

**Comm 446: Communication & Social Change**  
**Project 3 Assignment Details**  
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Wireless Computing on Rutgers' College Avenue Campus

From your syllabus:

You have just graduated with a degree in Communication, and your resume lists “technologies” as one of your special interests. You get a great job as a consultant. Your first client is Rutgers University. Rutgers wants:

- to install hotspots around campus to make its College Avenue campus wireless as much as possible
- to spend as little money as possible

Deliverables:

1. The altered map, now including the hotspots
2. You will write a paper that accompanies your map. Both components are **due** any time between **Dec 9** (last day of class) **and Dec 17** (our final exam day). The paper explains why you have chosen to distribute the chosen number (and types) of wireless hotspots in the chosen locations around campus. Make sure to detail the people considerations, technology considerations, and money considerations that have informed your decision. You will be graded mostly on quality and thoughtfulness of argument, but also on the map itself (including the placement of hotspots). You'll get more info on this project later in the semester. (20% of final grade).

You can choose between the Regular Assignment Option and the Regular Plus Assignment Option. You need to choose one of these options by Tuesday, Nov 30 (our lab day), because depending on the option you choose, you will have to work with a different file that day. It is **absolutely essential** that you **attend the lab session** because you cannot complete this assignment without it.

Here are the details for both options.

**Option 1: Regular Assignment**

Paper:

- This formal paper (think of it as a client report) will be 2 pages long (single spaced, 1 inch margin, 12-point Times New Roman, no cover page, map is in the back and doesn't count as a page, pages and map are stapled). Your paper should show a very brief budget and justify it given the parameters.

Map file:

- When we're in the computer lab, you will download and work with MAP\_1

Hotspots:

- You will have only one kind of wireless device, the “X-Ray hotspot.” It has a range of 150 feet around the device itself (diameter of circle is 300 feet). Your wireless device

can penetrate walls. Thus, if there is an area with several small buildings and you put an “X-Ray hotspot” in the middle of them, they’ll all be “covered.”

### People & Data:

Here are some things to think about:

- Is the data collected by SCILS students representative of all CAC students?
- Which of the datasets will you use?
- Are there areas on campus that should be higher priority?
- How much overlap of hotspots can you afford?
- How much “empty area” (areas where there are no buildings) do you need to cover?
- What other human factors play into this?

### Money:

Rutgers University is on a tight budget. How can you accommodate for human considerations, and stay within your financial specs?

The specs of the project are: *[These are not realistic numbers.]*

- Rutgers can spend up to \$45,000 over two years (not “per year”)
- Purchasing and installing each “X-Ray hotspot” costs \$2000
- 2-year maintenance cost per wireless hotspot is approximately \$300

## **Option 2: Regular Plus Assignment**

### Paper:

- This formal paper (think of it as a client report) will be 3-4 pages long (single spaced, 1 inch margin, 12-point Times New Roman, no cover page, pages are numbered, map is in the back and doesn’t count as a page, pages and map are stapled). Your paper should show a very brief budget and justify it given the parameters.

### Map file:

- When we’re in the computer lab, you will download and work with MAP\_2

### Hotspots:

- You will have two kinds of wireless devices.
  - Type 1: “Building hotspot” Some of these have already been installed on Campus. Alter your map to reflect which buildings already are wireless. For the purpose of this assignment, they are:
    - Alexander Library
    - Art Library
    - Graduate School of Education
    - Rutgers Student Center
    - SCILS
    - Student Activities Center (SAC)

- You may or may not choose to install more “Building hotspots.” One of these can be installed in any building, but it won’t penetrate the outside walls of a building. The type 1 hotspots are reasonably priced.
- Type 2: “X-Ray hotspot” So named because of their ability to penetrate external walls, the “X-Ray hotspots” can penetrate outside walls of buildings. Thus, if there is an area with several small buildings and you put an “X-Ray hotspot” in the middle of them, they’ll all be “covered.” This kind of hotspot has a range of 150 feet around the device itself (diameter of circle is 300 feet). Unfortunately, the type 2 hotspots are a lot more expensive.

### People & Data:

Here are some things to think about:

- Is the data collected by SCILS students representative of all CAC students?
- Which of the datasets will you use?
- Are there areas on campus that should be higher priority?
- How much overlap of hotspots can you afford?
- How much “empty area” (areas where there are no buildings) do you need to cover?
- What other human factors play into this?

### Money:

Rutgers University is on a tight budget. How can you balance the two types of hotspots, take into consideration existing wireless buildings, accommodate for human considerations, AND stay within your financial specs?

The specs of the project are: *[These are not realistic numbers.]*

- Rutgers can spend up to \$35,000 over two years (not “per year”)
- Purchasing and installing each “Building hotspot” costs \$850
- 3-year maintenance cost per “Building hotspot” is approximately \$180
- Purchasing and installing each “X-Ray hotspot” costs \$2000
- 2-year maintenance cost per “X-Ray hotspot” is approximately \$300

### What’s in it for you:

- You lose some:
  - If you choose the Regular Plus Assignment option, you obviously have to do more thinking and calculating, more map design, and more writing.
- You win some:
  - However, if you choose this option, I will calculate your course grade (incl. the Project 3 grade) and then add 3% to the resulting “subtotal” grade for your final course grade. Also, the Regular Plus Assignment is more interesting.