

Urban OR Homework #1

Due: Wednesday September 22<sup>nd</sup> in Class

Problem 1: Urban OR Text 2.3

Problem 2: Urban OR 3.1

Problem 3:

Suppose that, in the pedestrian crossing problem, the line turns green when the second pedestrian to arrive after the last green has waited  $Q$  minutes. Please answer the five stated questions (starting with the mean number of left-bound pedestrians per green) under this policy.

The Five Questions Are (taken from lecture):

- (a) Find the expected number of left to right pedestrians per green.
- (b) Find the probability of zero left to right pedestrians for a given green.
- (c) Find the probability density function for the time between greens.
- (d) Find the average waiting time for a random arriving passenger.
- (e) Find the average waiting time for an observer.