

Orf 467
Transportation Systems Analysis
Fall 2015/16



HW-6 Analysis of aTaxi Flows in and out of aTaxi Stands and their Empty Repositioning Throughout the Day

Due: Precept Monday/Tuesday, Dec 6/7, 2015

We have 5 things to accomplish in order to be able to begin to investigate how large the aTaxi fleet will need to be to provide mobility for all of NJ's aTaxi trips assuming a DD=300, CD=3, P2P level-of-service.

We need:

1. The ride-sharing analysis for all pixels for DD=300, CD=3, P2P
2. The departure time and occupancy of each aTaxi departing from each pixel throughout NJ for a typical day. (Demand for aTaxis to load up with rider(s) by location (pixel) by ToD)
3. The final time of arrival for each of those trips at the pixel where each drops off its last passenger (Supply of aTaxis available to serve future trips by location (pixel) by ToD)
4. The development of a "simple "back-of-the-envelope" empty vehicle management strategy
5. Development of a Deterministic Optimal Real-Time Deterministic Empty Vehicle Management Process
6. Formulation of a Stochastic Optimal Real-Time Deterministic Empty Vehicle Management Process (without cheating: seeing into the future)

We need to identify groups to work on these and report back their findings next week