| Date: | 1 April 2016 |
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| Time: | 1300-1400 |
| Venue: | School of Information Systems, Level 4 |
| Present: | Sim Peh Wuen Jeanne, Lim Hui Ting Jaclyn, Lim Hui Ting |
| Absent with  <br> Apologies:  $\mathbf{~}$ |  |


| Agenda: | 1. Clarify what models to implement |
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|  | 2. Analysis of multimodal transportation |

1.1 Models to use

- Steward model: Measures Accessibility, to see how accessible is one area from the home to the school
- For tampines, now that you have the bus route and the bus stop, you should look at finding out the accessibility by bus
- (Perpendicular) Snap the HDB (or destination points to the road)
- But how do you know which is the exact origin??
- Distance matrix has to be based on road network (and NOT euclidean distance, i.e. the one in "Steward_Tampines" R codes)
- Road Graph (plugin)
- Use bus route to get the road graph
- "Huff-tools-master" -> the huff tools vignette.pdf
- Distance matrix calculation looks at road network distance.
- Look at section 2.3 - \#run the shortest_distance function
- Distance <- shortest_distance(destinations=destinations_pnt, destinations_name = destinations_pnd@data\$Names, origins = origins_name = origins@data\$Name, roads= roads)
2.1 Distribution of the distance travelled
- Next: Where they go to?
- Analyse the interaction of the commuting patterns! - How many \% within town, \% inter-town, island-wide?
- Within zone, they will go to the adjacent zone first then go apart but this might not be the same for everyone. However, this may be the same pattern for the student but not for adults due to different job opportunities.
- Tampines: look for trips from tampines alone
- How should we classify the motive/activities?
- Look at the peak hour (aka journey to school)
- Hub distance (no need to use R, use the plugin on Qgis: Hublines)
- Join the bus stop data and the hub line data
* Join "distancetoschool" (hub line) field: destinato, target field: destinatio
* Choose which fields are joined "hubname" "hubdist"
- This helps you to find out the closest schools to the destination
- Distance matrix. Allows you to draw conclusion to find out the closest bus stop that the students study in.

|  | $\circ$ | Analyse the distribution of "hubdist", how many bus stops are near each <br> school, and the distance |
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| Next Step of | 1. Clip road network <br> Action: |
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|  | 2. Find out the types of roads in the road network <br> 3. Draw boundaries over areas that cannot be walked through, i.e. <br> schools, condominiums <br> 4. Bus routes - find out the buses taken and load in the routes and <br> prepare a bus route layer <br> 5. Prepare sponsor presentation |

