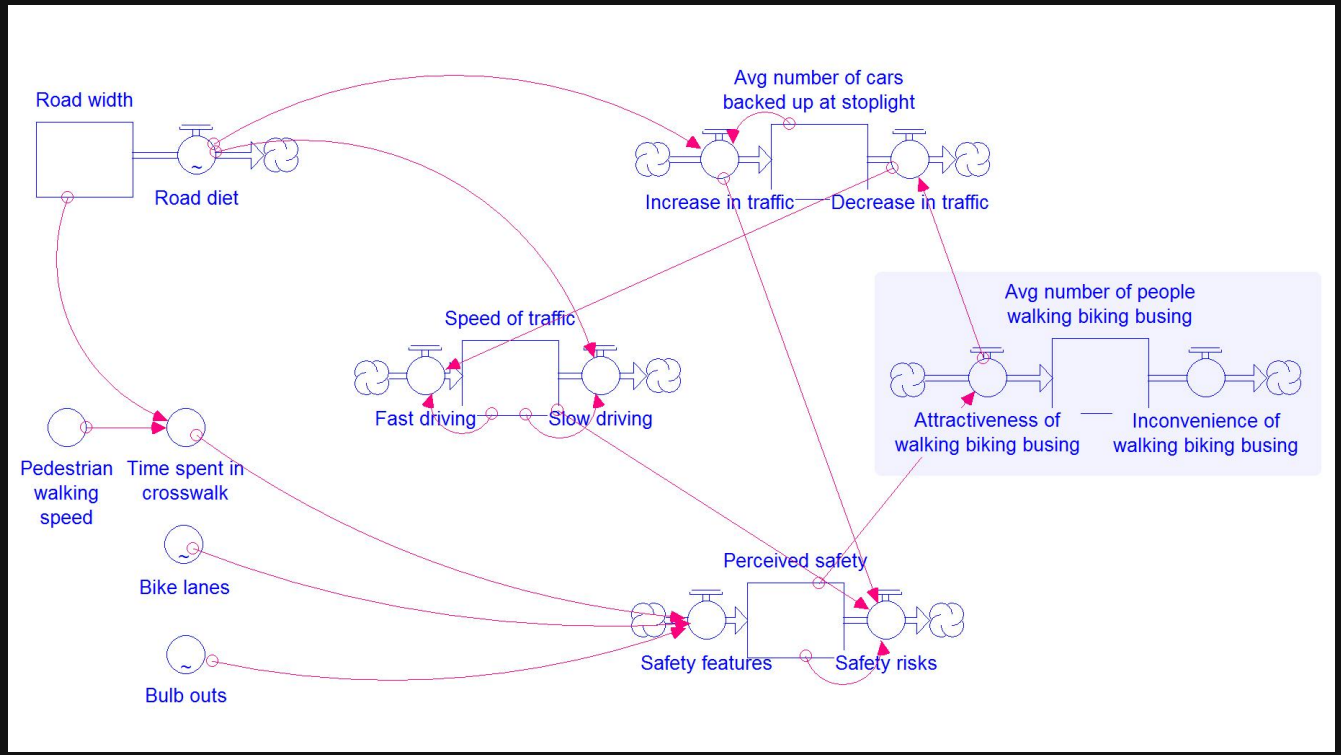

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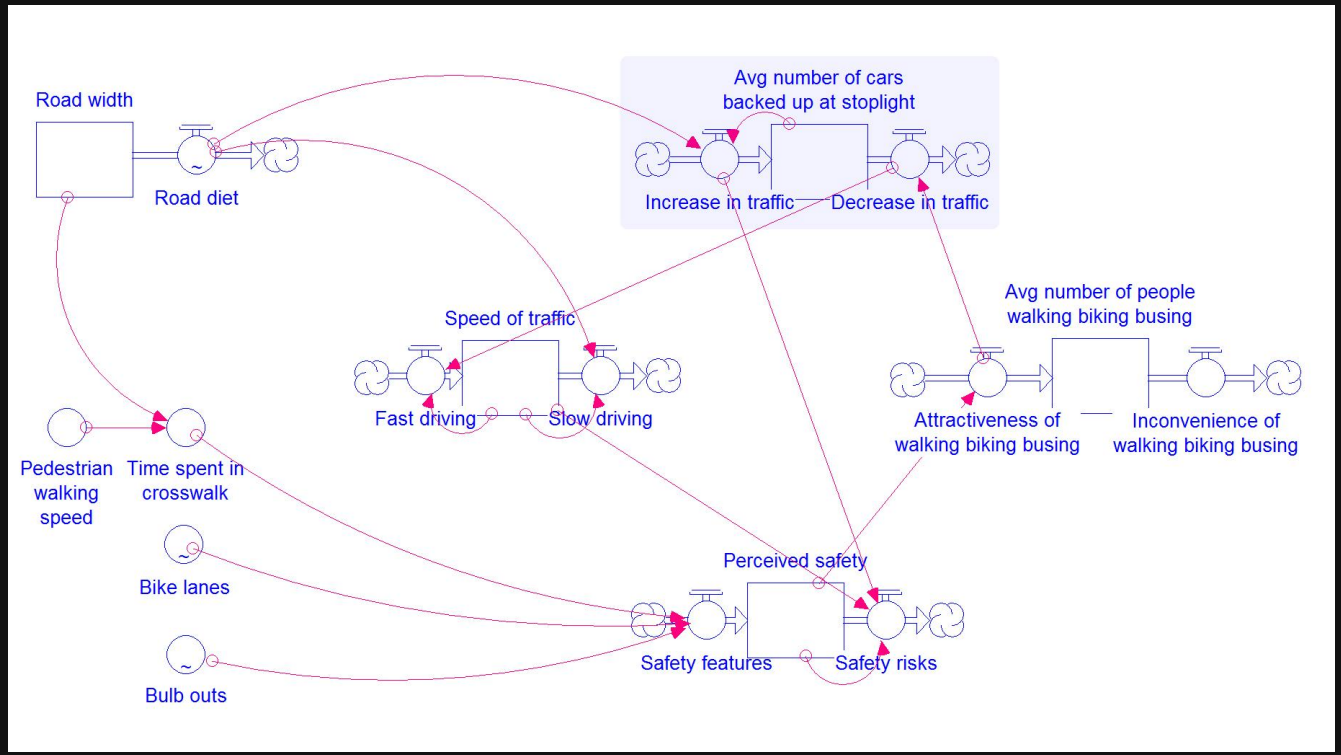

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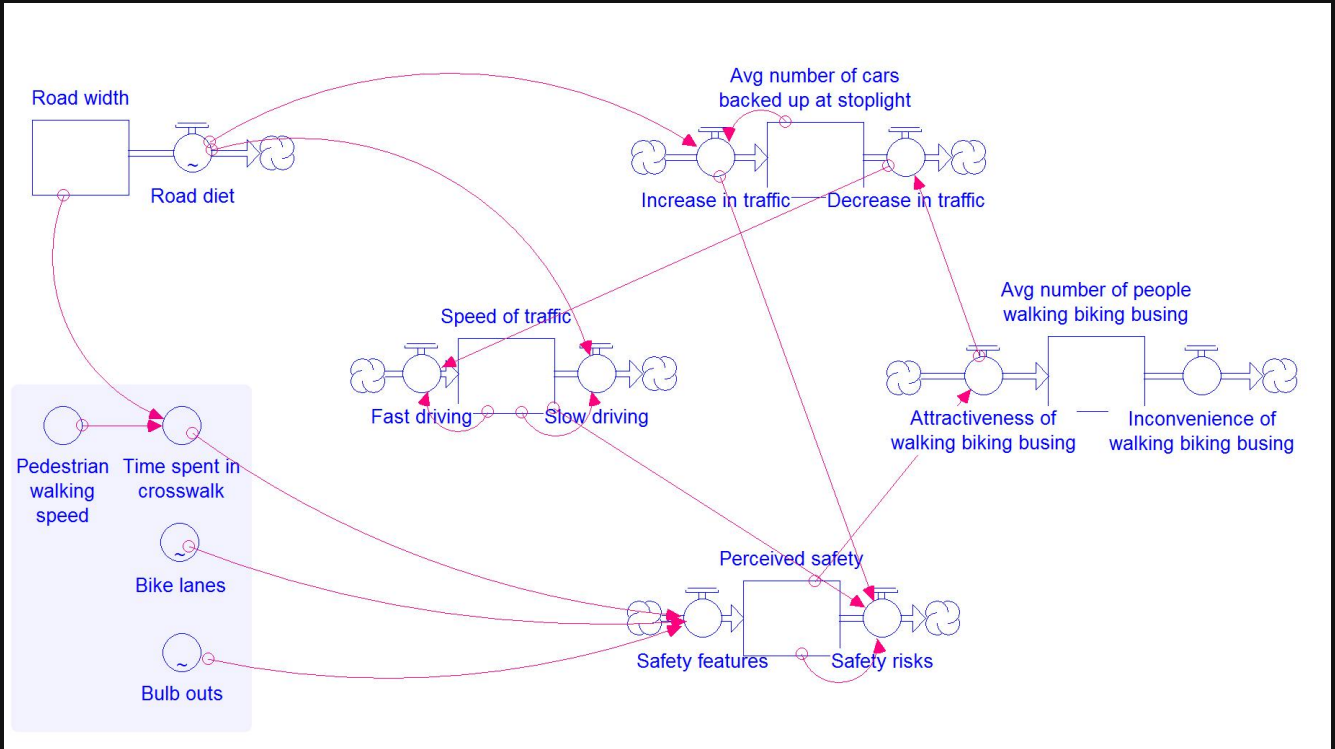

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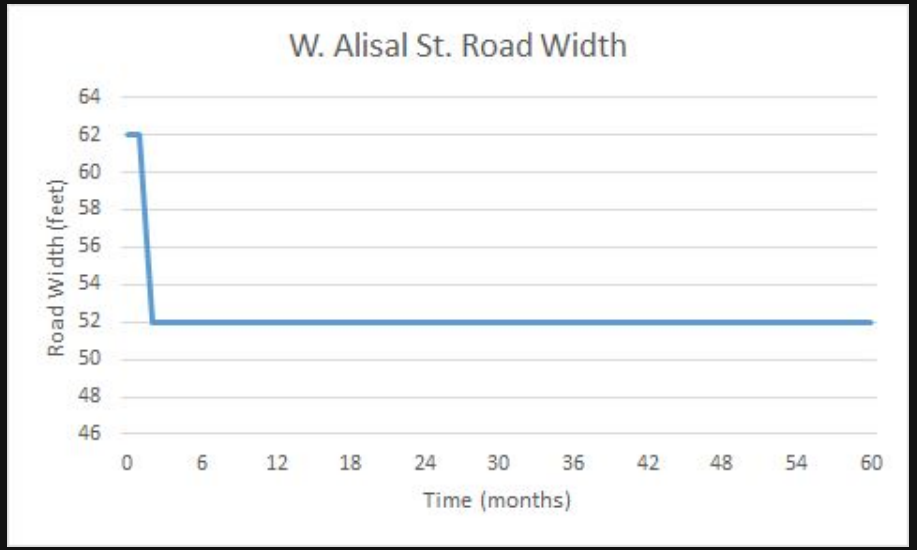
Converters:

Safety Variables

Results - 5 year Simulation

	Initial	Final
Road Width	**62 ft**	**52 ft**
Avg. Speed of Traffic	29.7 mph	26.3 mph
Perceived Safety	53.0	70.4
Avg. Number of People Walking, Biking, Busing	151 people	154 people
Avg. Number of Cars Backed Up at Stoplight	3.1 cars	5.3 cars



- 10-ft wide lane removed

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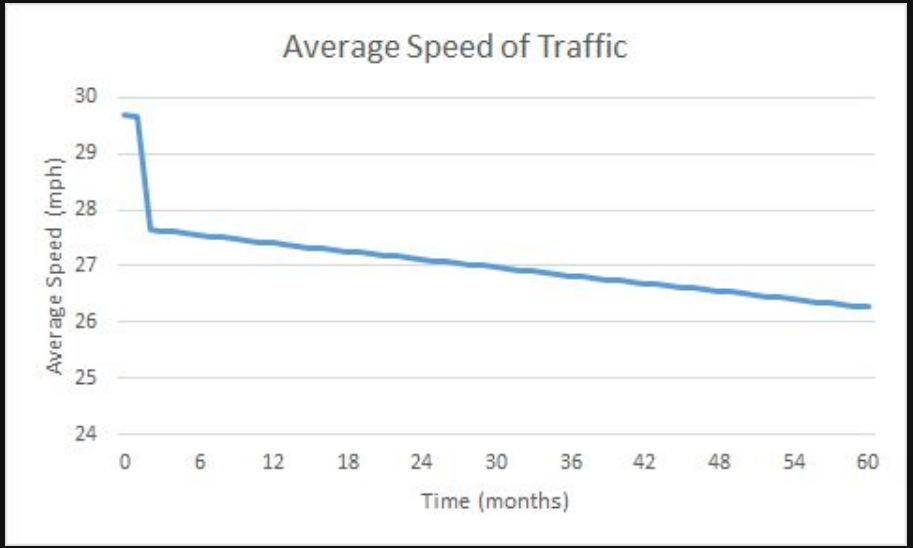

- Most drivers travel above speed limit
- Slower speeds during adjustment period

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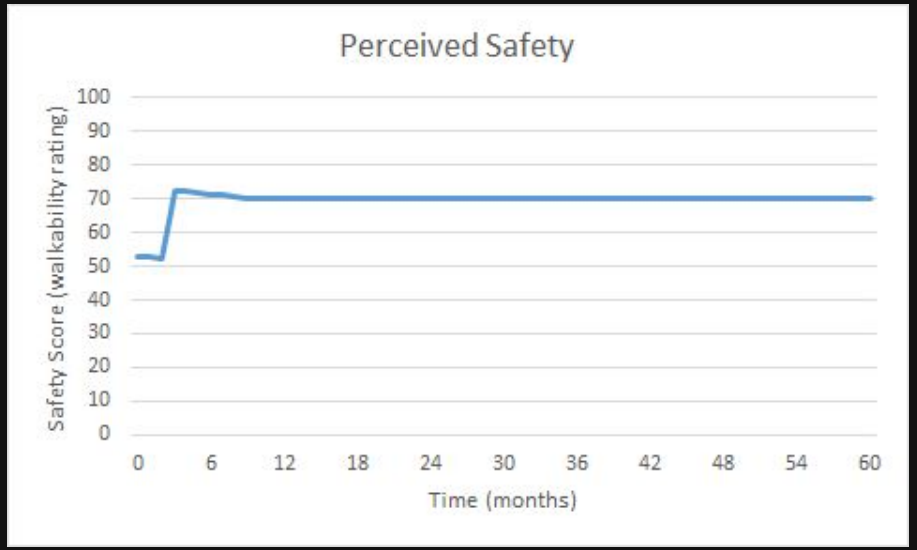

- Based on Salinas Walkability Rating out of 100 points

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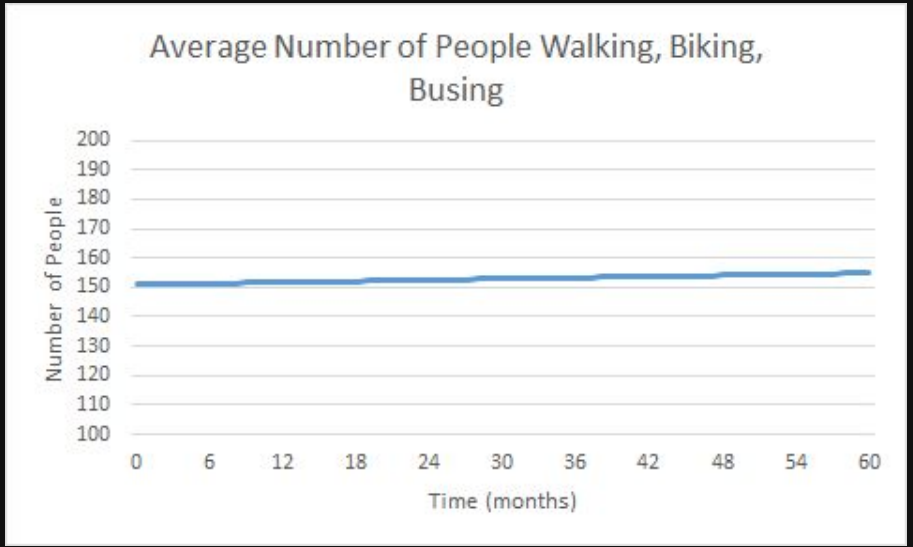

- Assumes Hartnell students will primarily respond to road diet effects

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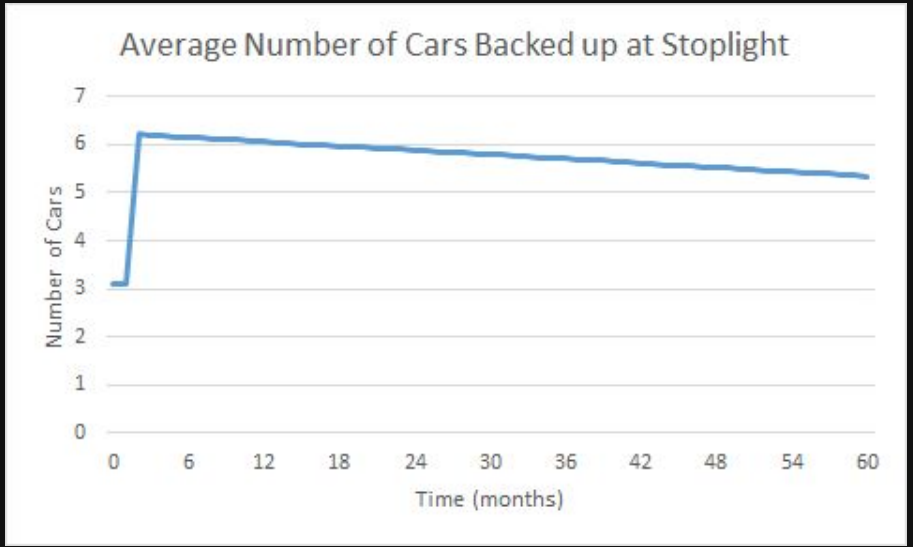

- Average doubles when number of through lanes reduced by 1/2

Limitations

Data Collection:

- Road dimensions estimated
- Small sample size
- Bus passengers likely double count as pedestrians
- Data collected during off-peak traffic hours

Model:

- Research on road width and vehicle speed inconclusive
- Omits other safety related variables
- Perceived Safety values subjective and assigned arbitrarily

Conclusions

The Road Diet could:

- Decrease traffic speed
- Increase safety
- Increase walking, biking, busing
- Increase traffic density

We recommend:

- Strengthening our model
- Use community surveys to gather more qualitative data
- Perceived Safety & Walking, biking, busing behavior

References

- http://www.hartnell.edu/about-hartnell
- http://destinationsalinas.com/maps.htm
- http://www.mchsmuseum.com/salinasbrief.html
- http://www.carodeo.com/
- http://www.wehoville.com/wp-content/uploads/2014/09/Screen-Shot-2014-08-28-at-7.39.45-AM.png
- http://www.thecalifornian.com/story/news/local/2015/05/29/multimodal-project-put-salinas-road-diet/28180361/