Wellness And Lifetime Knowledge (WALK)

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The Institute for Public Health and Education Research (TIPHER): Sidewalk Inventory

City of Seguin, Texas

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Introduction

The Institute for Public Health and Education Research, TIPHER, is a non-profit 501(c) [3] organization whose mission is to improve quality of life by addressing the Public Health and Public Education needs of the local Community. While continuously creating a collaborative model, this will enable /empower the Community to achieve an ever improving quality of life (TIPHER, 2000).

"Community workers with TIPHER have been working in Guadalupe County since June 1st. Meetings have been held with key leaders of the community to build an active-living coalition to promote physical activity and ultimately reduce the incidence of diabetes. Another effort the Institute has undertaken is the development of a comprehensive plan to recruit, train, and implement a *promotora* program to educate students and parents in the Seguin I.S.D. to effectively manage their diabetes." (Long Live Texans, 2013)

Summary

Over the next five years TIPHER, with the aid of the Transforming Texas Campaign is seeking to reduce the rate of obesity through nutrition and physical activity interventions by 5% (TIPHER, 2000), by promoting healthy lifestyle changes within the city of Seguin, Texas. Per a 2007 Diabetes Prevalence for Texas by Available Counties report from 2007 Texas Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, states that there is an 11% prevalence of Diabetes in Guadalupe County.

TIPHER's goal is to create a walking program to encourage people to walk more. It is suggested by the CDC that people need to walk an average of 2 miles a day. (CDC_Placeholder).

Purpose

Wellness And Lifetime Knowledge (WALK) has been tasked by TIPHER to create a sidewalk inventory and walking maps that display routes in Seguin, Texas. The sidewalk inventory will show obstructions to sidewalks such as:

- Damages
- Vegetation
- Telephone poles
- Etc.

Sidewalk accessibility to pedestrian attractors will encourage people to walk. This will improve overall health in the community. Another objective is to locate pedestrian attractors such as:

- Schools
- Banks
- Grocery stores
- Retail centers
- Libraries

Another aspect of this project is to distinguish the different types of walking surfaces. TIPHER would like to reinforce the Safe Routes to School (SRTS)[1] program. These shared-use paths (pedestrian / bicycles) infrastructures will enable children to walk and bike to school safely. By analyzing sidewalk connectivity and providing recommendations to improve the current pedestrian network, it will encourage the development of a pedestrian master plan in Seguin.

Scope

The geographic extent of our study area is the Seguin city limits. Childhood obesity has more than tripled in the last 3 decades in Guadalupe County (The Institute for Public Health and Education Research, 2013). The adult obesity rate is 33% and those classified as being overweight and obese is 63% (The Institute for Public Health and Education Research, 2013). The creation of a detailed sidewalk inventory is important because it can help lower obesity rates in the city of Seguin. Sidewalk accessibility, walkability and location of sidewalks are important to improving community health. Improving the sidewalk network will allow and encourage more people to get more exercise. An inventory of sidewalk data and classifying the sidewalk according to certain criteria mentioned previously would further help to accomplish this process.

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[1] National Center for Safe Routes to School
   730 Martin Luther King, Jr. Blvd, Suite 300
   Chapel Hill, NC 27599-3430

Literature Review

Many of the cities in the US have developed pedestrian and bike master plans for their cities to encourage healthy lifestyles and to strengthen the communities in the area. This is done by connecting people to their neighborhoods. In each of the pedestrian and bike master plans, several themes recurred: the use of community involvement, (Alliance Transportation Group, Inc, 2009; Alta Planning + Design, 2010; Alta Planning + Design, 2012; City and County of Denver, 2004; City of College Station, Texas, 2002; City of Sacramento: Department of Transportation, 2006; Harford County Government, 2013) (LOCKWOOD, ANDREWS & NEWNAM, INC., 2009; Portland Office of Transportation Engineering and Development, 1999; State of Hawaii: Department of Tranportation, 2011; The City of Oakland, 2002), pedestrian friendless index and walk-ability index (Chung, 2003) (The development and testing of an audit for the pedestrian environment, 2006). In the various plans, the use of auto to pedestrian collision data was used to identify areas (Mapping patterns of pedestrian fatal accidents in Israel, 2012), in which improvements to the pedestrian environment were needed. In addition, a sidewalk inventory was done to identify existing and non-existing sidewalks. This was used to identify breaks in the pedestrian network. Finally, a sidewalk friendlessness study was done to identify need improvements to the current environment.

According to a recent study by the Center of Disease Control & Prevention (Walkable Communities and Adolescent Weight, 2013) (GIS walking maps to promote physical activity in low-income public housing communities: a qualitative examination, 2012), areas with a high pedestrian workability index have a lower rate of childhood obesity than the national average. Therefore, by investing into the pedestrian network, the communities can a curb childhood obesity and promote healthier lifestyles.

Proposal

Data

The sidewalk inventory will cover the existing sidewalk network. The criteria for existing sidewalk conditions include (TIPHER, 2013):

- Width
- Length
- Material of the sidewalk/ path
- ADA compliance
- Distance from curb
- Obstructions

 Pedestrian attracters:

- Schools
- Libraries
- Retail centers
- Grocery stores
- Banks

Ratio of sidewalk to roads: 40.91 miles / 460.71 miles = 8.88% sidewalk coverage to road (note: explain that sidewalks need to be twice the length to cover both sides of the road) (TIPHER data layers, 2013)

Data collection

WALK will gather information to create processes. WALK will also evaluate the current sidewalk inventory by collecting data noting locations of sidewalks and recording additional information about the site. This process will take about three weeks.

Pre-processing data

Some data is in a pdf format, we will convert it into a useable form. We will also collect additional data and prepare it for analysis. The process of collecting/converting/ analyzing the data will take about three weeks and will overlap with the data collection process.

Data interpretation

WALK will study the area and make recommendations of where to build / repair sidewalks in order to promote Seguin as a "walkable" city. Data analysis will take about two weeks, and data interpretation will take about one week.

Methodology

The following questions need to answered:

- Where are current sidewalks in Seguin?
- What type of criteria do they fall into?
- What are the locations of schools, museums and other important buildings?
- Should new sidewalks be created and where?

In order to find the appropriate answers, a method of ranking pedestrian factors (will be discussed with TIPHER) and sources / attractors will be used to create new pathways to complete the current pedestrian network. This can be applied, not only in Seguin, but for the entire county of Guadalupe.

Information provided by:

- TIPHER
- The Chamber of Commerce
- Census Data
- Field Work

These factors will also be analyzed to determine locations in need of improvement/repair:

Import Chamber of Commerce (CoC) data set (data set is currently in a pdf format, must convert into useable table)

The CoC data will be used to create routes to and from pedestrian attractors/sources.

Verify/Expand the current data set provided by TIPHER

Create sidewalk inventory with attributes (as stated in Data section)

The Census data will be used to identify population densities, to help rank neighborhoods

TIPHER will be assisting us in collecting the pedestrian survey info to be used for identifying areas of high pedestrian traffic

Field work will help to accomplish these goals , by looking into the various areas within Seguin

Implications

It is the goal of this group to develop a strong foundation, onto which the city can create a pedestrian master plan, to ensure that the city can keep in place with the growth of the city and maintain a well-developed pedestrian network. This will encourage people to get out, learn more about their neighborhood and meet the people (whom they live near) to develop a stronger sense of community.

Budget

Data Analysis	Total Hours	(10 hours/week * 5 weeks * 3 consultants)	150	
	Hourly Pay		$75.00	
	Total			$11,250.00
Equipment Costs	Supplies	(paper, ink, misc.)	$450.00	
	Maintenance	($200/workstation * 3 workstations)	$600.00	
	Depreciation	(($50,400 [Total value of equipment] / 36 [equipment life in months]) * 2.5 [months equipment will be in exclusive use for project])	$3,500.00	
	Total Equipment Costs			$4,550.00
Data	Purchased Data		$0.00	
	Total Data Costs			$0.00
Travel Expenses	200 miles	(@ $0.50 cents/mile)		$100.00
	Total Costs			$15,900.00

Timetable

February 24th-March 23th   Data Collection

March 10th- March 30th   Pre-Processing Data

March 31st- April 13th   Data Analysis

April 14th- April 20th   Data Interpretation

Final Deliverables

On Friday, May 3rd the following will be delivered:

- A website
- A final report of our processes and findings (multiple copies)
- A thumb drive containing:
    - All data
    - Metadata
    - All reports (proposal, progress, and final)
    - All PowerPoint presentations

Conclusion

The organization, TIPHER, is dedicated to improving Seguin's health and lowering obesity rates. The city of Seguin is overall highly lacking in sidewalks. WALK is trying to assist the effort of TIPHER by creating a thorough sidewalk map for Seguin. This will include a database with detailed information about all the existing sidewalks, such as their current state and their size, and will propose locations for new sidewalks. This process will help make Seguin more walkable by any pedestrian. In addition to improving walkability, this project will show safe routes to areas with heavy pedestrian traffic, such as schools or stores. The data for this project will be gathered firsthand by WALK. The entire process of creating the map should take about eight weeks, and cost approximately $15,900. WALK and TIPHER hope their joint effort can make Seguin more easily accessible to its citizens and in doing so, improve their wellbeing.

Participation

Leslie Guilliams

Cover, Table of Contents, Implications, Literature Review, Bibliography, Budget, Doc design, Editor /Proofreader

Caitlin Pennington

Timeline, Final Deliverables, Conclusion, Editor /Proofreader

Geoffrey Shreve

Introduction, Summary, Purpose, Scope, Proposal, Data, Methodology, Editor /Proofreader

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