

# St. Paul Then and Now

OVERVIEW & OBJECTIVES	GRADES	
<p>Students will use ArcGIS software to explore Saint Paul in 1908 and today by looking at their own neighborhoods and several landmarks. The “Saint Paul—Then and Now” ArcGIS map has a layer of a 1908 plat map of Saint Paul, overlaid on a 2014 street map of Saint Paul. Using ArcGIS Online, students will investigate the changes that have occurred to Saint Paul. Finally, students will predict where a new high school should be built in fifty years using the “Saint Paul Public Schools Area” ArcGIS map, which has numerous layers. As an extension, students could write a letter describing what has changed in Saint Paul from 2014 to the year 2064.</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>• Use ArcGIS to analyze data.</li> <li>• Use maps as primary documents.</li> <li>• Analyze how Saint Paul has changed from 1908 to 2014.</li> <li>• Express several major changes that Saint Paul has undergone in the past 100 years.</li> <li>• Evaluate the best location for a new high school in Saint Paul.</li> </ul>	9 <sup>th</sup>	
	<th>TIME</th>	TIME
	3-4 days	
	<th>REQUIRED MATERIALS</th> <ul style="list-style-type: none"> <li>✓ Image of “Saint Paul 1874 Bird’s Eye” to be projected or photocopied (01SaintPaul1874Bird’sEye.jpg)</li> <li>✓ Image of “Saint Paul 1888 Ice Palace and Winter Carnival Bird’s Eye” to be projected or photocopied (02SaintPaul1888Bird’sEye.jpg)</li> <li>✓ Image of “Saint Paul 1906 Bird’s Eye” to be projected or photocopied (03SaintPaul1906Bird’sEye.jpg)</li> <li>✓ “Saint Paul Then and Now” <a href="http://bit.ly/1pQRySm">http://bit.ly/1pQRySm</a></li> <li>✓ “Saint Paul Public Schools Area” <a href="http://bit.ly/1ndY6rG">http://bit.ly/1ndY6rG</a></li> <li>✓ Computer Internet access with projector</li> <li>✓ Computer/iPad Internet access for students to use ArcGIS online/app</li> <li>✓ Handouts: “Saint Paul Then and Now” Parts I-V</li> </ul>	REQUIRED MATERIALS

## MINNESOTA SOCIAL STUDIES STANDARDS & BENCHMARKS

**Standard 1.** People use geographic representations and geospatial technologies to acquire, process and report information within a spatial context.

**9.3.1.1.2** Apply geographic information from a variety of print and electronic sources to interpret the past and present and plan for the future; provide rationale for using specific technologies for each application.

**Standard 2.** Geographic Inquiry is a process in which people ask geographic questions and gather, organize and analyze information to solve problems and plan for the future.

**9.3.1.2.1** Use geospatial technologies to make and justify decisions about the best location for facilities.

**9.3.1.2.2** Use geospatial technologies to develop plans for analyzing and solving local and regional problems that have spatial dimensions.

**Standard 3.** Places have physical characteristics (such as climate, topography and vegetation) and human characteristics (such as culture, population, political and economic systems).

**9.3.2.3.1** Make inferences and draw conclusions about the physical and human characteristics of places based on a comparison of maps and other geographic representations and geospatial technologies.

**Standard 6.** Geographic factors influence the distribution, functions, growth and patterns of cities and human settlements

**9.3.3.6.1** Describe the factors influencing the growth and spatial distribution of large cities in the contemporary world.

## SUGGESTED PROCEDURE

### DAY 1

#### Opening

- 1) Project the image of Saint Paul 1874.
- 2) Ask the students: “Do you recognize this place?” Allow students time to answer.
- 3) Ask the students: “When do you think this painting was painted?” Allow students time to answer.
- 4) Ask the students to turn to their neighbors and describe what they recognize (same/different; answers will vary).
- 5) Repeat the steps 2-4 for the images of Saint Paul 1888 and Saint Paul 1906. All three of the Bird’s Eye paintings are found on this site: <http://www.loc.gov/maps/?q=saint+paul>

#### Development

1. Hand out the “Saint Paul—Then and Now” worksheet.
2. Have the students complete “Part I: Pre-Write: Predict” section. Students will answer the questions in the form of a letter: “What do you think the city of Saint Paul looked like in the year 1908? How would you explain Saint Paul to someone who lived in a rural area (a place outside of cities, i.e. a farm) or someone who lives today?”
3. Share: Ask for volunteers to share their letters with the class.
4. Go to ArcGIS online and search for “Saint Paul—Then and Now” at <http://bit.ly/1pQRySm>
5. Show students the map as well as how to move the spyglass tool.
6. Have students go to <http://bit.ly/1pQRySm> or open the ArcGIS app and open the map “Saint Paul—Then and Now”
7. Allow students time to experience the map.

#### Closing

Exit Ticket: “What do you notice about what has changed?” Have students write their responses and collect them before students leave class.

### DAY 2

#### Opening

Ask the students: “What has changed in Saint Paul from 1908 until today?” Complete a think-pair-share by allowing students time to think about their response. Students then share their response with a neighbor before volunteers share with the class.

#### Development

1. Have students open ArcGIS online/app and open the map “Saint Paul—Then and Now” located at <http://bit.ly/1pQRySm>
2. Explain to students that they are going to complete a chart (“Part II: During: Chart of 1908 and 2014”) about the map. They are to find several landmarks in Saint Paul, as well as a few locations of their choice, and record what they see at the location and the surrounding area. Specifically, they should be looking to see if the current building was built yet, if the road was built yet, if the name of the road has been changed, etc.
3. Allow students time to work.

## Closing

1. After students have completed the “Part II: During: Chart of 1908 and 2014,” have them complete the “Part III: Post-Write: Summarize Changes.” Here students will answer questions in the form of a letter: “What has changed in Saint Paul from 1908 to 2014? How would you explain it to someone who lived in a rural area (a place outside of cities, i.e. a farm) or someone who lives today?”
2. Share: Ask several to share their letters with the class, and then take volunteers.

## DAY 3

### Opening

Ask students: “How did Saint Paul change from 1908 to 2014? What stood out to you the most?” Allow students time to think, then share with a neighbor, before volunteers share with the class. Discuss as a class the factors that influence the growth and spatial distribution of the city.

### Development

1. Have students go to <http://bit.ly/1ndY6rG>) or open the ArcGIS app and search for “Saint Paul Public Schools Area”.
2. Show students the various layers that they can turn on or off.
  - a. Layers to be kept “on”:
    - i. Area Schools Zones—shows the boundaries of the current SPPS High School Zones
    - ii. SPPS HS 1908—shows the high schools that were open in 1908
    - iii. SPPS HS 2014—shows the high schools that are currently open in 2014
  - b. Layers to be “toggled”:
    - i. USA Median Household Income
    - ii. USA Census Under 18 Population
    - iii. USA Diversity Index
    - iv. USA Population Density
3. Have students turn to “Part IV: Evaluate: Crowded City—New High School”
4. Explain to students that due to overcrowding, Saint Paul Public Schools has decided to open a new high school. It is your job, as a geographer, to help them decide on a location. Students are required to present three “new” locations that could be suitable for a new high school and then choose the best location. Each location should have a list of positives and negatives, with the best location having a written rationale. Students should use the different map layers to help with their lists and rationale.
5. Small Groups: Have students get into small groups of 3-4 students that are sitting nearby and share their locations’ positives and negatives.

### Closing

1. As a whole class, have students put their new high school on the front of the map by projecting the ArcGIS “Saint Paul Public Schools Area” map.
  - a. Optional: Open the “New SPPS HS” Google Map by using <http://bit.ly/WBo27i>
  - b. Have students open the same link: <http://bit.ly/WBo27i>
  - c. Have students place a bookmark on the location where they would place the new high school. Make sure they put their name on the bookmark.
  - d. Make sure students add their bookmark to the layer titled: “New Proposed HS 2064” and NOT the “2014 HS Locations” or the “2014 HS Areas” layers. Caution: Because Google Maps is a collaborative/cloud-based system, any changes that students make will be changed to the entire map.

2. Conduct a discussion with the students explaining where they placed the new high school: Where did the majority of students place the new high school? Why? What current high school area(s) would the new high school change because of new boundaries?

### **Extension**

After students have completed “Part IV: Evaluate: Crowded City—New High School” portion of the lesson, have them complete the “Part V: Post-Write: Summarize Changes.” Here students will answer questions in the form of a letter. “What has changed in Saint Paul from 2014 to 2064? How would you explain it to someone who lived in a rural area (a place outside of cities, i.e. a farm) or someone who lives today?”

### **Assessment**

#### *Formative Assessments*

Students will be assessed throughout the lesson. On the first day, in addition to informal check-ins, students will record their responses to several questions in the form of a letter. In addition, students will produce an exit ticket concerning what has changed in Saint Paul from 1908 to 2014. On the second day, students will be assessed on what has changed in Saint Paul from 1908 to 2014 by viewing several different landmarks in their neighborhoods and completing a comparison chart. Again they will be responding to questions in the form of a letter to a friend. Students will also be assessed daily on their participation and specific responses to questions.

#### *Summative Assessment*

Finally, on the third day, students will choose a new location of a high school for Saint Paul, using ArcGIS online. They will provide a list of positives and negatives for three different locations, a rationale for their choice of the “best” location, as well as a visual representation on a shared Google map. This will assess students’ abilities to use ArcGIS/ESRI, synthesize and evaluate the best location for a high school, and use maps as primary documents.

### **Website Resources**

ArcGIS/ESRI: <https://www.arcgis.com/home/>

This website is the base of both the “Saint Paul Then and Now” and the “Saint Paul Public Schools Area” maps.

“Saint Paul Then and Now”: <http://bit.ly/1pQRySm>

This map shows, using the ArcGIS/ESRI spyglass tool, a map of 1908 Saint Paul overlaid on a current Saint Paul street map.

“Saint Paul Public Schools Area”: <http://bit.ly/1ndY6rG>

This map shows, using ArcGIS/ESRI, a current map of Saint Paul with various layers, such as current high schools, 1908 high schools, population density, and median household income.

John R. Borchert Map Library; Selected Historic Minnesota Collections:

<https://www.lib.umn.edu/borchert/selected-historic-minnesota-collections>

The 1908 map used in “Saint Paul Then and Now” is from the “City of Saint Paul” collection.

Library of Congress—Maps: <http://www.loc.gov/maps/>

All three of the Bird’s Eye paintings were found at: <http://www.loc.gov/maps/?q=saint+paul>

- 1874 Map of Saint Paul: <http://www.loc.gov/item/75694648/>
- 1888 Map of Saint Paul: <http://www.loc.gov/resource/g4144s.pm004092/>
- 1906 Map of Saint Paul: <http://www.loc.gov/item/75694650/>

## **Saint Paul—THEN and NOW!**

*Inquiry Question: How do cities change over time? What role do people play in that change?*

### **Part I: Pre-Write**

#### **Predict**

What do you think the city of Saint Paul looked like in the year 1908? How would you explain Saint Paul to someone who lived in a rural area (a place outside of cities, i.e. a farm) or someone who lives today? Write a letter to a friend explaining what you think Saint Paul looked like in the year 1908.

Dear \_\_\_\_\_,

### **Part II: During:**

#### **Chart of 1908 and 2014**

1. Go to <http://bit.ly/1pQRySm> or open the ArcGIS/ESRI app and search for “Saint Paul Then and Now: 1908 and 2014”.
2. You will notice that there is a “spyglass” that is showing a different map than the rest of the map. This spyglass is looking at a 1908 map of the city of Saint Paul. The rest of the map shows a current (2014) street map.
3. Your job is to see the difference between Saint Paul in 1908 and in 2014. The locations that you will be investigating include: your house, Harding High School, the State Capitol, the Ordway Center, the St. Paul Airport, Phalen Beach House, and then two locations of your choice.
4. Complete the “Chart of 1908 and 2014”. Use the following questions to guide you:
  - What do you see at this location? Can you see...?
  - The building? Is it built yet? If not, what is there?
  - The roads? Are they built yet? Are they in the same spot?
  - The names of roads? Are they the same, or have they changed? To what?
  - Other observations? What else stands out to you about the surrounding area?

## Chart of 1908 and 2014

Addresses	THEN (1908)	NOW (2014)
<b>Your House</b> Can't find your house? Use: 2003 Grand Ave, St Paul MN 55105	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>Harding High School:</b> 1540 E. 6 <sup>th</sup> Street, St Paul MN 55106 (Tab #2)	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>Minnesota State Capitol:</b> 75 Rev. Dr. Martin Luther King Jr. Boulevard, St Paul, MN 55155 (Tab #3)	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>Ordway Center:</b> 345 Washington St, St Paul, MN 55012	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?

Addresses	THEN (1908)	NOW (2014)
<b>Saint Paul Airport:</b> 644 Bayfield St, St Paul, MN 55107	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>Phalen Beach House:</b> 1400 Phalen Dr, St Paul MN 55106	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>YOUR CHOICE</b>	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?
<b>YOUR CHOICE</b>	Building?  Roads?  Names of roads?  Other?	Building?  Roads?  Names of roads?  Other?

**Part III: Post-Write:**

**Summarize Changes**

What has changed in Saint Paul from 1908 to 2014? How would you explain it to someone who lived in a rural area (a place outside of cities, i.e. a farm) or to someone who lived in 1908? Write a letter to a friend explaining how Saint Paul changed from 1908 to 2014.

Dear \_\_\_\_\_,



**Part IV: Evaluate: Crowded City—New High School**

The year is 2064. The Twin Cities are going through major changes in population. Due to overcrowded high schools, Saint Paul Public Schools has decided to open a new high school. They have decided to consult you, a geographer, to help them decide on the location. You must present three locations that could be suitable for a new high school and give a rationale for the best location.

1. Go to <http://bit.ly/1ndY6rG> or open the ArcGIS app and search for “Saint Paul Public Schools Area” map.
2. There are several layers that can be toggled on or off. These layers should be kept “on”:
  - i. Area Schools Zones—shows the boundaries of the current SPPS High School Zones
  - ii. SPPS HS 1908—shows the high schools that were open in 1908
  - iii. SPPS HS 2014—shows the high schools that are currently open in 2014
3. These layers can be toggled on or off, one at a time:
  - i. USA Median Household Income—average household income
  - ii. USA Census Under 18 Population—percent of total population that is under 18
  - iii. USA Diversity Index—how diverse the population is
  - iv. USA Population Density—how many people live in an area per square mile
4. You need to find three locations or sites that would be a good fit for a new high school. Complete the following chart for each location.

Locations	Positives	Negatives
Site #1:		
Site #2:		
Site #3:		



**Part V: Extension:**

**Predict Changes**

What will change in Saint Paul from 2014 to 2064? How would you explain it to someone who lived in a rural area (a place outside of cities, i.e. a farm)? Write a letter to a friend explaining how Saint Paul changed from 2014 to 2064.

Dear \_\_\_\_\_,