

Campus Design and Social Interactions

Final Group Project

**SBSC 327 – Intro to GIS
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Introduction

Research Topic

The research topic for this course project relates to how the campus is designed, its gathering places, and how social interactions are being caused. It was our contention that without sufficient gathering places and central meeting spots individuals are hindered in their pursuit of constructing the self within a community finding their psychological niche through social interactions. Communities need to be designed in a way that causes individuals to socially interact on a regular basis. It is through interactions in which individuals construct the self by interpreting the responses received from others. By designing a community full of social interactions, it fosters a psychological sense of well-being and belonging creating a better community.

Literature Review

This review will explore relevant literature that has been vital in formulating our research project. We explore social ties, the dramaturgical process used in the construction of self, the self-concept, and cognitive engineering. These topics are the driving forces behind the research we have conducted.

In the article “The Effects of Sprawl on Neighborhood Social Ties: An Explanatory Analysis”, Lance Freeman explores how neighborhood sprawl

effects social interactions. Neighborhoods need to be designed so as not to allow for the effects of neighborhood sprawl. If residents within a neighborhood are required to travel far off distances to meet their basic living needs such as working, going grocery shopping or meeting close friends, they are inclined to use their automobile. Doing this undermines spontaneous social interactions unlike in high-density neighborhoods where “more amenities are available to residents facilitating spontaneous social interactions since citizens will spend more time walking from business to business” (Freeman, 2001). If residents are isolated within their vehicles, they no longer have the opportunity to participate in the dramaturgical process, which is imperative towards the construction of self-identity.

There are many theories supportive of the concept behind the construction of self. Erving Goffman’s approach to construction of the self is described as dramaturgical. Every time individuals interact with one another, they enact a self, influencing others’ definition of them and of the situation (Cahill, 2001). In his book, *The Presentation of Self in Everyday Society*, Goffman takes the position that social interaction has its own logic and structure therefore helping to construct the self during social interaction. Along the same line, the theory of social interactionism also supports the premise of learning through interaction.

During interactions with others, we are learning from and sharing with others. The self-concept arises in interaction through the mechanism of the perceived reactions of others (Handel & Lauer, 1977). It is these imagined reactions of others that are crucial in the development of self. Many students

attending college are there not only for education but also for the opportunity to reconstruct the self.

Individuals devote considerable amounts of time and mental attention in retaining or discarding identities. Moments of significant transition in people's lives also call forth efforts at "cognitive engineering" (Nippert-Eng, 1996). Cognitive engineering is a term used in describing the internal self-dialogue individuals carry on as they try to build the identity that will link current social worlds with ones they are entering into. It can also be used in describing how individuals assess which of their current identities most reflect their subjectively "true" self (Goffman 1959).

Methodology

We set out to map CSUMB by thoroughly researching and describing the campus community. To accomplish this task, we used one of several cultural descriptors, which are used in this process. The settlement pattern of a community identifies how a population is distributed by taking into account where people live, gather together and interact while traveling from place to place. We mapped out the gathering places, pathways traveled daily by students, and living places on campus so as to formulate a picture of the settlement patterns. To accomplish this task we utilized two methods used in gathering data, unstructured interviews and observations then proceeded to use, ArcMap, a geographic information systems electronic program, as a tool to analyze the data.

Through our interviews of certain students at CSUMB, we were able to ascertain different gathering areas that are vital to social interactions. During the interview process we took note that, there were certain areas on campus that were recurring over and over. Since these places came up more than once, we decided that they were most important in causing social interactions. We then split them up into 4 different categories so that we could later analyze them using ArcMap. Table 1 shows our distribution of gathering places.

<u>Educational</u>	<u>Athletic</u>	<u>Residential/Outdoor</u>	<u>Entertainment Commons</u>
Library	OSC	Dorm Rooms	BBC
MLC	Soccer Fields	Frederick Parks	OBC
Classrooms	Water City		University Center
	Stadium		Student Center
			DC

Table 1: Gathering Places for layer distribution in GIS

Our next step was to map out the travel patterns of individuals around campus. There seemed to be many different paths that were used throughout campus that were trodden by individuals and not created during the construction of the campus. We felt this aspect was important for the reason that if individuals feel that they need to make their own pathways there will be many opportunities to travel through a community which can add to the miss opportunity of spontaneous interactions. Our observations found 15 pathways that are used daily that was not in the original campus plan and construction.

By using ArcMap we were able to gather a visual representation of the geographical layout of CSUMB. Appendix 1 shows the geographical representation of the settlement patterns we discovered through our research created in 5 different layers. Doing so enabled us to observe the campus with a

bird's eye view. We then were able to analyze the settlement patterns so as to discuss the phenomenon occurring in our community.

Results

Through the use of ArcMap, we were able to input data we gathered through our interviews and observations into an electronic program for analysis. We utilized a bird's eye view of the CSUMB campus in order to visualize where most students were headed causing them to socially interact. We also were able to input the data we gathered into the attribute tables of each building giving us a numeric representation in order to further our analysis. The use of ArcMap has given us a unique perspective for analyzing the information.

By looking at the map we generated, it's easy to analyze the phenomena occurring during our research. First, the placements of the buildings primarily used by students are positioned quite a distance away from each other. Watercity is located on the Northwest of campus where as the Music Hall is located on the Southeast of campus. The direct distance between the two buildings is approximately 6,800 ft, practically a 1- $\frac{1}{4}$ mile distance between them. In reality though, the distance is even greater. By navigating the streets on campus, a person would travel a distance of 10,000 feet, nearly 2 miles. This, though, is an extreme case but gives the reader an idea of the size of the campus.

The most used buildings other than the residential halls are educational buildings. Room numbers 18 and 45 have the most students occupying them

throughout the week with 7-day totals being 5769 and 3596 respectively. The least used educational buildings are the VPA buildings, 71, 72, and 73 with 7-day totals of 45, 397 and 101 respectively. Finally, in the middle of the campus map there are buildings 15 and 17 with usage being at 1105 and 799 respectively during the 7-day period. The following chart shows the breakdown.

Building#	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7-Day Average	7-Day Total	% of Total Use
13	52	46	77	57	76	0	0	44	308	1%
15	234	279	255	269	68	0	0	157.857143	1105	4%
17	147	240	157	214	41	0	0	114.142857	799	3%
18	1215	1341	1195	1272	606	140	0	824.142857	5769	22%
21	0	11	0	11	0	0	0	3.14285714	22	0%
27	91	190	31	30	76	0	0	59.7142857	418	2%
30	255	459	213	451	118	0	0	213.714286	1496	6%
42	99	39	90	39	0	0	0	38.1428571	267	1%
44	7	0	0	0	0	0	0	1	7	0%
45	717	885	759	914	286	35	0	513.714286	3596	14%
46	420	485	351	481	149	38	0	274.857143	1924	7%
47	394	411	415	375	131	0	0	246.571429	1726	7%
49	215	362	226	330	61	0	0	170.571429	1194	5%
50	58	143	81	70	90	26	26	70.5714286	494	2%
71	15	0	15	0	15	0	0	6.42857143	45	0%
72	25	166	25	166	15	0	0	56.7142857	397	2%
73	16	28	16	28	13	0	0	14.4285714	101	0%
82	738	857	697	792	236	0	0	474.285714	3320	13%
84	148	240	148	240	48	0	30	122	854	3%
86	81	64	64	43	19	0	0	38.7142857	271	1%
90	77	119	77	90	32	0	0	56.4285714	395	2%
98	288	390	288	397	248	0	0	230.142857	1611	6%
99	0	33	0	51	22	0	0	15.1428571	106	0%
Totals	5292	6788	5180	6320	2350	239	56	3746.42857	26225	100%

Table 2: Attribute table for Educational Buildings

Through our observations we discovered numerous pathways traveled used to navigate around campus. We defined the pathways as those being manmade dirt paths, not being constructed with pavement. We identified 15 of these pathways within the main campus totaling approximately 3080 feet. All of these pathways have been worn down over the years but we were unable to

ascertain whether or not they were made before or after the construction of the university.

Using ArcMap has enabled us to geographically represent all our data gathered. We have been able to gather a visual representation of the majority of formal gathering spots, pathways traveled and usage of all buildings. It has been a very useful analytical tool in formulating our findings throughout this research project.

Discussion and Conclusion

In order to make sense of the results we need to discuss exactly what we found. Our discussion will look at the most used buildings, which are buildings 18 and 45 and discuss the distances between them. The direct distance between the two is practically 2300 ft, or nearly a third of a mile. In order to get a more accurate distance total, we will look at the actual pathways traveled by students.

There are numerous directions students can choose to navigate between these classes. By navigating the constructed paved pathways, a student would travel nearly 3100 feet. Conversely, if an individual takes the man-made dirt pathways trodden over the years, the distance is somewhat shorter. By taking the pathway that cuts through the middle of the main campus then between the Science building and building 27, a student would travel approximately 2600 feet, cutting their overall distance by nearly 500 feet. A third route would take the students through the main campus out by building 17, through the oak tree

orchard out to the World Theatre parking lot then to building 45 which totals 2400 feet. Finally, there are the actual streets that could be navigated. If a student drives from the parking lot near building 18 to the World Theatre parking lot, they would drive approximately 4300 feet.

In order to travel between these two buildings, we described 4 different routes that can be taken. Having so many ways of navigating around campus detracts from causing social interactions. Individuals who take their car around campus are missing out on the opportunity to engage in spontaneous social interactions. Having a variety of pathways to walk from building to building also leads to miss opportunities for social interactions since there are so many routes that can be taken and not everyone using the same route.

With such a small student body, there are too many choices for people to travel around campus. These choices are not conducive to causing social interactions. Our observations have proved that with those driving from class to class, those taking the constructed concrete paths, and those taking the dirt pathways are being forced out of spontaneous social interactions.

In order for this phenomenon to change, the campus needs to be restructured. There needs to be a central gathering area with pathways leading to this area so that people would be unable to avoid social interaction. This area needs to have the majority of classrooms, dorms, and entertainment buildings within a 5-minute walking distance. That would mean that the distance between such structures and the central gathering area would need to be around 1100

feet from each other. An ideal area would be near the parking lot for buildings 15 and 17.

Having this area constructed as the central gathering area would be ideal for causing social interactions. The distance between already constructed buildings and this lot is from 1100-1300 feet. Since some of the pathways we mapped naturally flow to this area they could be constructed with lighting and borders that still invite people to use them. Most importantly though, it would cut down parking inside the main campus area therefore forcing people out of their vehicles causing them to walk and create more spontaneous social interactions. This area would be very conducive in helping individuals to interact and consequently helping them to construct their self-identity.

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CSUMB Settlement Patterns



Legend

-  Pathways
-  Entertainment
-  Athletics
-  Residential_Halls
-  Educational

