ISYE 3232 Final Report

Abba Otieno Ndomo

December 6, 2025

Data Collection Methodology

Objectives and Scope

We collected vehicle and pedestrian data at a T-intersection with three vehicle approaches (Ferst Dr K, Hemphill H, Ferst Dr C) and associated crosswalks. Our goal was to record arrival, queue progression and exit times so that we could construct inter-arrival, service and waiting-time distributions for later queueing analysis.

Team Roles

For each vehicle approach, a road observation team included:

- **Arrival Recorder**: noted when a vehicle joined the back of the queue.
- **Exit Recorder**: noted when a vehicle cleared the intersection.
- **Data Logger**: entered Vehicle ID, Vehicle Type, Arrival, Stop Sign Arrival (if used), Exit Time and Direction From/To.

A dedicated **Pedestrian Observer** recorded pedestrian arrival at the crosswalk, crossing start and exit times.

Data Schema and Tools

Vehicle sheets contained time fields and automatically computed processing times and counts of cars still in queue (when Exit Time was blank). Pedestrian sheets similarly computed waiting and crossing durations. A summary sheet aggregated cars in queue per road and total pedestrians waiting or crossing. Observers used timestamp shortcuts (Ctrl+Shift+;) and consistent direction and vehicle-type codes.

Procedures and Quality Checks

Times were logged immediately at each event to avoid recall errors. Periodic cross-checks between Arrival and Exit recorders and the Data Logger helped reconcile missing or inconsistent rows. The final dataset consisted of per-approach vehicle records, pedestrian crossing records and summary totals for sanity checks before downstream analysis.