Bringing bicing to the university of arizona

Science, Social Science

The paper " Bringing Bicing to the University of Arizona" is a great example of a research paper on social science. Our topic is based on implementing a public bicycle transportation system into the of Arizona. The bicycle system is actually a real company called Bicing. It is located in Barcelona, Spain in the heart of the city. Our plan is to bring and implement the Bicing Company into cities across America, using The University of Arizona as our starting point. Bicing uses a unique design that helps distinguish their bikes from the rest. The bikes are built with an anti-vandalism mechanism and parts that are not compatible with other bikes on the market. Because bike theft is a huge problem here at the University of Arizona, this anti-theft feature will decrease the bike theft rate at the University of Arizona and eventually the city of Tucson as a whole. The bike is also adjustable to fit both youth and adults, which makes the bike user-friendly to all. They are built with an ergonomic handlebar giving the rider better control of the bike. This combined with the three-speed gears, foot peg for the resting position, anti-slip pedals, nocturnal lighting system, and brake lights, give the bike an overall safer and easier ride over your average bicycle. In 2006 the Bicing system was first implemented in Barcelona, Spain, with immediate success. There were 100 new registrations every day giving 90, 000 Bicing users after only 6 months. Within the first year of service, there have been 35, 000 recorded Bicing trips within the Barcelona area. With this large rate of use and increasing users, 6, 000 more Bicing hubs were added by 2008. The University of Arizona is a great starting place for the Bicing system. Because of the high bike usage around the campus, the profit earned from starting the Bicing system here will be very beneficial when expanding Bicing to the

rest of Tucson. With the consistent amount of new students every year, primarily freshman, we will be able to target them as our potential users. Due to the fact that incoming freshman is mostly living in the dorms and do not need to use a car, they would be the best target for marketing the Bicing system. We will set up booths at freshman orientation and place flyers in the dorms showing them the benefits of registering and using Bicing instead of bringing their own bike. The fact that Bicing is also very environmentally friendly will make the concept more appealing to future users. With everyone looking for ways to make a more green society, the Bicing system will aid in the process of turning Tucson into a more environmentally friendly city. In order to implement this system strategically on the campus of the University of Arizona, we did field research in congested cycling areas. Our research question is: Where are the best locations to place “ Bicing hubs” on the University of Arizona campus? Our hypothesis is that this system will be most effectively implemented in high traffics areas around campus such as dorms, parking garages, fraternity and sorority housing, athletic facilities, the library, and the student union. To answer our research question, we decided it is most important to conduct a locational analysis through personal data collection and observation. Our first step was to find a map of the University of Arizona’s already implemented bike routes. This served as our basis for finding the most congested areas of bike traffic. We consulted UA’s Parking and Transportation website (www. parking. arizona. edu) to get a general idea of where our research should be focused. After analyzing the campus bike routes map for 2008-2009, we chose ten locations that were connected by the already implemented bike paths. These locations included: Cherry

Parking Garage, 6th Street Parking Garage, Main Library, Medical Library, PSU, Highland Market, Main Student Union, Harvill, Social Sciences, and Cherry and 2nd St. (Greek Row). Our team of ten split up into groups of two, each group was assigned two locations to go to and count how many bicycles passed in one hour. Each group surveyed their location on Monday and Tuesday to account for the number of students on campus for Monday/Wednesday/Friday classes, as well as Tuesday/Thursday classes. An important variable that we took into consideration was the time of day. All data collected was between 9 am and 2 pm. After consolidating all of the data collected by each group, we took the top five high traffic areas. The numbers displayed in our graph of these top five areas represent the number of bikers per hour. The locations are as follows: Park Student Union (85 bikers), Highland Market (89 bikers), Harvill (147 bikers), Main Library (231 bikers), Main Student Union (253 bikers). One of the limitations we faced while gathering data was the time of day. Although we stayed within out limits of 9 am- 2 pm, not every piece of data was collected as the same exact time. This limitation has the possibility of influencing false conclusions regarding our hypothesis. However, we do not believe these gaps in our data are significant. Our next step was to put this information into a map that would communicate the connectivity between our potential “ hubs” and the campus bike paths using ARCMap. We decided the most effective way to do this was to digitize a campus map. We began by downloading a DOQQ from the Arizona Regional Image Archive (http://aria. arizona. edu) that displayed the University of Arizona’s campus. Then we imported this file into ArcMap as our main layer. Next, we created a shapefile for the bike paths and another

for the potential hubs. We had to manually enter data labels into the attribute table so that we could a) show the names of locations and b) show the changes from year to year as Bicing expands. We created three maps: Year One, Year Three, and Year Five. Year One has hubs at the five locations we collected data on. Year Three and Five are projections of where we would expand to if Bicing succeeds at the University of Arizona. The hypothesis of implementing a unique public bicycle transportation system called Bicing within the University of Arizona campus is justifiable considering the various positive features of the bicycle. Its uniqueness lies in the anti-theft feature of its mechanism, user-friendliness, overall safety, and easy riding and most importantly would make the campus environment-friendly. The hypothesis of implementing the system in high-traffic areas within the campus was supplemented by a locational analysis done in these areas. Ten already existent bike path locations were chosen based on an analysis of the campus bike route map of the current year. The number of bicycles that passed in one hour in each of these locations and the number of students present during weekdays between 9 am to 2 pm were also counted. The consolidation of the data collected enabled the identification of top five high-traffic areas. The limitation of the time period taken for the study was not found to be highly significant. With regard to mapping, the information digitalization to communicate the connectivity between these hubs and that of the campus bike map using ARCmap was decided upon and three maps for year one, three and five were created by entering the data manually. Five hubs were decided for year one and the other two maps had projections of other hubs if this first attempt succeeded. However, the inclusion of hubs

near student residential areas where their population is a lot more would have been more beneficial. Nevertheless, this could be considered in the next expansion. In the previous cases, the number of Bicing users rose phenomenally within two years and similarly considering the student population within the University the number of hubs can definitely be expected to rise within the proposed five years. A feasibility study could also have been worked out alongside the project which would have greatly aided in the implementation of the program.