The Accessibility of Anaheim Street

A geographic approach to better understand the conditions that make Anaheim Street walkable, enjoyable, and safe

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Thesis:

- This presentation will address the issues of walkability and pedestrian safety in relation to the data collected by our class and innovations found in various parts of the world

Goals:

- To utilize the data that our class has collected to suggest possible changes to the existing infrastructure of Anaheim Street

Goals:

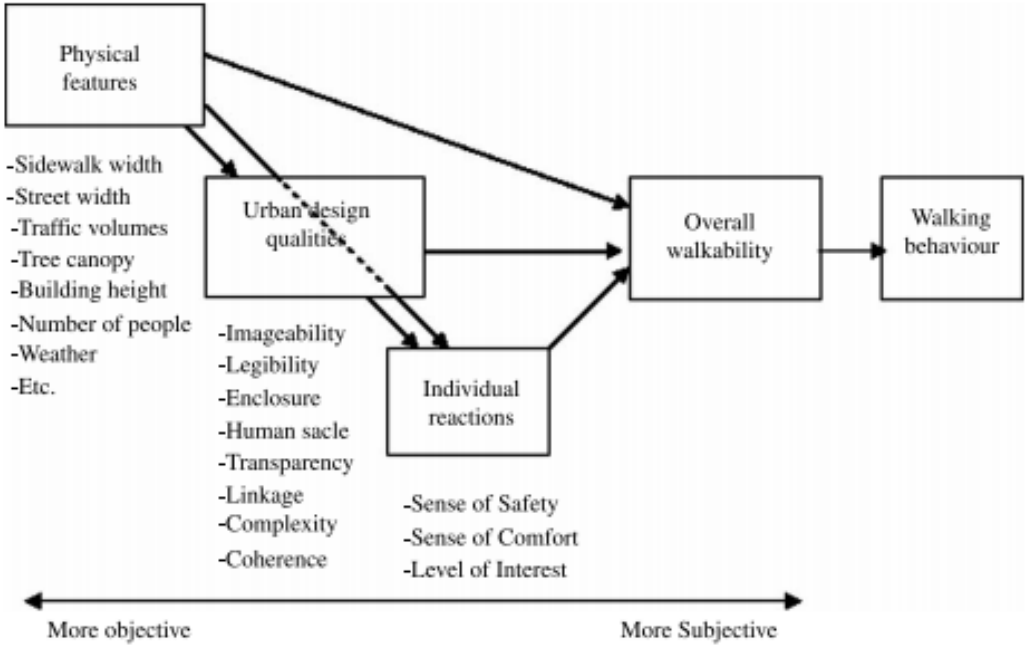
- To use research obtained from geographical resources that highlight practices in place that create a more inclusive environment for accessibility & safer walking conditions

Literature Review:

- *Encouraging Walkability in GCC Cities* by Mohamed Kamel highlights the benefits of creating walkable cities and documents the measures taken in the Gulf Cities to create infrastructure that promotes walkability
- Smart urban solutions makes use of technological innovations and design features that benefit pedestrians
- Goal is to reduce auto-dependence

Literature Review Continued:

- *Measuring the Unmeasurable: Urban Design Qualities Related to Walkability* by Ewing, Reid and Susan Handy aims to articulate and study the subjective qualities of urban design

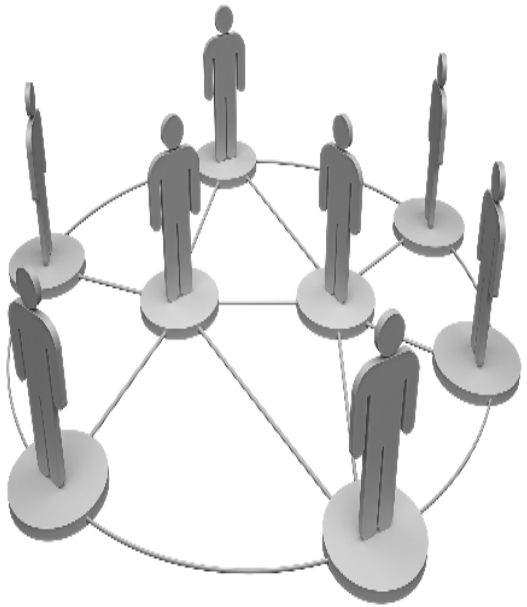


Literature Review Continued:

- *How do changes to the built environment influence walking behaviors? a longitudinal study within a university campus in Hong Kong* uses campus maps, university and survey data, walking diaries, and GIS technology to show changes in walking behavior before and after altering the built environment

Literature Review Continued:

- *Principles for the Implementation of a Pedestrian Plan in Medium Size Cities* views cities as pedestrian networks and aims to plan and design these networks in ways that encourage walkability and human interaction



Literature Review Continued:

- *Pedestrians' perceptions of walkability and safety in relation to the built environment in Cali, Columbia* uses qualitative and quantitative data to study the conditions that give a sense of safety to pedestrians by focusing on what specific qualities makes them viewed as unsafe

Literature Review Conclusions:

- The common theme of these articles was the ways in which innovation, design, planning, and implementation of infrastructure has been addressed worldwide
- Moreover, their focus was on creating a positive, welcoming, and safe pedestrian experience

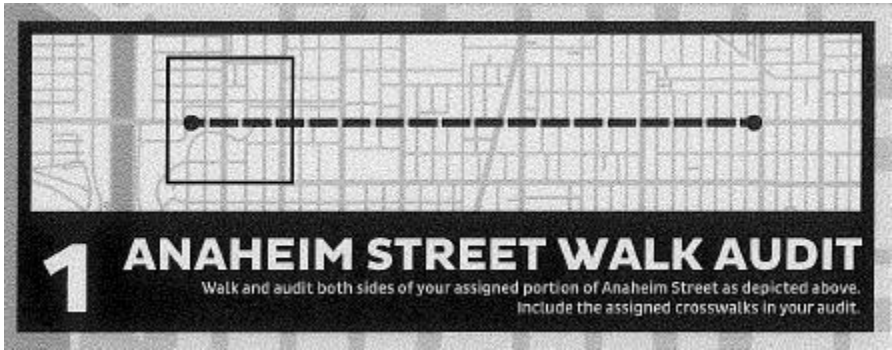
Data Collection Methods:

DE2: Pedestrian Planning for the Walkable City

Walk Audit (Fields notes)

- Key map & Checklist
- 5 Groups
- Anaheim Street

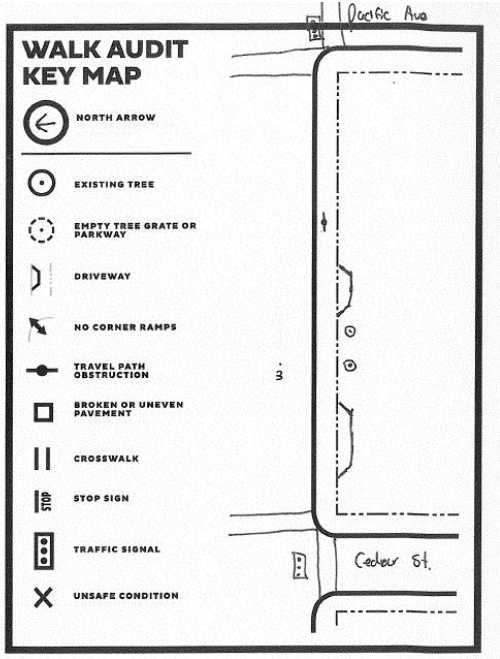
(Oregon Ave to Temple Ave)



Participant Observation:

1. <u>Accurate watching and noting of phenomena</u>
   - The overall quality of the area

2. <u>Participatory mapping</u>
   - Mapping socially
   - Significant patterns
   - Location markers



Method of Analysis:

<u>Qualitative data:</u>

Open-ended questions

<u>Quantitative data:</u>

Closed-ended questions

Rating scales of Anaheim St.

WALK AUDIT CHECKLIST

STREET: ANAHEIM STREET

BLOCK: FROM Pacific Ave TO Cedar Ave

SIDE OF STREET: N (S) E W

Walk audits study the conditions of a community to identify challenges or opportunities to improve pedestrian safety and comfort. Below are characteristics to consider when walking through the community. Consider others in your community including the elderly, children and those of limited mobility. Use one sheet [front and back] per block per side of the street.

COMMENTS Please be specific. **RATE ON SCALE OF** ① to ⑤ [Bad to Great]

Q1. SIDEWALK

A. Is the sidewalk wide enough to comfortably walk with others? ① ② ③ ④ ⑤
Would not recommend these sidewalk for groups

B. What is the sidewalk condition [broken, trip hazards, etc.]? ① ② ③ ④ ⑤
Overall condition was good, nothing Horizontal

C. Do intersections have ramps for wheelchairs, strollers & carts? ① ② ③ ④ ⑤
Yes. One wheel chair ramp

D. Is the sidewalk often interrupted for cars [driveways, loading, etc.]? ① ② ③ ④ ⑤
Not often

Q2. STREET

A. Are there safe places to cross the street [how far between them]? ① ② ③ ④ ⑤
Yes, each corner has crosswalks. roughly 40 yards

B. Are sidewalks separated from traffic [parkways, parking, trees, etc.]? ① ② ③ ④ ⑤
Yes

C. Do drivers yield to people crossing the street at crosswalks? ① ② ③ ④ ⑤
Yes, streets lights are unprotected

D. Does traffic move at a speed that feels safe when walking by or crossing? ① ② ③ ④ ⑤
Yes.

Q3. SAFETY

A. What is the condition of the area [trash, graffiti, loitering, etc.]? ① ② ③ ④ ⑤
Heavily strained, Rumored trash on & along the street

Q4. EXPERIENCE

A. Is there shade provided by trees, canopies or building awnings? ① ② ③ ④ ⑤
No

B. Are there exhaust fumes or bad odors [chemicals, urine, trash]? ① ② ③ ④ ⑤
No

C. Do buildings face the sidewalk [doors/windows or blank walls, etc.]? ① ② ③ ④ ⑤
Yes

TOTAL SCORE RATING Out of 65 possible points = 46

Data Analysis:

- We ranked the routes by their total scores

Best: Route 3

Worst: Route 1

Route	Street	Block Cross St	Block Cross St	Side of the Str	Q1A Sidewalk	Q1B Sidewalk	Q1C Ramps	Q1D Interrupti	Q2A Safe Cro	Q2B Separatio	Q2C Drivers yi	Q2D Safe Traf	Q3A Condition	Q4A Shade Tr	Q4B odors	Q4C Building f	Total Points
3	Anaheim	Myrtle	Olive	north	5	5	5	5	3	5	5	3	5	5	3	5	54
5	Anaheim	Junipero	Stanley	North	3	4	5	5	5	4	5	4	4	4	5	4	52
3	Anaheim	Pine Ave	Locust	North	5	5	5	4	4	5	5	4	4	4	4	4	51
4	Anaheim	Warren	Gundry	north	5	5	4	5	5	5	3	4	4	3	4	4	51
3	Anaheim	Pine Ave	Locust	South	5	4	5	4	4	4	5	5	5	4	4	4	50
4	Anaheim	Orange	Warren	South	4	4	5	5	5	5	4	3	4	3	3	5	50
2	Anaheim	ELM	ATLANTIC	SOUTH	4	2	5	4	5	3	5	4	5	3	2	4	48
2	Anaheim	Locust	Long Beach	South	5	5	5	5	5	5	4	3	4	3	3	3	48
5	Anaheim	Ohio Ave	Temple Ave	South	5	5	5	4	5	5	5	3	5	1	4	5	47
5	Anaheim	Raymond	Junipero	South	4	4	3	4	4	5	4	3	3	5	4	4	47
1	Anaheim	Del Rey	Cedar Ave	South	2	4	4	4	4	2	5	4	2	5	4	5	46
3	Anaheim	Lime	Olive	North	4	4	4	5	1	2	5	3	5	5	3	5	46
5	Anaheim	Junipero	Stanley	South	3	5	5	3	5	3	5	4	4	1	5	3	46
5	Anaheim	Stanley Ave.	Molino Ave.	North	4	4	4	2	4	5	5	4	4	2	3	5	46
2	Anaheim	Pacific	Pine	South	4	3	5	2	5	4	4	4	3	4	3	4	45
3	Anaheim	Lime	atlantic	north	4	4	5	3	3	5	5	3	4	3	3	3	45
1	Anaheim	Magnolia	Del Rey	South	3	4	3	4	5	4	5	3	2	4	2	3	44
2	Anaheim	Alamo	Elm	South	3	4	3	4	3	4	4	4	4	3	4	4	44
3	Anaheim	MLK, JR	Driveway MLK	North	5	4	5	2	5	4	5	3	3	4	5	5	44
5	Anaheim	Cherry	St. Louis	South	4	5	4	4	2	4	5	1	3	3	4	5	44
5	Anaheim	Molino Ave.	Stanley Ave.	South	3	3	4	2	4	5	5	4	4	2	3	5	44
5	Anaheim	Ohio Ave	Temple Ave	North	3	5	5	1	5	3	5	3	4	1	4	5	44
2	Anaheim	LONG BEACH	ALAMO	SOUTH	3	4	5	1	5	5	1	3	4	5	2	5	43
2	Anaheim	Pacific	Pine	NORTH	5	4	5	5	3	4	3	2	2	4	3	3	43
3	Anaheim	Olive	Myrtle	South	5	4	4	4	3	5	5	3	3	1	2	5	43
4	Anaheim	Gundry	Peterson	North	5	5	4	2	3	4	5	5	3	1	3	3	43
1	Anaheim	Magnolia	Chestnut	North	5	4	4	4	4	1	4	4	3	1	3	4	41
2	Anaheim	ELM	ATLANTIC	North	3	3	4	5	3	3	4	4	3	3	3	3	41
4	Anaheim	Warren	Gundry	South	4	4	5	3	4	5	4	4	2	2	2	5	41
3	Anaheim	MLK JR	Lemon Ave	North	4	4	5	1	5	5	2	3	2	1	3	5	40
4	Anaheim	Gaviota	Walnut	South	3	4	4	3	3	4	4	2	4	3	2	4	40
1	Anaheim	Cedar	Pacific	South	4	4	5	3	3	2	2	3	4	3	2	4	39
3	Anaheim	Atlantic	Lime	South	4	5	5	3	1	5	4	3	2	1	3	3	39
3	Anaheim	MLK, JR	Myrtle	South	4	4	5	2	4	3	5	3	2	1	3	3	39
4	Anaheim	orange	Warren	north	4	5	5	3	4	4	3	3	4	3	2	4	39
5	Anaheim	Dawson	Raymond	North	3	4	4	4	4	2	4	2	3	1	3	5	39
5	Anaheim	Raymond	Junipero	North	3	4	4	4	3	2	3	2	3	2	4	5	39

Results:

Causes for high ratings:

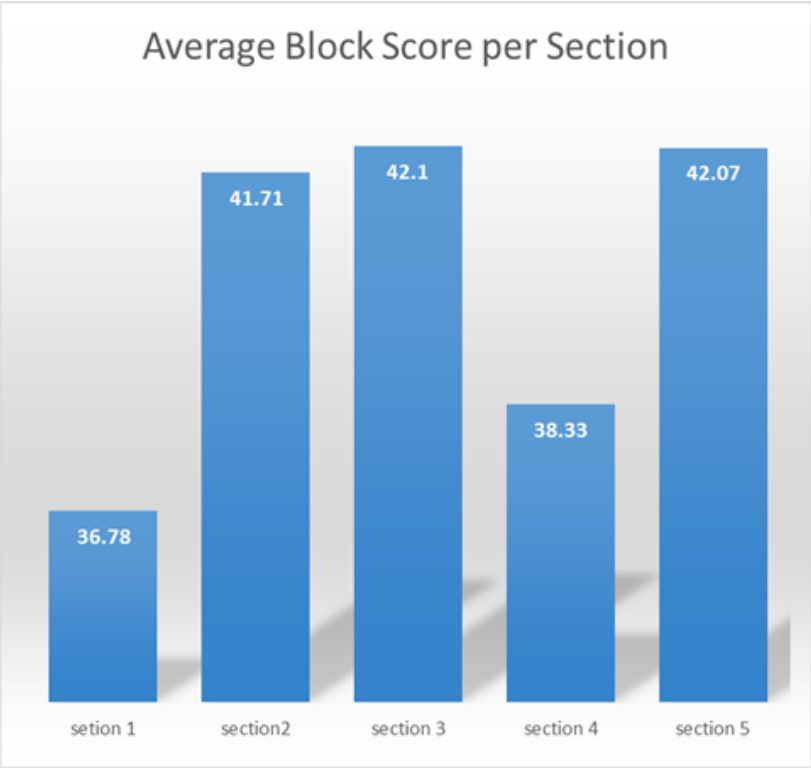
Grass

Trees

Smooth pavement

Wide sidewalk

Clean area



Causes for low ratings:

Excessive driveways

No plants/trees

No wheelchair ramps

Narrow sidewalk

Trash/ poor smell

Fast moving traffic

Mean Score: 40.42

Results:

This was a nice piece of Anaheim with trees, even pavement and a wide sidewalk. A mother walks with daughter in the distance. Section 4.

Results:

This is section 3. A large part of section three looks exactly like this. Clean sidewalk with a green grass parkway with trees and shade. Notice the buffer of street that separates the pedestrians from traffic. This section had the highest overall score.

Ideas for Change!

Some ideas we have to increase walkability are:

- Integrate more technology into the infrastructure
- Increase landscaping efforts
- Better separation of pedestrians and moving vehicles

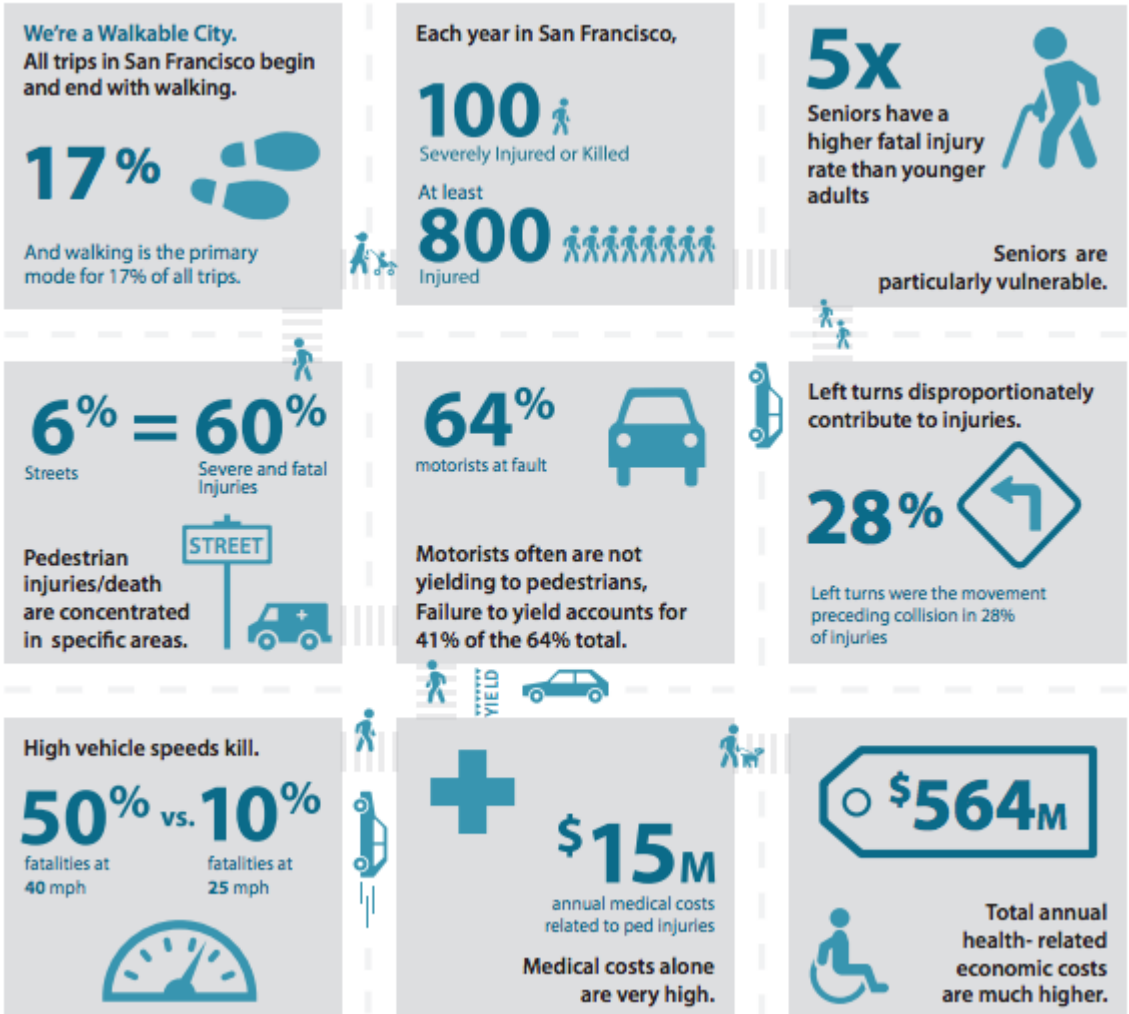
“Smart City” (Kamel 2013)

Ways that we can use technology to enhance walkability and redesign infrastructure to move forward with changing times.

- Intelligent traffic lights
- Intelligent street lighting
- LED touchscreens that give various information
- Free Wifi
- Retractable street furniture
- Solar trash receptacles

San Francisco Pedestrian Plan

- In San Francisco, an extensive pedestrian plan has been implemented to combat problems associated with poorly designed infrastructure



Group Ideas….

Cassie would like to see improved street lighting and better traffic signals that are easy for pedestrians to follow in order to stay safe while crossing streets.

Ka Yui wants lights installed into the sidewalk similar to those found in crosswalks to warn pedestrians of upcoming hazards.

Michael would like to see greater buffer zones (including bicycle lanes) to further separate pedestrians from fast moving vehicles.

Phil would like more shade. That is all.

How This Relates to Human Geography

- Our research relates to human geography by highlighting the connection of the built environment to the people who use it for walking
- This research is an example of Urban Geography because the focus is on the design, organization of infrastructure, and the planning involved in creating walkable places

Conclusions:

- Walkability has to do with a pedestrian's overall comfort and willingness to walk

- In order to promote a more walkable environment, improvements must be made to have well balanced, safe infrastructure

Sources:

- http://walkfirst.sfplanning.org/index.php/home/streets (SF ped planning)
- http://archives.sfmta.com/cms/rpedmast/documents/1-29-13PedestrianStrategy.pdf (SF ped strategy)

Articles:

- Sun, Guibo, Nicolas M Oreskovic, and Hui Lin. "How Do Changes to the Built Environment Influence Walking Behaviors? a Longitudinal Study Within a University Campus in Hong Kong." *International Journal of Health Geographics*, 13 (2014): 28-55.
- Alves, Fernando Manuel Brandão, and António Manuel Leite Ramalho. "Principles for the Implementation of a Pedestrian Plan in Medium Size Cities." *Review of Urban & Regional Development Studies*, 23.1 (2011): 21-47.
- Kamel, Mohamed Atef Elhamy. "Encouraging Walkability in GCC Cities: Smart Urban Solutions." Smart and Sustainable Built Environment, 2.3 (2013): 288.
- Ewing, Reid, and Susan Handy. "Measuring the Unmeasurable: Urban Design Qualities Related to Walkability." Journal of Urban Design, 14.1 (2009): 65-84.
- Villaveces, Andrés, Luis Alfonso Nieto, Delia Ortega, José Fernando Ríos, John Jairo Medina, María Isabel Gutiérrez, and Daniel Rodríguez. "Pedestrians' Perceptions of Walkability and Safety in Relation to the Built Environment in Cali, Colombia, 2009-10." *Injury Prevention : Journal of the International Society for Child and Adolescent Injury Prevention*, 18.5 (2012): 291.

Questions? Comments?

I SPY…

See if you can spot the hazards in these photos

Picture #1

Picture #2

Picture #3

Picture #4