Optimal Locations for Wrap City

Food trucks are quickly becoming the next best thing. As we walk through many metropolitan areas, it becomes more and more evident that these mobile restaurants are grabbing attention and popularity. There are many benefits to choosing a food truck lunch over the standard "McDouble". First and foremost, is the health aspect; it is not a secret that fast food is becoming a frequent choice in meals and the result is an increasing rate of obesity in America. It is because of choices such as those that prevalence of overweight or worse conditions has raised to at a staggering 73.7% in America. (CDC, 2010) I hope to help address this growing issue by launching a new food truck business in the Tacoma area, known as Wrap City. It will provide a fast and healthy alternative compared to the burger joint down the street by introducing fresh fruits and vegetables into daily diets. Not only will the choices vary from kid friendly "PB&Js" to the organically-influenced "Kale and Raspberry special"; but also in a variety of locations as well, to capture the greatest amount of traffic (customers passing by) as possible. That is usually more often said than done. Therefore, my analysis in this project will be based upon using GIS (Geographic Information Systems) to find the best locations to set up shop determined by a number of factors. These factors will be determined by research done to pinpoint my demographics and their habits on eating.

By the end of my analysis I hope to provide a well evident mapping of where Wrap City has the best opportunity to succeed for lunch hours, evening dinners, late night after-bar eats, and finally weekend parks; as well as a guide for other food truck entrepreneurs to use in their planning of locations. Although, my analysis will focus on creating a successful food truck business; it also will help create a variety of options (other than the typical fast food chains) for lunch, dinner, or snacks. I would like to add that this analysis is highly quantitative and would

benefit from qualitative sketch mappings of the residents in the area to assist in the planning of the locations. As a frequent visitor to the Tacoma, I've used my experiences to assist the final selection of the locations once my GIS analysis has been completed.

At the induction of food trucks, or what was once known as "Road Coaches", the typical menu was similar to that of any other fast food related business and was geared towards providing the best burger or taco. Since then, especially in the past few years with the growing awareness of healthy alternatives, food trucks have evolved to fill a variety of niches and have seen amazing success in doing so. In fact, last year we witnessed a whole show dedicated to the food truck industry that added even more attention. These trucks, or contestants, ranged from providing Parisian-style crepes to Vietnamese sandwiches. Each of the businesses provided a specialty food that is fairly successful in their market. Therefore, these examples help solidify my decision that wrapped based foods could possibly succeed in the food truck industry and one would not have to follow the typical "Road Coach" model.

At the start of my consideration of my project I thought a lot about the health options people have in the Tacoma area and how a healthy alternative like Wrap City could benefit a community. According to a study in the Journal of Agricultural and Resource Economics on the choices people make when eating-out, "…we conclude that consumers can be more easily persuaded to choose the most nutritious option if that option is also convenient and enjoyable." (Stewart, p.533) This analysis would then lead me to the question as to where the most optimal locations for a new food truck business. To answer such a question, I would need to determine: 1) where exactly in Tacoma I would be allowed to operate and 2) who would my customer base would be. The "where" in Tacoma would seem to be fairly objective and would only be a manner of finding the areas of which that are zoned accordingly and the "who" would be a

slightly more difficult process as I determine my demographic and their habits. According to the Technomic 2011 Food Trucks Innovation report, "42% of consumers surveyed ages 18 to 30 said they visit food trucks at least once a week; 38% of consumers ages 31 to 40 answered the same way". Also, an extremely important aspect of a food truck business is the connection it makes with the social networking world and its inclusion of the "hipster" generation. In fact, Pew Research did a study on the demographics of Twitter and found that over 37% of online users from age 18-34 access and use Twitter on a daily basis (Smith, 2011). With that in mind, I found my focus of demographic should be around that age. However, I did want to add another portion to create a more definitive demographic of hipsters, therefore, I added educational attainment to my consideration. This was done due to a slot of my locations being based upon the fact that typical professional style jobs require some sort of secondary educational degree, which would then mean that most hours of operations are roughly the 9 to 5, Monday through Friday. With these two considerations, I hoped that my analysis would show areas of opportunity that demonstrated where hipsters, lived and where I could place Wrap City to capture business as they were heading home.

Another part of my analysis was based on walking networks around universities and parks. The two universities under consideration were University of Puget Sound (UPS) and University of Washington-Tacoma (UWT). At the time of planning, I was not sure as to what parks I would consider, so what I would plan on doing would be a system of elimination depending on park size and use. Initially I was planning on just running a ¼ mile buffer around the schools and parks in accordance with research from University of Southern California showing the higher probability of people visiting parks within that quarter mile buffer zone (Accessibility of Parks, p.14). However, this study had a focus on mothers with young children

and did not completely provide me enough data to determine walking networks of other demographics. Especially within the college age since that is a main part of my analysis, therefore, I used a study done by Portland State University to determine walking speeds among age groups within the city. Their results showed that among "younger" pedestrians the average walk speed was around 4.85 ft/second, which equates to roughly 3 miles per hour. After doing much of my research, and pinpointing my customer to the younger generation I decided that a 15 minute walking network at a 3 mph pace would suffice. Unfortunately, there was another issue that I had to resolve. Since the service area tool requires a start point, and the park being a polygon I needed to create entry points to the park and run a service area analysis from each of these points. With the addition of these 10+ points and their corresponding service polygons I dissolved each to create one 15 minute polygon. After which, I then took population data at the block level in combination with the service polygon to allow me to use the 'Select by Location' tool to accurately determine how many people were in fact within the 15 min walking network.

Along with the college demographic, I also decided that food trucks would serve as a great option, for people walking around the nightlife areas of Tacoma (i.e. Bars). As stated before, there are some occasions in this analysis that I would use personal experiences. As a college student in the Tacoma area, I've come to know the areas at which most people around my age tend to visit Friday and Saturday evenings. Therefore, based on concentration of bars, zoning allowed, and vacant lots I will hope to have a small number of options which I could simply select based on proximity to popular bars. However, I did want to incorporate a bit more analysis, with the UPS being down the street from one of the concentrations. Therefore, I ran another 15 minute service area analysis stemming from entry points to the college to determine

where this service polygon and the location that I had selected based on concentration and vacant lot to pinpoint an exact location that would be within walking distance to the bars and college.

Much of my planning of locations so far have been centered around weekend parks, evening bars, and locations based on where the hipster class heads home after work. The final slot of my analysis is focusing on lunch hour. For this portion I intended on finding business parks and also specific types of businesses (e.g. retail, superstores, malls), however, that specific of data was difficult to find. With the combination of the allowing zoning polygons and the commercial parcels, I determined which areas had the greatest amount of commercial parcels (normalized by area of polygon). That data then showed me which areas that were approved for food vending, and how many commercial businesses were potentially in the area.

As I began to gather my data and start the analysis, I ran into a few issues and areas of opportunity. The first issue I came across was the lack of data available for traffic in the Tacoma area. I was hoping that the data would provide traffic info at the arterial layer. Unfortunately, the best type of data was traffic counters mainly located on the ramps of highways. However, it is because of this that I began other considerations to replace this analysis. One of which was to determine high concentrations of "hipsters" and locations that were en-route of their way home. This was done by indexing the population at the block group scale that were within the 18-34 age range and also had attained an associate's degree or higher. By doing so, I would a good idea of where the hipster generation was located and had a limited amount of vacant lots available for placing Wrap City. However, there were some areas that appeared to be perfect for my food truck but no vacant lots were available. Therefore, after carefully looking at the zoning code and speaking with a city planner, I was able to find that parking along streets would also be an

option. This finding would later help me in also selecting my park locations, based on the same reason.

The results of my analysis provided 13 total locations for the 12 slots available for my weekly rotation (one park location would be interchanged, as I will provide detailed explanation as to why later on). See Figure 1. For my weekend afternoon locations (walking network analysis to determine population served), I was provided with three possible options. First, Wright Park had a total of almost 15,000 residents within a 15 min walk. The other two options were chosen based on their very similar results; both Jefferson and Portland Avenue Park served around 7000 residents each, because of this I intend to rotate these locations on a weekly basis and determine which would be more ideal based on the sales. However, unlike Wright Park neither of these parks had the correct zoning designation and therefore required me to select locations that were adjacent to the parks.

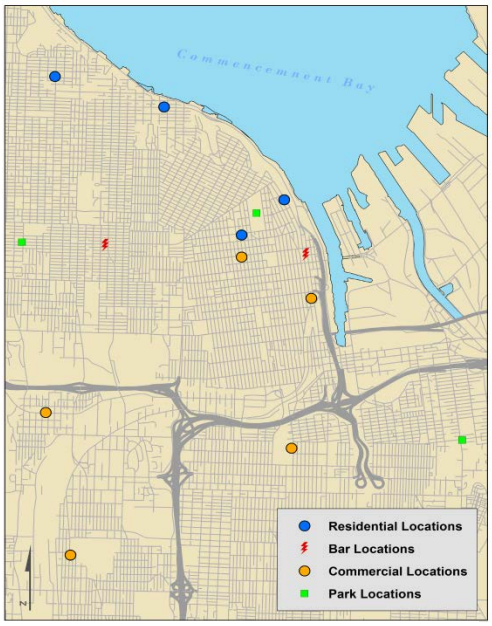

Figure 1: Final Locations

The evening bar locations were fairly similar to my hypothesis since most bars in the Tacoma area are arranged in clusters (i.e. 6th Avenue and Downtown). With that being said, I took the zoning and vacant lot layer and overlaid that on the commercial layer that represent bars. This allowed me to narrow my options to just a handful, which I then chose based on proximity to bars. The two locations were 6th and Alder (6th Avenue cluster); and the other was 10th and Pacific (Downtown cluster). Each is adjacent to some sort of parking, either on street or vacant lots.

The residential evening locations were the ones that were most intriguing. Due to my indexed hipster class, and the combination of the arterial streets in the area I choose these locations with the intent to capture these hipsters on their way home from work. If you look at Figure 2 you will notice this index representing a low (green) to high (white) concentration of the hipster class. The locations that resulted were generally located in the Northern Tacoma neighborhood and are as follows: 30th & Carr, 6th & MLK, 34th & Proctor, and 2nd & Stadium.

Figure 2: Hipster Index

My final locations were based on lunch hours during the workweek. With that in mind, my focus was on arterial streets and commercial business clusters. I gathered parcel data, which unfortunately did not give me the information I was looking for (specific type of business at that particular parcel); therefore, I added up all the commercial parcels in each zoning polygon and determined which zone had the largest concentration of commercial parcels. There was one location I chose primarily from my experience at UW-Tacoma; that location was Tollefson Plaza due to its proximity to the campus and the lack of options I would consistently hear from my classmates. From there I obtain the following results: 9th & MLK, Jefferson & Pacific (Tollefson Plaza), 36th & G St, Proctor & Center, and 50th & S Tacoma Way.

After reviewing my results, I've come to realize that these locations were chosen based on quantitative data collected and could benefit immensely from qualitative data collection. For instance, it was not till after ground truthing was done that I found some of these locations as not

quite ideal (i.e. 50th & S Tacoma Way was a location that was right off a very busy street but had little walking traffic nearby). By gathering such qualitative data as a survey of people and their frequent walking and recreational locations; it would guide me to an area that would be fairly busy with walking traffic. However, I must note that on multiple locations during my ground truthing process I saw food trucks relatively close to the locations I chose; so that finding affirmed my confidence in my analysis. There were also locations that I believed to be nearly perfect; like Cheney Stadium, which based on arterial streets, population nearby, as well as the parks surrounding the area provided (under my considerations) an ideal location. Instances such as this did show some evidence that some locations are simply unavailable due to city zoning code. This is not necessarily a new issue as many other municipalities are limiting the prosperity of food trucks. "(food trucks), are hamstrung by the hodgepodge of regulations that vary from one municipality to the next. A license to cook in one town is no protection from a citation in the next." (Dougherty, 2012) Looking back at my overall progress through this analysis, I would have also preferred to have added a bit more to my hipster index to finely tune this class of people and possibly provide a more finite result. In conclusion, I've decided that although this food truck operation would be an amazing experience to undertake; it is not quite financially possible for me to get up and running. I would like to possible re-approach this venture in the future when the financial capital is there and the timing is right. Due to much consumer traffic being dependent on park visitors and walking networks, it would be difficult to run this sort of business in a non-summer season (especially in Washington).

References

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