Fundamentals of GIS: Term Project Proposal **10 Points**

Your term project will be a poster that will become part of the 2017 Tufts GIS Poster Expo and may be published as part of the Tufts GIS Poster Collection. Your poster will demonstrate a GIS model and will discuss the utility of the model in terms how it provides guidance in a specific ***type of hypothetical*** decision-making situation. The brief for the term project is posted in Canvas / Files / Term Project Topics. You should read this before preparing your proposal.

Your term project proposal will be evaluated based on your ability to describe a decision-making scenario, and associated spatial mechanisms, and to identify and evaluate data-sets that represent the essential things and conditions involved. **If you are not able to find data that adequately represent the things and conditions in your model, then you don't have a good proposal.** Formulate a new conceptual model for which you can find adequate data.

___ Describe a decision-making purpose in terms of **things** and **conditions** that might be created modified, removed, or preserved. Your aim is to find data and create a GIS model or models that will help you to estimate and compare some of the relative merits of carrying out your proposed intervention in one place versus some other place. For example, which **existing and proposed health-center locations** will be **accessible** to a greater number of **new mothers**?

___ Cite one or two prior studies that have some bearing on the conceptual model and spatial mechanism that you have chosen to model. **Provide long citations with working hyper-links**.

___ Describe the real-world spatial mechanism you will model in terms specific types of things and conditions, and their actual spatial relationship. For example, Accessibility might be defined as "15-minute walking distance for a mom pushing her baby carriage on sidewalks and across streets." or "Particulates are carried up to 15 km on prevailing winds at elevation of top of smokestack." Some models involve more than one spatial mechanism. You may choose not to actually simulate mediating conditions in your analysis, but you should be able to describe them as they exist in the real world.

___ Describe the key datasets that you will use to represent the each of the types of things and conditions and mediating conditions in your conceptual model and spatial mechanism. How were these data originally collected and for what purpose? What are the key attributes that will be instrumental? **Provide long citations for these datasets** with working hyperlinks (if available.)

___ **Discuss and Illustrate the categorical and spatial granularity** of each data set as these relate to your needs to represent things, conditions and relationships described in your conceptual model. Even though your study area may encompass a very wide area, **create a map or as many maps as necessary to illustrate the granularity of your key data sets at a scale in which we can understand the sorts of real-world things, conditions, and relationships that you have identified in your conceptual model.** Use your categorical and quantitative mapping skills to portray the attributes of interest in each data-set. Include legends and scale bars. I recommend using the Aerial photo from ArcGIS in the background and use transparency so that we can see how your data chunks are, or are not, logically consistent with the pattern of visible things and conditions in your pilot area. For your final poster we will be looking for a multi-layered graphical hierarchy.

___ For each of the data-sets, make an educated guess in terms of systematic biases (potential errors of omission, commission; under estimation, over-estimation) that might result from using these data. These concerns should be expressed in terms of the critical patterns of things and conditions that you need to represent.

___ *Discuss* the GIS procedures that you plan to use to generate new information in the form of at least one new feature-class or raster data layer that includes new information that could be part of an evaluation for one or more locations with regard to your decision-making scenario. **Merely joining tables together or fiddling with attributes and making a map is not considered a GIS procedure for the purposes of your term project.**

___ Format your proposal in landscape mode, save it as a PDF document named **yourname_proposal_DATE.pdf** and upload it to the canvas ProjectProposals drop-box.