

Q1)

- (a) The number of customers served per day = 34
- (b) Total delay per day = 553.26 mins
- (c) Average delay per customer = 16.27 mins

Q2)

- (a) When will the queue disappear? Please draw the cumulative diagram: After 60 minutes.  
The diagram is provided in the excel file.
- (b) Please calculate total waiting time, average queue length, and average waiting time.

Total Waiting Time	540 mins
Average Waiting Time	9 mins
Average Queue Length	45 veh.
Total Queue Length	2700 veh.

Q3) please calculate the trajectory of the lead vehicle (vehicle 1), then calculate vehicles 2 and 3's trajectories. It is better to use an excel table to finish this problem.

The leading vehicle and vehicle 1 = 6.6 sec, 91.8327 ft

The vehicle 1 and vehicle 2 = 7.8 sec, 88.49527 ft.

Excel is provided with details.