Gretchen Klock

Project Proposal

**Goal**

Explain what the overarching goal for the project as well as the intended user and/or application of your database. For example: identify areas affected from different flood scenarios (100 year, 500 year floods), and the impact on population, infrastructure and economy. Because this is a spatial database systems course you are expected to design and populate a spatial database with multiple spatial layers (tables) such as flood plains, census units, road network, buildings, parcels, hiking trails and etc.

**Goal**

To construct a database useful for assessing access to public transit in Chicago, IL. The intended application would be to publish this information online to promote public transit options to the public. Additionally, this database would be useful for policy makers to site new transit stops and lines to have more equitable access to transportation in the city.

**Specific Objectives**

Assess areas well served by CTA bus lines, CTA rail lines, and Metra commuter lines within the city boundaries of Chicago.

Assess areas with high population underserved by these mass transit lines.

Assess “destinations” (shopping centers, universities, sports arenas, and other points of interest) underserved by mass transit.

Assess if different socio-demographic and/or socio-economic grounds are underserved by mass transit lines.

Which neighborhoods have the best access/worst access to mass transit?

Using a spatial database allows for network distances from a station to be used which is more representative of real life than Euclidean distances.

**Data Collection**

The spatial extent is the city limits of Chicago, IL. The temporal state is the present day.

Most of the data is provided through the city of Chicago’s website, so it should be accurate and relevant for this database.

CTA bus lines and stops, CTA rail lines and stops, Metra commuter lines and stops.

BUS:

<https://data.cityofchicago.org/Transportation/CTA-Bus-Routes-Shapefile/d5bx-dr8z>

CTA RAIL:

<https://data.cityofchicago.org/Transportation/CTA-L-Rail-Lines-kml/sgbp-qafc>

<https://data.cityofchicago.org/dataset/CTA-L-Rail-Stations-kml/4qtv-9w43>

METRA RAIL:

<https://data.cityofchicago.org/widgets/q8wx-dznq>

https://data.cityofchicago.org/widgets/nqm8-q2ym

CTA bus and rail daily ridership

<https://data.cityofchicago.org/Transportation/CTA-Ridership-Daily-Boarding-Totals/6iiy-9s97> (csv)

Chicago Boundaries: neighborhoods, wards, census tracts, Central Business District

<https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Neighborhoods/bbvz-uum9>

https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Wards-2015-2023-/sp34-6z76

https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Census-Tracts-2010/5jrd-6zik

<https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Central-Business-District/tksj-nvsw>

Demographic Data

Census Data from NGHIS IPUMS

Still Need:  
 Points-of-Interest. Need to determine criteria.

Hospitals: <https://data.cityofchicago.org/Health-Human-Services/Hospitals-Chicago/ucpz-2r55>

Public Schools: <https://data.cityofchicago.org/Education/Chicago-Public-Schools-School-Locations-SY1718/4g38-vs8v>