Homework 5: Distance measurement

PHC 6194: Spatial Epidemiology

In this assignment, the geodatabase of “homework6” is provided. It includes the following feature class:

Point feature class:

1. Family\_house: Dataset contains points for addresses within Alachua County, Florida. The Alachua County E-9-1-1 Office assigns and maintains addresses for all of Alachua County with the exception of the Town of Micanopy. Micanopy assigns addresses within its municipal boundary.
2. EMS\_Location: Point feature data included the location of emergence medical service (EMS) in Alachua County, Florida.

Line feature class:

1. Road: A feature class represents all traffic streets in Alachua County, Florida.

**Task 1**. For each family address, please find the nearest EMS and calculate the straight-line distance. List the family address ID and EMS ID and the nearest distance below.

If you use ”Near” tool, please list the family address ID “OBJECTID”, the EMS ID “NEAR\_FID”, and the nearest distance “NEAR\_DIST”.

If you use “Generate Near Table”, Please list “IN\_FID”, “NEAR\_FID” and “NEAR\_DIST”.

**Task 2.** Use network analysis to estimate the shortest response time of an EMS (emergence medical service) to the family addresses following the in- class tutorials.

Steps:

1. Data Preparation: Assign travel time to road segment following the in- class tutorials;
2. Build Network Dataset;
3. Estimate shortest travel time
4. Note: Select “ new OD Cost Matrix” from Network Analyst and Select “Family\_house” as Origins and “EMS\_Location” as Destinations

Please give a good screen shot to show your result.