# Project Two: Systems Thinking and Wicked Problems

We will end Project One by focusing in on one area of town (or the entire town) that is currently needing a development fix. A few areas to focus on (these are just suggestions—don't just pick one of these)

- building a new power plant or hospital,
- renovating the road or building a new highway
- taking measures to bring down crime
- Finding innovative ways of solving economic issues

You should play Sim City (making sure to leave about 20% of the gameboard unfilled) until you have come to a problem that you need to address. Please use a screen capture at that point to document the issue that you are currently experiencing.

1. To take pictures of your <u>city</u>: Click on the menu options and select "Camera Mode". You can zoom in or out as you need to. All images will be in your **Albums** Folder.
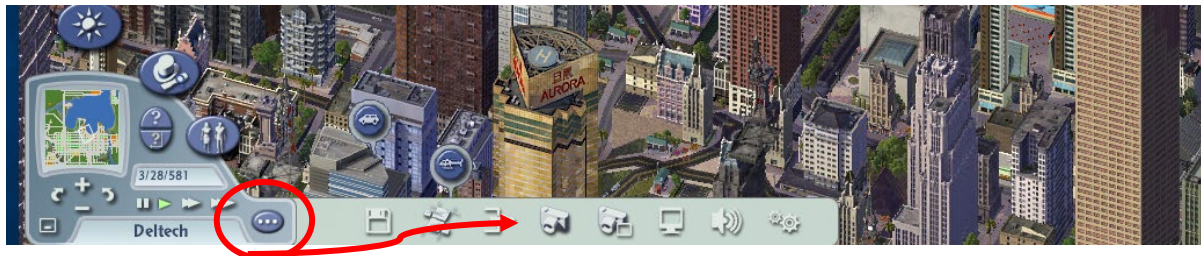
2. To take pictures of <u>graphs and tables</u>, hit the "Print Screen" button on your keyboard, open a word document, and paste the images there. Save the word document.

Once you have a good overview of the statistics and demographics of the city as it currently stands, you will begin the slow process of solving a problem.

Section 1: Problem Statement (1-2 pages)

In this section, describe the area that you have decided to focus on for this paper. Begin by stating the problem as it stands and whom it impacts. Discuss a solution that the game is asking you to implement and how you are thinking of implementing it. Some situations might call for different solutions. Talk through some possible ideas on how to solve the problem and why you think that they might work.

- If your adviser says that there's congestion, what are your options and alternative options?
- If your adviser says you need a new building or park, what are the different places you could build these?
- If your adviser says that you need more money, what are the various Ways to bring up revenue?
- Be sure to take screen captures of the area in question and the relevant data points.

Section 2: Effect Statement (1-2 pages)

Once you have settled on a course of action, let the game run and take stock of any immediate impacts. Be sure to follow the above procedures to document your city before and after. This means that you should not just list how your solution fixed the major issue at hand (which you should—in depth, what are the new numbers associated with this), but also take note of how this new change might have caused any ripple effects over the short and long term. You should consider both causes and correlations.

Phase 3: Wicked Problems (5-6 pages)

For this **main** phase, you will leave the game behind and apply Rittel and Webber's discussion of Wicked Problems to the problem (and solution) that you have implemented.

That is, you should look up a variety of sources that explore the topic that you presented and then discuss what the process for implementing your solution looks like in real life, along with the ways in which both lend themselves to a study of wicked problems. So, if you had a high crime rate and the game suggested that you needed to build a police station, find sources that might illuminate how crime might fit in to what Rittel and Webber define as a wicked problem. For example, how might crime illustrate that wicked problems "do not have an enumerable…set of potential solutions." Moreover, how might a police station show that "there is no immediate and no ultimate test of a solution to a wicked problem?" You should dive into at least 8 of the main points that Rittel and Webber discuss, but avoid bullet points or harsh paragraph breaks. Rather, talk about things holistically, using your sources as what drives the conversation. You are expected to find reputable secondary sources and cite them in APA style.

The point here is to develop a greater awareness of systems thinking, to see how everything might be interconnected and how a change in one aspect of a system necessarily impacts other key areas.

Phase 4: Proposal (1-2 pages)

Give a brief reflection on how your actions in the game aligned and broke from real-world contexts. Talk about how you might have improved later versions of the game SimCity to account for these discrepancies and why.

Phase 5 (1-2 pages)

I would like you to do a little bit of research and tell me what wicked problems exist in your major area of study or in a field that you are interested in. So, for example, in professional writing, a wicked problem that writers exists is: in an attempt to become more relevant to industry, professional writers have embraced working with technologies more (coding, content management systems, designs software). As a result, now these skills have become almost required for professional, which makes it harder to know exactly how a professional writer is different from a coder, usability expert, or designer.

At the same time, professional writers who aren't skilled in technology feel like they are being looked over despite their proficiency with editing and research.

You may interview a professor or read a few popular articles for this section but you must cite.

Note: although these are separate sections, make sure that you connect them together by referring to each one in different parts. So for example you should connect Phase 3 to Phase 1 by noting how your research illuminates what was going on when you were thinking through your various solutions. Don't treat these sections as individual or disconnected.

Rubric

C Paper: This paper has all of the required sections and they are the minimum length required. However, more could have been said to give a fuller discussion of each of the sections. The research is present and includes the appropriate number of sources, but more could be done to engage with the research. At times it might feel like the writer is simply throwing in quotes without talking about why they matter to the project or the writer might not take the time to fully explain the connections that s/he is making. More attention could also be placed on connecting each of the sections with better transitions or compound sentences. Additionally, there may be a few croutons within the paper. Punctuation, Usage, Style, Syntax, and Tenses are mostly adequate though at times it becomes distracting. Images are included, but they don't quite capture what the writer is discussing. The writer could stand to use a few more details to help bring this problem to life. No attempt is made to connect the sections together.

B Paper: This paper has all of the required sections and for the most part, the writer checks off the necessary boxes to turn in a good paper. The research is present and APA style is used adequately. There are minimal croutons and the writer cites sources in APA style very well. Additionally, images are included and perfectly help the writer to make his/her points in this project. There are minimal or no croutons. When the writer brings in research, we get a good sense of how the research is tied to the problem that the writer brings up. There are no major issues with Punctuation, Usage, Syntax, Style or with Tenses. Transitions are employed effectively. The writer sues some detail to convey her/his points. An attempt is made to connect sections together but this might only be superficially.

A Paper: The writer of an A paper moves beyond checking off boxes and actually has something to say first and foremost with this project. That is, the focus is on discussing the problem that the writer wants to tackle and not on "making sure I get an A". There is a sense of urgency—without blaming people— regarding the issue that the writer brings up. The writer uses specific details to discuss the problem at hand. The sources that the writer uses are all relevant and the writer specifies exactly why s/he is including them here. There are no croutons, as the writer fully explains the quotes brought in and cites them in APA style perfectly. The writer employs transitions very effectively to show the relationship between ideas and thoughts. The writer also effectively connects sections together by reinforcing their relationships through references.

D Paper: This paper meets most of the criteria listed in the assignment sheet but may be missing sections or might have sections that don't quite reach the length requirement. The writing may be rushed or the research may be incomplete. The writer is encouraged to speak with the instructor for a fuller explanation.

F Paper: The paper does not meet the criteria listed in the assignment sheet. The writer is encouraged to meet with the instructor for a fuller explanation.