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Ideal Apartments for International Students in University of Washington, Tacoma

Beginning a new journey as an international student in a foreign country is no easy task, the same story applies to the international students in University of Washington, Tacoma. Yet, due to current inadequate supply of student housing units and the lack of a domestic host family housing program, international students in UW, Tacoma face even harsher challenges when looking for a place to live. Without many options, most international students would, therefore, choose to rent apartment units that are within reasonable proximity to the campus and other amenities as their homes. However, many international students might be unfamiliar with the area and its spatial components such as grocery stores, restaurants, banks and ATMs, and bus stops, etc. While not being informed, such unfamiliarity would drastically affect the students' ability to adopt a new livelihood since they might make inferior decisions on residency. Nevertheless, they might also unfamiliar with the apartment renting procedure which involves screening process over their immigration status, proof of financial sufficiency, and previous rental history. For some apartment managements, these elements reduce the likelihood of renting to international students.

As experience of renting an apartment might not be pleasant for international students, the chief purpose of this project is to suggest several apartment complexes to international students to minimize some of the hardships. For this project, conclusion would be based on both the selected positive and negative spatial components within the City of Tacoma boundary. The

project also incorporates the apartments' internal factors. Ultimately, the expected outcomes of this project are maps that display locations of apartments that would more likely rent to international students; and provide recommendation from concluding the spatial and internal elements of the selected apartment complexes. Yet, the hypothesis is that, regardless of the difficulties mentioned, the resulting number of ideal apartment complexes in Tacoma would still be sufficient for international students.

Prior to data collection, it is essential to understand what spatial features are necessary to facilitate a decent apartment complex for students beside its specific rental requirements. Therefore, several literatures were reviewed to provide guidelines.

First of all, safety shall be the major concern. However, safety index such as crime data takes tremendous effort to obtain and manipulate. Therefore, other indications of public safety were needed. According to Bernard (1997), while many students are residing off-campus residence where they are afraid of undesirable activities and news within the areas, after discussions with officials, the students demands better police patrols and street lighting. The notion signifies the presence of police stations and street lights in the analysis. Also, as no can predict when accidents are going to take place, ensuring residency has nearby rescue when needed becomes vital. Thus, residing closer to fire station appears to be important since it is crucial to avoid casualty (Fatal 2004).

In addition, as stated by Jin Ki, E., Stone, J. R., & Ghosh, S. K. (2009) who studied the daily activity pattern of university students, visiting libraries for academic needs and visiting health facilities for medical needs appear as two of the main students' activities. As a result, residing closer to these services becomes helpful for students to maintain their wellbeing. On the

other hand, the source of meals is also a key of living. Student housing often generates a wave of food demand which reflects the students' need of food (Food 2010). As a result, the living closer to grocery retailers and restaurants becomes basic. Yet, while identifying the necessities, the mode of transportation shall be taken into account as well. Bandy, A. (2005) encourages students to lower cost and promote sustainability. To achieve these goals, the author mentions the walk-ability, bike-ability, and ease of public transportation form the apartments to campus and other services. Hence, the accessibility to public transportation shall be focused.

However, in order to conduct a comprehensive project, some negative spatial features should also be identified, countering the positive features mentioned. In this case, correctional facilities emerge as a counter weigh to public safety. Similarly, Page, R. M. & O'Hegarty, M. (2006) discuss about the effects from bars and liquor stores to off-campus student housing. They conclude that bars and liquor stores would promote relatively higher probability to intensive alcohol consumption. Since such phenomenon is obviously unconstructive to students' academic career, bars and liquor stores will become negative spatial features in this project although this settlement could be subjective and arguable.

Furthermore, due to the focused audience of the project are international students, it is also crucial to recognize the necessities that make an apartment desirable to international students. According to Dr. Garate, E. M., Dean of International Education, Santa Monica College, CA, international students should pay attention prior to renting an apartment. One of the components is the lease terms. The difference between lease agreements and month-to-month rental agreements would ultimately affect the students' flexibility to move if needed. Domestic student could benefit from the exact flexibility as well.

Before beginning the analysis, there is a need to mention that both primary and secondary data were input to conduct this project. However, as acquiring certain data became impossible, some of the components were then dropped from the project. These components included sidewalk and streetlights that were to be used as indication of public safety. Primary data included the internal factors of the apartment complexes from a telephone survey. From the survey, details of monthly rent, minimum lease term, and policy toward international students were collected and recorded on an Excel file. Secondary data included addresses of apartment complexes, libraries, correctional facilities, grocery stores, and restaurants from various online search engines, a businesses' point shapefile from InfoUSA, street line files from TIGER 2008 and 2010, bus route and bus stop shapefiles from previous assignments, and a Tacoma basemap shapefile from WAGDA. Furthermore, several spatial features were added into the positive and negative features. Additional positive spatial features included banks and ATMs, parks, and post offices. Additional negative spatial features included train tracks—as noise distraction.

To begin with the analysis, the list of apartments' addresses was geocoded with an address locator generated from TIGER 2010 street line shapefile to create points on the map. To complete the apartment point layer, the apartment points were extracted from the InfoUSA shapefile, and were merged with the geocoded apartment points. The repeated records were then removed. Afterward, the collected primary data from telephone survey was joined from the Excel file to the points. However, "non-responsive" or "NR" was included as one of the values under rental policy toward international student since significant portion of the apartment sample did not respond.

Other lists of addresses were also geocoded. Similar to the apartment points, these geocoded spatial features were also merged with the points extracted from the InfoUSA

shapefile, and the repeating records were eliminated. Then, suitable bus routes were selected by location. In which case, bus routes that intersect with University of Washington, Tacoma boundary and link—light rail—stations were selected. As the attribute table of the bus stop shapefile does not contain the detail of routes, selecting the appropriate stops became difficult. To ensure the proper bus stops were selected, the distance used to select the stops from the routes was limited to ten feet.

Subsequently, from constructing a network dataset with the TIGER 2008 street line shapefile, which contains speed limit attribute, a service area analysis was performed to all the points except for the apartments, the spatial features' proximity to the apartments was calculated. Service area analysis for most spatial features was performed with walk time to examine the walk-ability. Service analysis for fire and police stations was based on drive time since the services would more than likely delivered by vehicles. Afterward, judging from the proximity, every factor was given scores. For balancing the factors' weigh, the scores for every factor were limited to only from 0 to 3. In this case, positive features would result in a score addition; negative features would result in a score deduction. Eventually, the total scores were multiplied by the rental policy index (either 0 or 1). The resulting numbers were used as the Z value (height) of the apartment columns. Moreover, four areas were defined and colored differently for the ease of displaying the columns.

Although the number of the apartment reduced significantly from the total number of the sample, from 141 to 50, after multiplying the rental policy index, the remaining number still indicates that international students would have sufficient choices to choose from. Various apartments were eliminated from the project due to their specified principles, for example, senior housing and low-income housing project. Yet, non-responsive to the telephone survey appeared

as the major reason for most apartments to be excluded. Furthermore, while each factor could optimally gain 3 points, which leads to a maximum score of 36 points from 12 positive spatial and internal factors, none of the selected apartment managed to yield the upper range (from 25 to 36 points). Yet, the project was still able to capture some characteristics. For example, the three apartments that yielded the most points are located in the Downtown area in defined area two, and the most significant cluster of suitable apartments occurs in defined area one, comprising ten apartment complexes. Within each defined area, apartments that share the highest three scores were labeled with their names along with their total scores.

Certainly and conclusively, while critically exploring this project, there is a considerable distance from perfection. If more time was given to conduct this project, changes would occur to resolve the following questions. On the outset, the question of scale remains. As this project was focused within the geographic extent of the City of Tacoma, adjacent cities, for example, the City of University Place where convenient bus route number two is operating, were excluded. Referring to the discussion of Savitsky and Lacher Jr. (1998), a research shall conduct within a feasible scale where sufficient variables could be taken into the calculation. Though, while revisiting this project after its completion, the scale of the project might need to be adjusted.

Subsequently, this project encompasses the question of perspective. Although this project was conducted by an international student while focusing on international students' housing options, one international student could never theoretically be a representative of all since one's feeling of the depth of a place is not always the same with the others. As Pearce M. W. (2008) states:

> Knowledge of place is not only limited to the senses of sight, hearing, taste, touch, and smell but also incorporates other more abstract “senses” that are linked to intuition, place, time, and connection to the past, present, and future (P. 114).

Providing surveys to international students is encouraged in order to obtain a more comprehensive perspective of theirs.

Last but not least, the question of perspective leads to the question of participation. Similar to Dennis S. F. (2006) where he selected younger population as the most frequent users of public space, this project selected apartment complexes as the most common choice for international students. However, since the project was only able to collect feedback from about 30 percent of the initial sample size, the apartment complexes’ participation and/or involvement might not be adequate to produce a conclusive result. Rather than depending on telephone survey an advanced data collection method is in need to improve the apartment complexes’ participation and/or involvement.

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