Case Study: Merging Traffic

CITS4403 - Computational Modelling Assignment

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source: https://xkcd.com/1425/

1 Introduction

One of the most annoying things about driving is merging. Merge points always seem to be the slowest part of the road, with everyone queuing up to form a single line. But it isn't as simple as that, the lines are moving at different speeds, people are constantly swapping between them, there's not enough space to move from one to another when you need to, and bumping into someone else can bring the whole system to a halt.

The late merge, or zipper merge,

Exercise 1: *test*

Exercise 2: *test*

Exercise 3: *test*

2 Design

Traffic is very complex and while it would be possible to implement a simulation with 3d models and floating point math, a grid based implementation was opted for instead.