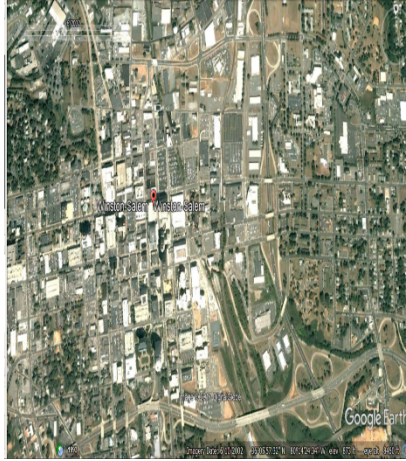## Exercise 3: Neighborhood Infrastructure Data Mapping

Overview

GIS applications are useful tools for collecting and analyzing data concerning a number of urban development issues, including the equitable distribution and condition of neighborhood infrastructure. In Winston-Salem, there is growing interest in supporting resident-driven change and a need to better understand this research question: What are physical assets and challenges at the neighborhood level in Winston-Salem and how do they compare across neighborhoods? Collecting, analyzing, and visualizing neighborhood infrastructure data could help residents identify needs and communicate those needs to decision-makers with data backing them up.

Two potential data collection methods include Walking Interviews and Neighborhood Audits, which can identify both assets and challenges like sidewalk condition, accessibility compliance, safety, and available recreation facilities. ArcGIS online applications are being developed to streamline data collection and visualization for each method. Several neighborhood leaders and organizations are interested in community data mapping, but before the GIS tools can be rolled out, they need to be tested for functionality, ease of use, and accuracy.

After an introduction to Walking Interviews and Neighborhood Audits, your assignment will be to collect information using a Google street view "tour" and display data using Google My Maps. Your data collection will focus on WSSU's campus and nearby areas.

ArcGIS online applications Collector and/or Survey123 could help to streamline data collection in the future. The final part of this assignment will be reflecting on your data collection and entry process to make recommendations for what a mobile app should do.

Goal/objective

The purpose of these activities and assignments are to (1) practice and evaluate the walking interview and audit methods for collecting neighborhood data, (2) test and evaluate new

ArcGIS online applications being developed to streamline data collection, and (3) provide feedback and recommendations for improving data collection and visualization.

In-class Assignment – Planning Walk – (25 pts)
Your first assignment is to work in pairs to complete a walking interview and an audit checklist on/near campus, including audio, photos, notes, etc. In preparation for the assignment, choose a partner and complete the following before the end of class:

(1) Plan for the walking interview (see "Pre-Walking Interview" in the hand-outs). In a Word document include your intended date, time, interview route, estimated distance, group member roles (i.e., who is interviewer/interviewee), how you will collect data, and any other useful details. The interview route can be completed in GoogleMaps (or another application of your choosing) and the image should be pasted into your Word document.
(2) Plan for the neighborhood audit (see slides and hand-outs). In the same Word document, add details for completing an audit including location (describe and identify on map), day/time, methods for collecting data, etc.

Submit the Word document or a PDF, one per group.

Walking Interview and Audit: Map and Report – (50 pts)

Working *individually*, use Google maps and street view to complete a "walking" tour for your selected route. For this tour, use both the neighborhood audit checklist and the walking interview questions to **observe** and **record** conditions and simulate the experience of traveling that route (see the class handouts for each). Google collects images for its maps during the daytime when weather conditions are clear. So you may also want to imagine how your tour may be different during another season, when there is inclement weather, or at night. Since you are completing this assignment solo, you do not need to record audio, but should still collect pictures and notes along your route. You should also complete the You will need that information to populate a map with your findings (per the in-class example).

A few tips for completing the assignment:
1. Use Street View in Google Maps to complete your tour. If you haven't tried street view before, here is how to access it. When you're in street view, try "looking" left and right to experience the whole scene.
2. Use Print Screen or Screenshot keyboard function to capture images that you deem important or interesting during your "tour". For example, you may capture the image of an intersection that you feel is safe for crossing or you may take a picture of a bus stop that could use improvement.
3. Pick a location along your route to complete the Audit Checklist. Use the street view capabilities to get a 360 degree view of the surrounding block.
4. After you are done with the "tour" create your map by logging in to Google My Maps with a gmail account so that you can edit, save, and share your map.
5. Show your planned walking route and your findings on the same Google map. Four your rate, you can use the Draw Line tool to either Add a line (which has you manually

create your route) or Add a Walking Route (which will automatically create your loop if you enter start, end, and locations along the way).
6. Create a new layer to show key locations along your route. Add markers along your route and label each with the location (e.g., 3rd St & N Chestnut) and a brief description. If you took a screen shot, use the camera icon to upload it.
7. Take a look at this Example Map for a route in downtown. Click on the red marker near Krankies and the yellow marker in Corpening Plaza to see examples with photos and descriptions. You can create different types of location markers by using the Individual Styles tool in your My Map layers box.

Submit a document including the following components:
(1) A one- to two-paragraph introduction to your walking tour. Describe your planned walking interview/audit route (include a map image of your plan). Note: If the assignment you completed with a partner at the beginning of March received an ok from your professor, you may each reuse that route, map, and description for this assignment. If not, this is your chance to revise your route and add more details to your plan.
(2) A map displaying the results of your walking interview/audit. You should insert a shareable link to your map (see Sharing Instructions for help).
(3) Attach/include a completed audit checklist with your report.
(4) Add a brief narrative (2-3 paragraphs) that explains your map and findings. Describe the experience of your simulated walking tour. Point out key destinations and features on (good or bad) that you encountered along the route.
(5) Reflect on your walking tour and audit (one paragraph): What worked well with the checklist and walking interview script? What could be improved for each? How long did it take you to complete the data collection and the mapping of your findings?

Part 2 Recommendations for Developing an Online App(s) - (25 pts)

For this part, try to account for what the experience would have been like if you were able to walk the route in person with a partner. Prepare a review of the data collection methods, including:
(1) Compare and contrast the Walking Interview and Neighborhood Audit methods - what were strengths/weaknesses of each? (Try to account for what the experience would have been like if you were able to walk the route in person with a partner.)
(2) What would you learn from the walking interview that is missed by the audit tool? And vice versa?
(3) How could this data/map be used by different stakeholders?
(4) What issues may occur when we scale up and have many people completing walking interviews and showing data for the same area? How might we avoid those issues?
(5) If you could use a phone/tablet app to collect data and create map *during* the walking interview (instead of creating the GoogleMap afterwards), what should the app be able to do? How could it save time? Would you get better results? How so?
(6) Any additional notes or recommendations you would like to share.

Submit a Word or PDF document.