

Using MOCAD's Map Tool

This paper presents examples of documenting, displaying, and discussing the social impact of MOCAD through the use of geographic maps. Nine cultural arts organizations, all part of the Space for Change award program administered by Leveraging Investments in Creativity (LINC)¹, participated in this study by providing budgetary data, programming information, and data regarding visitors and programming clientele. We provide examples of how data on neighborhood characteristics and visitor origins can be mapped geographically and used in various settings from internal management discussions to part of grant applications.

The map tool created for MOCAD was developed to assist the organization in documenting and articulating its community demographics and visitor origins. The map tool can be found on MOCAD's 'front page' of our web site at <http://web.williams.edu/Economics/ArtsEcon/MOCAD.html>. There you will find a MOCAD map option with an overlay of Census variables for Wayne County, and a map option with an overlay of Census variables for the five mile (local) area around MOCAD.² We offer the choice because one geographic region may be of more interest than the other in writing particular types of reports. Sometimes it would be more useful to show from where in the county one is drawing visitors; other times the local area may be of greater interest. In this paper we will work with the Wayne County map, but everything presented here also applies to the 5 mile radius map.

We do not provide interpretations of the many interesting aspects of MOCAD's online map here. Rather this paper presents a description of how to use the online, interactive map tool to explore questions about MOCAD's neighborhood and visitor patterns that might arise. This brief paper provides information on how to use the online mapping tool to:

- change the Census variables displayed on the map;
- change the address lists displayed on the map;
- add new address data to the map; and
- create a copy of the map to include in a report.

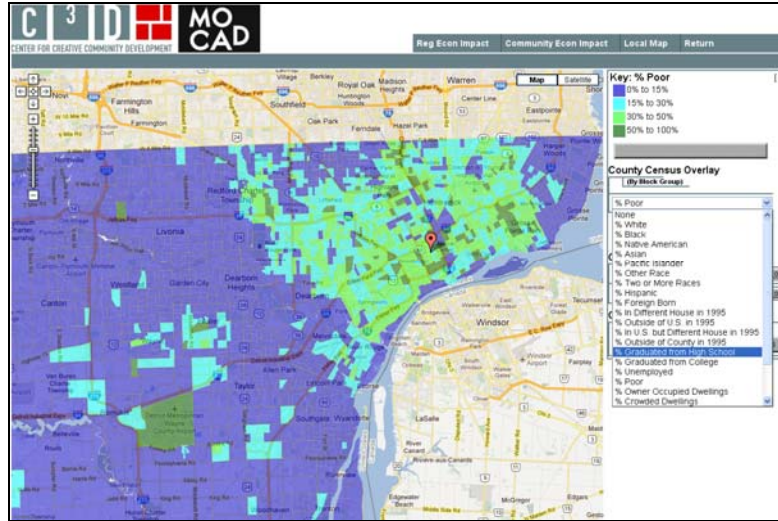
How to change the Census variables displayed on the map

MOCAD's interactive map has 23 Census variables available for viewing. The default variable when the map opens is percent poor. Clicking on the drop-down box in the right hand window shows the choice of Census variables, as shown in Figure 1.

¹ For additional information on the Space for Change program see <http://www.lincnet.net/artist-space/ford-foundation-planning-and-pre-development-grants>, accessed 2/21/2012.

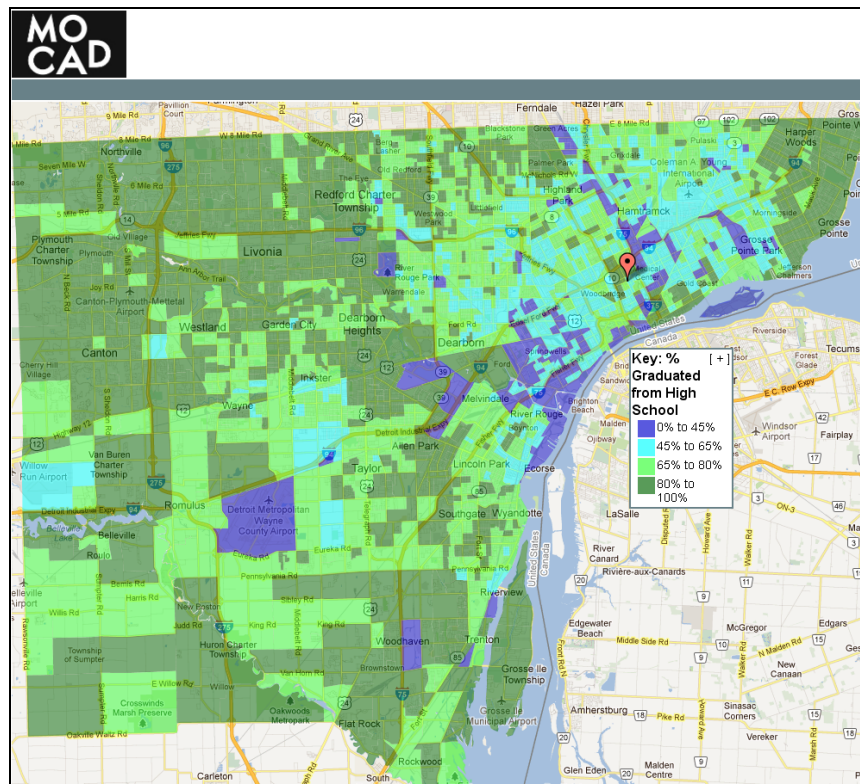
² The Census overlay does not make a perfect circle with 5 mile radius around MOCAD. It shows all Census block groups with any part falling within a 5 mile radius; this explains the slightly more jagged display.

Figure 1: Change the Census Variables Displayed on the Map



On the interactive map, select ‘% Graduated from High School’ from the list. Figure 2 presents Census block groups shaded according to the percentage of residents over age 25 who have graduated from high school. Looking at the bright turquoise areas for the moment, we see that the area around MOCAD and downtown Detroit have lower rates of high school graduation, although there are other areas in the county with similar rates.

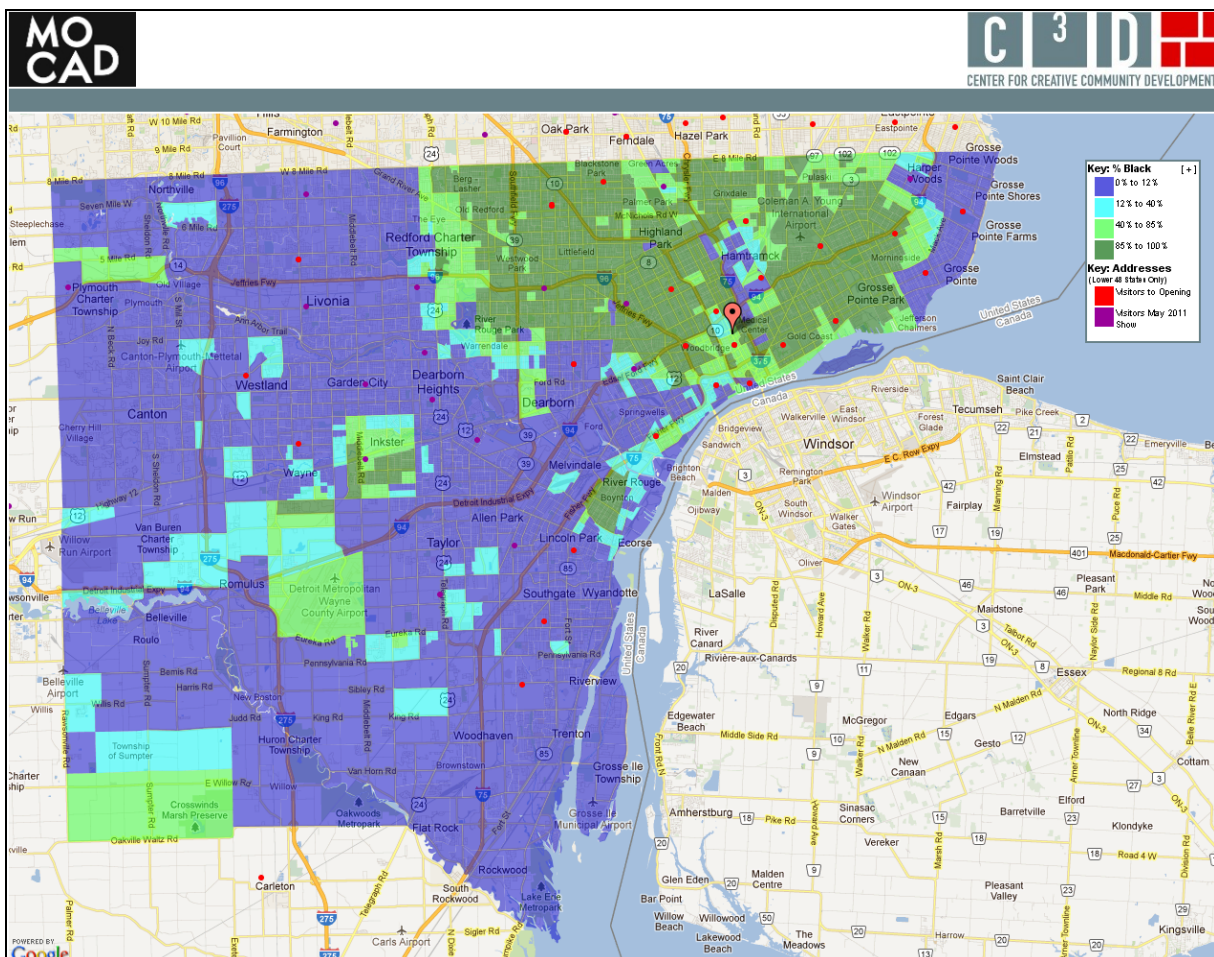
Figure 2: % High School Graduation in Wayne County



How to change the address lists displayed on the map

Two lists of addresses were mapped for MOCAD: visitors to the opening event of its May 2011 exhibition; and visitors to the same exhibition after opening day. The default when the map opens is that neither list of addresses is displayed. To choose an address list click the “on” button next to the list name. Turn ‘on’ both lists. Choose ‘% Black’ from the Census variables list. Figure 3 shows the geographical distribution of visitors. It is an interesting map, showing that MOCAD, even though it is relatively new, draws visitors from Detroit and wider communities. Also, even though there is significant ethnic residential segregation in Wayne County, as shown in Figure 3, visitors are drawn from around the county.³

Figure 3: MOCAD’s Visitors and Percent Black



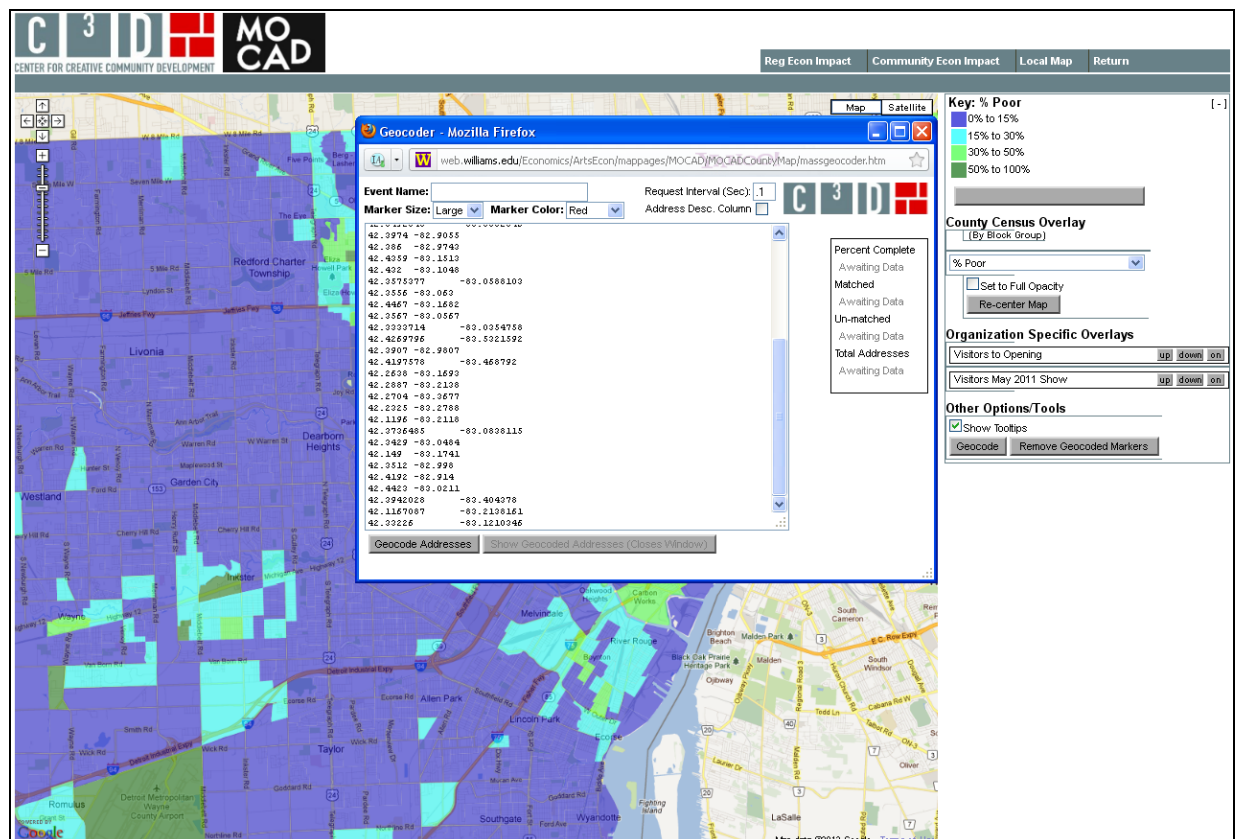
³ An examination of the US map with the visitors list ‘on’ shows that MOCAD attracts visitors nationally.

How to add new address data to the map

In order to describe how to add new data to MOCAD's map, we must work with a hypothetical situation. MOCAD is close to several hospitals. For our hypothetical case, let us say that MOCAD wants to develop an arts initiative focusing on arts and health. As a first step, MOCAD might wish to know where the hospitals in Wayne County are located. It is possible to do this using the "Geocode" button included on MOCAD's map page.

Click on the "Geocode" button and a new window opens. Addresses of hospitals in Detroit can be copied and pasted into the Geocoder box from many sources such as an Excel spreadsheet or a Notepad text file. For the example below we pasted addresses of 42 hospitals in Wayne County.⁴ The addresses do not need to be formatted in a special way, just one address per line. Within the Geocoder box, choose whether you want large markers or small for the addresses (we chose large) and the color of the markers (we chose red). Figure 4 shows the program at this point.

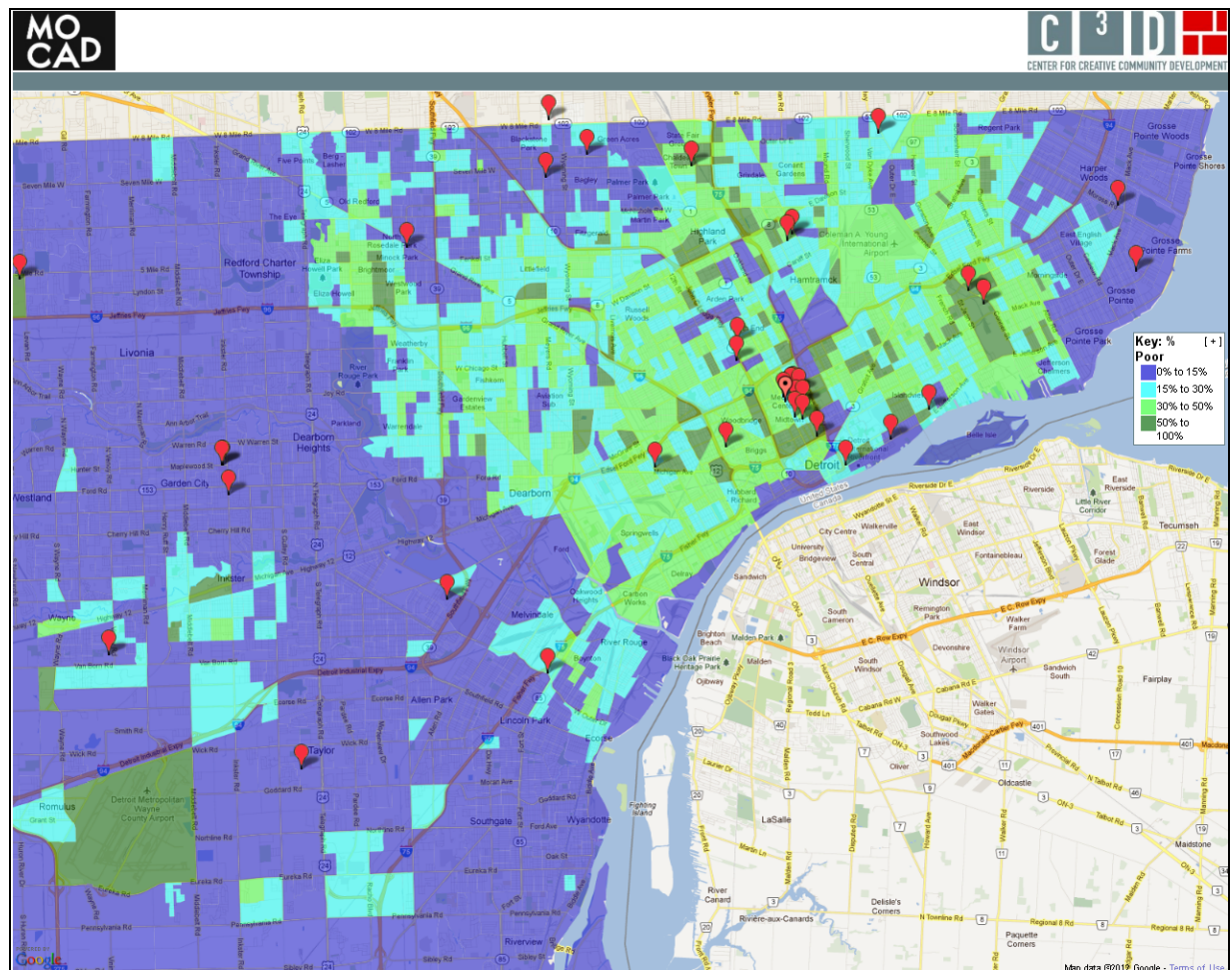
Figure 4: Adding Wayne County Hospital Locations



⁴ We used addresses of Wayne County hospitals provided at <http://michigan.hometownlocator.com/features/cultural.class.hospital.scfips.26163.cfm>, accessed 2/26/12. This list of hospital locations is atypical since it lists location by latitude and longitude rather than street address. The Geocoder can handle either type of address. The list of addresses is provided in Appendix A so you can practice with the Geocoder.

Now click the “Show Geocoded Addresses” button. The Geocoder box closes and the new addresses are visible on the map.⁵ Select ‘% Poor’ as the Census variable of interest. The hospitals can be shown by themselves or with the MOCAD visitor lists. Figure 5 shows the location of the subset of hospitals we entered, along with the level of poverty in the area.

Figure 5: Hospitals and Percent Poor



Unlike address maps created by us as part of MOCAD’s online map tool, the address markers created using the Geocoder will not save permanently when the map is closed. You will want to save a copy of the addresses as an Excel spreadsheet or other file so that you may use them again in the Geocoder. You will also want to capture images of the map when it is made, so that you have copies for inclusion in reports. We discuss next how to do this.

⁵ Because we are working with Latitude/Longitude data in this example, the Geocoder should map all 42 addresses successfully. If you receive a ‘Missing Address’ message at the bottom of the Geocoder box, it is because you copied a blank line at the end of the list. If you receive a “Too Many Queries” message, it means that the location was not found in the time allotted. In the Geocoder box you will see “Request Interval (Sec)”. The default time is .1; change this to .2 (or greater) and run the addresses again. This time the Geocoder should successfully identify all 42 locations.

How to prepare a map for inclusion in a report

Lastly, we describe how to prepare a map created with the interactive map tool for inclusion in a report.⁶ We will discuss the map of visitors and percent Black in Figure 3 above. We have already provided the step by step instructions for creating that map.

Once the map is created, you will see a minus sign in brackets [-] in the corner of the right hand window of the computer screen. Click on this [-]. The window collapses such that the map key is now inside the map itself. It is possible to position both the map and the key for the best display. The F11 function key will expand the map so that it fills the screen, hiding your Internet toolbars.

On your keyboard press the Control key (Ctrl) and Print Screen key (Prt Scr) simultaneously. This command will capture a copy of your screen as you see it. Now press F11 again to have access to your toolbar and Word document. Paste the image you copied into the document. You can adjust the size of the map by grabbing a corner of the image with your mouse and pulling or pushing diagonally on the corner.

Finally, right click on the map image and choose 'Borders and Shading.' Choose 'Box' and Word will draw a box border around the figure in your document. This is how Figure 3 above was formatted.⁷ When you have completed these steps, return to the online interactive map. Click on the [+] in the key. The screen will return to its default state and you will have all the options of the navigation buttons at the top.

Summary

The information and examples provided here demonstrate how to use the interactive map tool created for MOCAD. The map tool is meant to be an additional resource for MOCAD to explore its position in its neighborhood and to discuss its pattern of visitor origins. The tool is free, publicly available, and interactive.

With the discussion here to guide you, you can go to MOCAD's interactive map tool on our web site at <http://web.williams.edu/Economics/ArtsEcon/MOCAD.html> and explore Census variables in relationship to MOCAD's visitors. You can create dozens of maps and prepare relevant ones for inclusion in reports. The interactive map tool will be available to MOCAD in the future, and it will be possible for addresses related to new initiatives to be mapped.

⁶ These instructions are for a PC.

⁷ There are differences not only between PC programs and programs for Mac, but also differences in different versions of Word and differences that may occur depending on the Internet browser you use. The instructions here are meant to give you a general idea of how to format the completed map. You may have to do an Internet search for equivalent actions depending on the configuration of programs on your machine.

Appendix A

Sample data⁸ to use in Geocoder at

<http://web.williams.edu/Economics/ArtsEcon/mappages/MOCAD/MOCADCountyMap/MOCADCountyMap.htm>

Hospital	Latitude	Longitude
Aurora Hospital	42.3395	-83.0889
Botsford General Medicine Center	42.4053	-83.2322
Burton Mercy Hospital	42.3483711	-83.054633
Carriage Hill Clinic	42.3233	-83.3119
Children's Hospital of Michigan	42.3525	-83.0545
Deaconess Hospital	42.3419825	-83.0151973
Department of Veterans Affairs Detroit Medical Center	42.3568	-83.0598
Detroit Receiving Hospital	42.3568	-83.0598
Ford Hospital	42.3669819	-83.0849226
Garden City Hospital	42.3328	-83.3143
Garden City Osteopathic Hospital	42.3323	-83.3149
Grace Hospital	42.3528156	-83.0576991
Grace Hospital	42.428092	-83.1699265
Greater Detroit Hospital	42.4074	-83.0617
Greater Detroit Hospital and Medical Center	42.4096	-83.0592
Harper Hospital	42.3492045	-83.0582546
Henry Ford Cottage Hospital	42.3974	-82.9055
Henry Ford Medical Center Detroit East	42.386	-82.9743
Henry Ford Medical Center Detroit Northwest	42.4359	-83.1513
Henry Ford Medical Center State Fair	42.432	-83.1048
Hutzel Hospital	42.3575377	-83.0588103
John D Dingell Veterans Affairs Medical Center	42.3556	-83.063
Kingswood Hospital	42.4467	-83.1682
Kresge Eye Institute	42.3567	-83.0567
Lakeside Hospital	42.3333714	-83.0354758
Maybury Sanitarium	42.4269796	-83.5321592
Mercy Hospital Detroit	42.3907	-82.9807
Northville State Hospital	42.4197578	-83.468792
Oakwood Downriver Medical Center	42.2638	-83.1693
Oakwood Hospital and Medical Center Dearborn	42.2887	-83.2138
Oakwood Hospital Annapolis Center Wayne	42.2704	-83.3677

⁸ The site that provided the hospital addresses did so with Latitude/Longitude data rather than street addresses. This example demonstrates that the Geocoder can handle either type of address. Indeed it illustrates a strength of the Geocoder – it can quickly move from Latitudes and Longitudes to a map that geographically positions the hospitals at their addresses.

Oakwood Hospital Heritage Center Taylor	42.2325	-83.2788
Oakwood Hospital Seaway Center	42.1196	-83.2118
Park Community Hospital	42.3736485	-83.0838115
Rehabilitation Institute	42.3429	-83.0484
Riverside Osteopathic Hospital	42.149	-83.1741
Saint John Detroit Riverview Hospital	42.3512	-82.998
Saint John Hospital and Medical Center Detroit	42.4192	-82.914
Saint John North East Community Hospital	42.4423	-83.0211
Saint Mary Hospital	42.3942028	-83.404378
Seaway Hospital	42.1167087	-83.2138161
Zieger Hospital	42.33226	-83.1210346