0

Before we start

Our teams' research is focused on: street traffic and people's movement, parking orientation and the effects on the public realm and characteristics of street side gathering spaces. We would like to disclose our positionality, being that almost 90% of the team is from out of the county. After our two presentations with the DTNA community, we received feedback that because we are not from the community we cannot understand the complexities our recommendations would trigger to the local residents. This is to say, our recommendations are to start a conversation and show that these questions and slow vision is worth studying more. In closing we must recognize our own subjectivity, biases, and privilege, as they are critiquing systems that encompass the subjects we are studying.

Our Objective

"The goal of this research project was threefold. Firstly, for DTNA to use a participatory approach for residents to explore the complex nuances of a Slow Triangle. Secondly, to create an objective scientific basis for future design and implementation of a Slow Triangle from one of the world's most respected research institutions on this subject matter. Finally, it was our hope that this process could become the first chapter in a playbook that other neighborhoods in San Francisco and the world can use for community- driven assessments of Slow Neighborhoods."

- DTNA statement

Meaning of a Slow Street

1 ECONOMY Slow Street Program is based on the post-Covid-19 condition of which the aim is to support the further reopening of the local economy.

2 WALKABILITY A Slow street is a street that allows people to walk, run and bike safely - without blocking vehicles.

3 EQUITY A slow street is inclusive and equitable to all.

Because of the scarcity of open space, looking at the various variables in this study help justify reclaiming the street from cars for the public realm.

General History

Duboce Triangle is neighborhood with a long history since the 1860s. The physical form of the neighborhood includes many well-preserved Victorian-era buildings and tree-lined streets that were implemented in the 1970s via the Federally-Assisted Code Enforcement (FACE) program.

Duboce & Church (1968)

Duboce & Church (now)

About the Duboce Triangle

FACE Program & DTNA

FACE(Federally Assisted Code Enforcement) program is to prevent slum in San Francisco in the 1970s. Under the program, all the buildings were inspected and the owners are required to correct violations of the City's Housing Code.

The city invests in the area's environment with beautification and street projects. With funding from the FACE Program, DTNA worked with neighbors and the City to remake Noe Street by undergrounding utility lines, building corner bulb-outs with "parklets," planting trees, implementing angled parking, and developing traffic islands at Beaver, 14th, and Duboce.

Census Data

RACE ETHNICITY		
White	2549	60.90%
Asian	645	15.40%
Hispanic Latino	412	9.80%
Black	299	7.20%
Two or More Races	189	4.50%
American indian	46	1.10%
Native Hawaiian / Pacific Islander	27	0.60%
other	21	0.50%
AGE		
65+	269	9.09%
40-64	1135	38.40%
22-39	1250	42.20%
18-21	13	0.42%
0-17	293	9.89%
HOUSEHOLD TYPE		
2 or more	268	17%
One person	707	50%
Other	506	32%
OCCUPATION		
White Collar	1844	93%
Blue Collar	138	7%

Source: US Census Data

1 Streetside Mini-plazas

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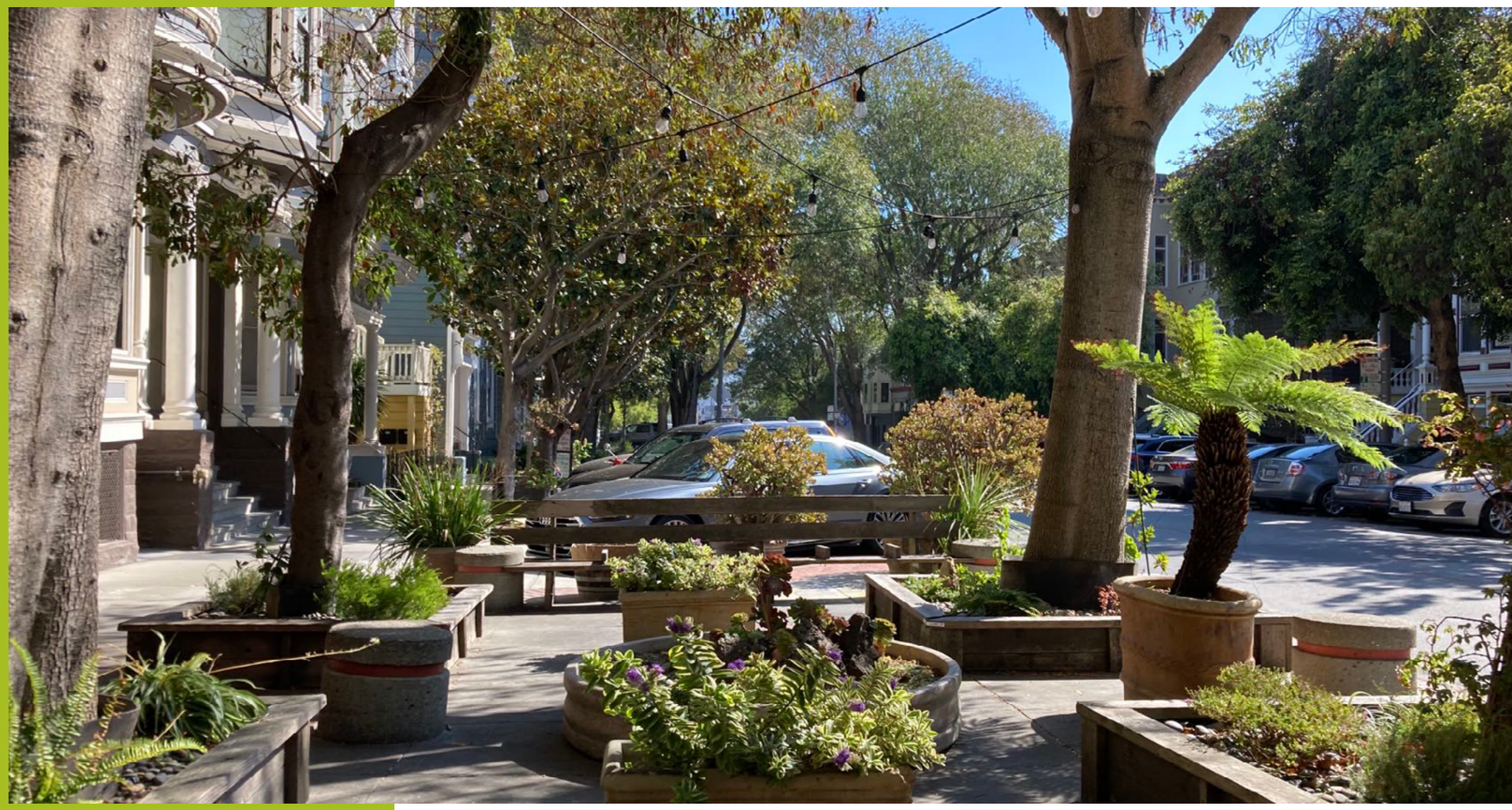
The first time we visited Duboce Triangle, we were attracted by lovely corner Bulb-outs along the Noe and Sanchez streets, and we started wondering what makes a good mini-plaza?



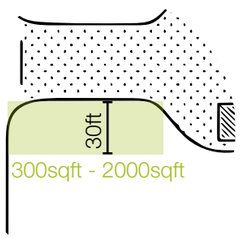
IN THIS CHAPTER

Background

In Duboce Triangle, there are many mini-plazas, which were placed in the 1970s under the FACE Program to provide play space and greeting places. We tried to evaluate the current condition and usage of these spaces and find out why some of them work while others do not. When the “triangle” is slowed, our work might be useful for the community to better redesign these spaces.

What is a streetside Mini-plaza?

Mini-plazas, usually thirty feet wide, are located at many corners of Noe Street and Sanchez Street, decorated with bands of red brick, street trees, and seat-height bollards which keep cars out. The plazas function as gathering spaces, providing play space and greeting places.



AREA
30ft with varied area

usually thirty feet wide, but the dimensions are as big as 2191 sqft and small as 330 sqft

LOCATION
along the sidewalk

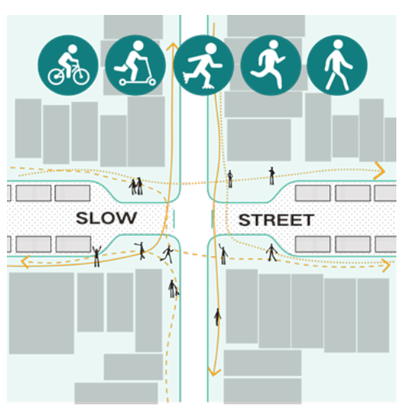
along the street, usually on the corner while some are in the middle of blocks

FUNCTION
gathering, playing, retails, and rest

functions as a gathering and playing place or a peaceful area for people to rest; some of them accommodate for small vendors or an extension of retails

Why is streetside Mini-plaza important?

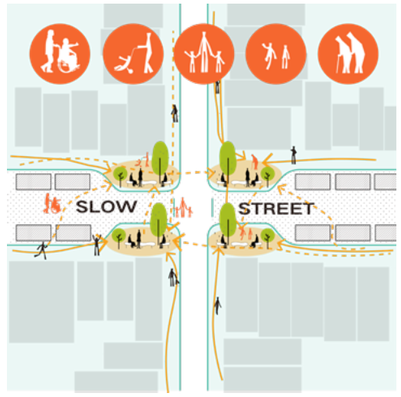
As a place for gathering, we believe the mini-plaza is of great significance to "Slow Triangle Vision" - for promotion of micromobility, equity, and local business.



MICRO-MOBILITY
more welcoming and accessible for people who want to travel on foot, bicycle, wheelchair, scooter, skateboard or other forms of micromobility

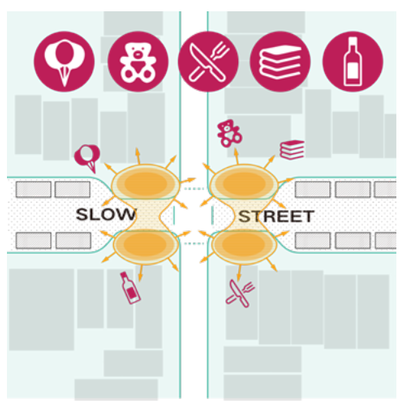
To switch a normal street into a slow street, we can encourage the micro-mobility by keeping cars out, but what do they do along the street to actually stay there instead of just passing by?

A streetside mini-plaza attracts more pedestrians by providing a nice place for them to gather and stay.



EQUITY
A place for people in any conditions to feel free and comfortable to stay

We would never succeed reaching the vision of equity if we didn’t provide a nice place for people in any conditions like the seniors, infant&mom, children, people with disabilities or even people experiencing homelessness to use.

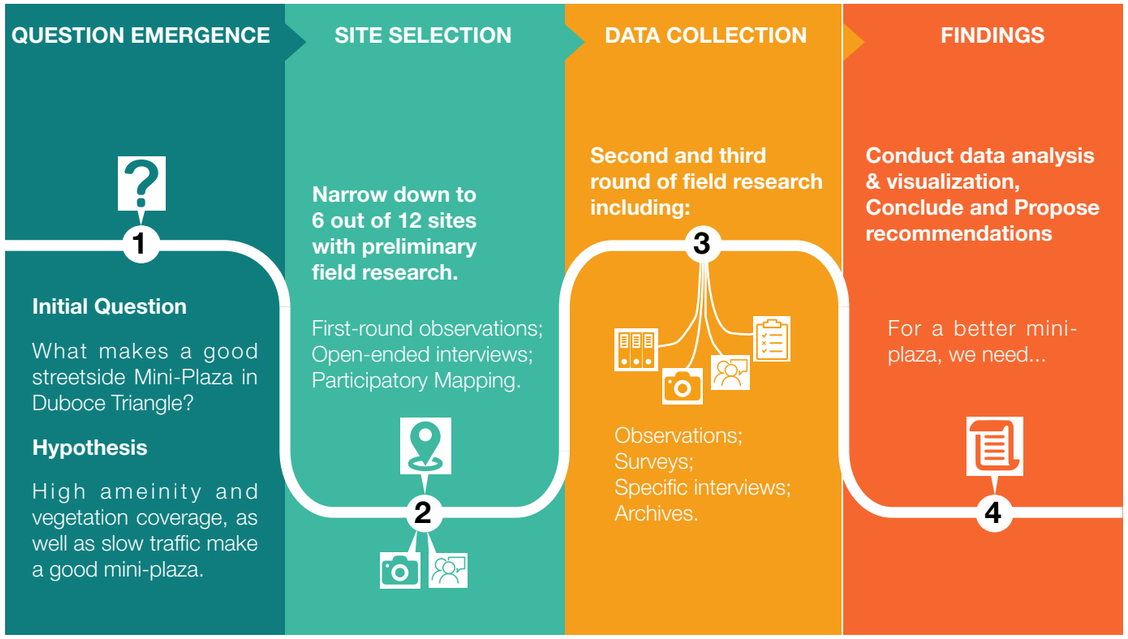


LOCAL BUSINESS
used by small retails like vendors, peddlers, Guy's Flower ...

With a large volume of pedestrians stay along the street, local retails would have more customers to drop by, which fulfill the initial goal of SF Slow Street Program - to reopen the economy.

Research

Action Outline



QUESTION

Our Primary Question

" What Makes a Good Mini-plaza? "

RESEARCH → ANALYSIS → CONCLUSION

Descriptive:

a. What physical characters affect people's use of Streetside Mini-plazas within Duboce Triangle?

b. Who uses them? When? Why?

c. How are people satisfied with current Mini-plazas?

Analytical

a. Why do those physical characters affect people's use of Streetside Mini-plazas?

b. Which physical characteristics have more impact on people's choices?

Projective

a. What can we do to improve streetside mini-plazas on slow streets in the future?

b. How might the neighborhood want to build new ones?

We divide our primary question into 3 parts which indicate what we should focus in different phases:

HYPOTHSIS

1. High traffic load would discourage people to stay in mini-plazas.
2. Mini-plazas with more trees would have more people to visit and stay.
3. Street Furnitures (like benches) can attract people to stay and make them more satisfied.
4. A good layout of street furnitures may encourage more activities in the streetside mini-plazas and increase using frequency and promote satisfaction degree.

VARIABLES

INDEPENDENT VARIBLES **X** DEPENDENT VARIBLES

Field Notes & Typo-morphology

Traffic Load
the volume of vehicles passing in a certain duration *(data from group 3)*

Vegetation coverage
the number of trees and shrubs and the size of shades they provide

Street furniture
the number of trees and shrubs and the size of shades they provide

Layout
the arrangement of the plaza, locate benches, street lights, trash bins...

Stay Ratio = number of people who (sit & stand) / total number of visitors (sit, stand, pass by) — Observation

Visit Frequency — how often do people use the specific mini-plazas according to their own judgement — Survey

SITE SELECTION

We chose about 7 streetside Mini-plazas in Noe Street and 5 sites in Sanchez Street for initial observation. The sites are classified into four types based on traffic, amenity, and vegetation condition.

Type 1

Low Traffic Load
High Amenity Coverage
High Vegetation Level



Type 2

Low Traffic Load
Low Amenity Coverage
High Vegetation Level

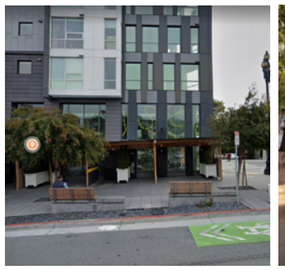


Type 3

Low Traffic Load
Low Amenity Coverage
Low Vegetation Level

Type 4

High Traffic Load
Medium Amenity Coverage
Medium Vegetation Level


Type 5

High Traffic Load
Low Amenity Coverage
Low Vegetation Level

Type 6

High Traffic Load
High Amenity Coverage
High Vegetation Level

After initial observation and interview on the 12 orginally chosen sites, 6 sites from different categories are selected for further research.

Site A - Intersect of 14th Street

Site B - Intersect of Henry Street

Site C - L'Ardoise Bistro

Site D - Guy's Flower

Site E - S & A Liquors

Site F - 41&43 Sanchez St

METHODOLOGY

Secondary data: historical document, FACE Program archive, …

Interviews: before the formal research, talk to the residents there ask them about the favorite public spaces there with a series of questions

Mapping: launch a pin-up game on the Block Party

Survey: questionnaires online and on-site.

Photograph and field notes: take notes about the physical features when observation

Typo-Morphological Analysis: to quantify or rephrase the field notes into more visual and direct images for further analysis

Observation: people's identity and activities in streetside sitting spaces.

Data Collection

ARCHIEVE

We found lots of historical materials to find out what was the initial purpose of placing these mini-plazas:

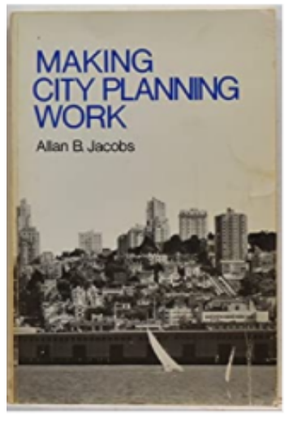
The 'Streetside Mini-Plazas' was placed in the 1970s under the FACE program. Under FACE program, the city invests in the area's environment with beautification and street projects, such as tree planting, burial of utility wires, increased parking space, street repaving and similar improvements.

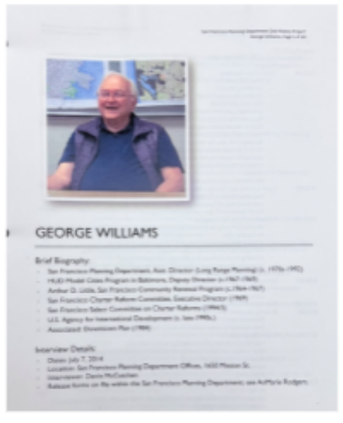
The city invests in the area's environment with beautification and street projects. With funding from the FACE Program, DTNA worked with neighbors and the City to remake Noe Street by undergrounding utility lines, building corner bulb-outs with "parklets," planting trees, implementing angled parking, and developing traffic islands at Beaver, 14th, and Duboce.

From the 1970s to now, the condition of the sites have changes a lot. In Site A(shown in Figures below), only one big tree survived, others died; planters substituted previous tree pool; Formal benches were added.

FACE(Federally Assisted Code Enforcement) program was established in the 1970s to prevent slums in San Francisco.

*See more in appendix - a1





INTERVIEWS

We did two round of interviews with 20 residents. In the first round, the interview is open ended and we used the information to help us chose specific sites for further research. After site selection, we did some specific interview questions about how the physical characters of the sites influences people's use of the space.

Takeaway

*See more in appendix - a2

1 LOCATION

The distance from the site to their home is the main factor influencing the use of the space.

2 VEGETATION

Places with little trees or only with big trees do not attract people to stay.

Planters provide the feeling of enclosure, and slow pedestrians down.

3 AMENITY

More vegetation and wood benches in Sanchez Street are needed.

4 LAYOUT

There may need some facilities that can be used with the seating. For instance, people like to come here to sit, read, or chat with friends, but seating is arranged facing planters or at the boundary of the space.

The arrangement of the seatings can not fulfill people's purpose of gathering; the distance between the concrete seating is far, and people usually do not use them as a sitting bench.

MAPPING: PIN-UP

Compared to a tedious interview or a long-listed survey, we constructed the general impression on public spaces in Duboce Triangle in an easier and more interesting way - a tangible pin-up board - to get residents involved in the on-site assessment and start short and informal conversations as more as possible.

So during their pinning up, we would ask why they choose these spots and what they love or hate about them.

Takeaway

*See more in appendix - a4

People complained about the bad traffic in the intersect between Noe Street and !4th Street, though they also visit the mini-plazas around the intersect very often.

Duboce Park is a big spot around this area and attracts more people to visit compared with the mini-plazas in Duboce Triangle.

Reliability: We conducted this pin-up during the Block Party, which was held in the intersect between 14th Street and Neo Street, so people may have more potential to pin up on this site. Meantime, our printed range of the map would influence their choices as well. Additionally, during the pin-up, we found people usually have great sentiments on their neighborhood, which would also lead to bias and exaggerate the fact.

PHOTOGRAPH AND FIELD NOTES

*See more in appendix - a6

Photograph is used to record the physical features and people's behavior for intuitive analysis.

Field notes and drawings are used to measure the elements on sites and wrote down basic character of the users when observation.

TYPO-MORPHOLOGICAL ANALYSIS

According to our hypothesis and variables, we drew precise plan of each mini-plaza and combined the field notes to analyze it by quantitative research.

DIMENSION — Area, Shape

TRAFFIC — location

AMENITIES — street furnitures, vegetation

LAYOUTS — figure-gound, coverage ratio

Takeaway

1. The sites' dimensions are as big as 2191 sqft and small as 330 sqft.

2. Since all the sites are along the street, they tend to form in a rectangular shape.

3. All the sites developed some concrete bollards back in the 1970s, and some of the sites have some wooden benches.

4. Some of the sites have trees and vegetation, which forms a good amount of shade.

5. All the sites have different layouts and have different amenity coverage ratios.

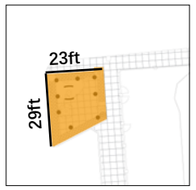
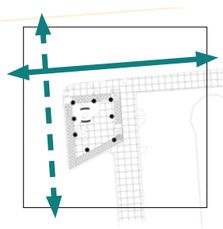
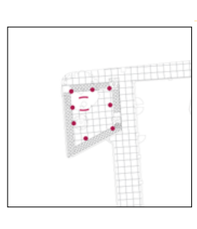
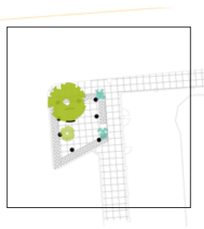
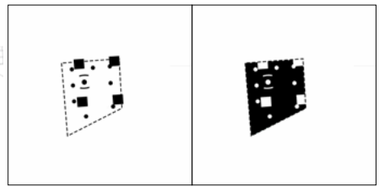
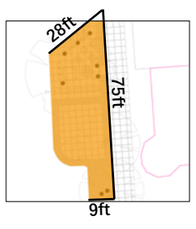
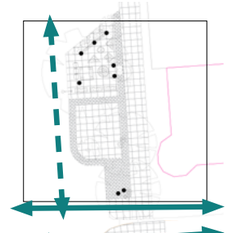
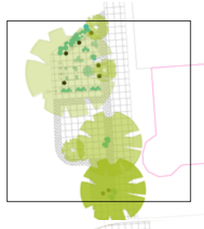
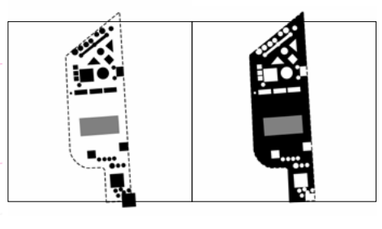
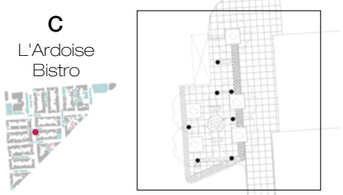
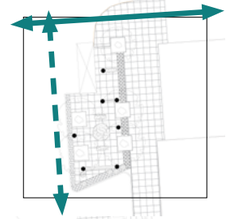
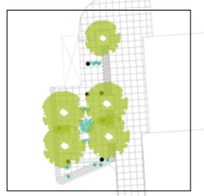
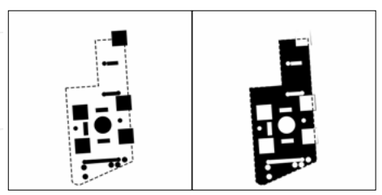
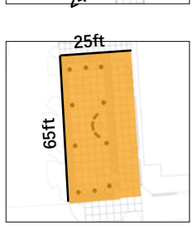
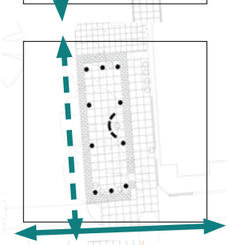
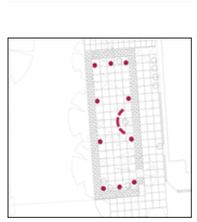
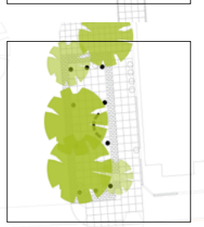
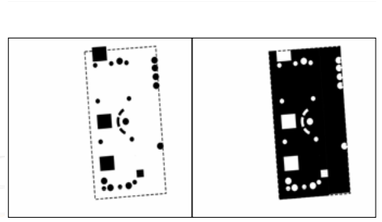
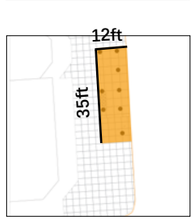
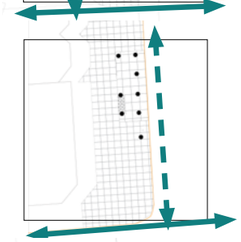
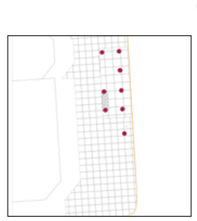
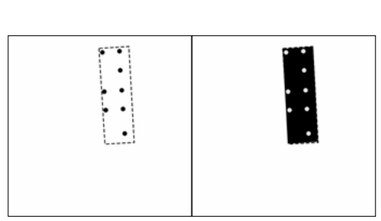
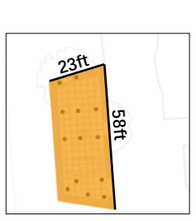
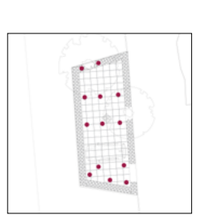
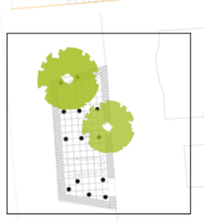
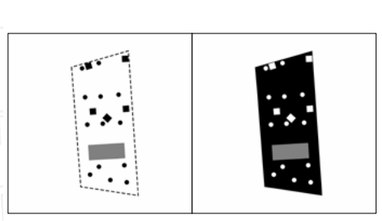
OBSERVATION

We total went to those six sites three times separately for observation during noon and dinner time on one of the weekdays and weekends. I stayed for 15 minutes every time for each site to observe people's activities around the small gathering spaces.

Validity: Even though we went at the peak times of days, but we did not find numerous users using the sites, which might have some inaccuracy if we just rely on the obseravtion data.

Takeaway

1. There tend to be more people using the wood benches instead of the concrete stones.
2. There are more people use the sites duirng the day time instead of night time.
3. Based on my observation, people like to seat under the shades.
4. In general, there aren't numerous people use the small gathering space; however, I saw a few users that actively use one of the sites.

SELECTED SUBJECTS		DIMENSION		TRAFFIC	AMENITIES		LAYOUTS		
	plan	Area	Shape	location	street furnitures	vegetation	figure-gound		coverage ratio
							figure	ground	
A Intersect of 14th Street		546 sqft							15.8% 84.2%
B Intersect of Henry Street		1326 sqft							27.3% 72.7%
C L'Ardoise Bistro		1100 sqft							29.3% 70.3%
D Guy's Flower		2191 sqft							11.8% 88.2%
E S & A Liquors		330 sqft							18.5% 81.5%
F 41&43 Sanchez St		1172							5.7% 94.3%

OBSERVATION

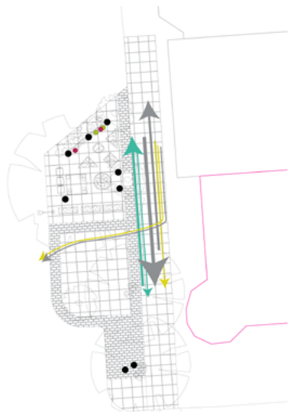
A
Intersect of 14th Street

This is a mixed use spot that people read, sit, and chat with friends.

Go Through	4
Pass By	3
Sitting	3
Standing	3

B
Intersect of Henry Street

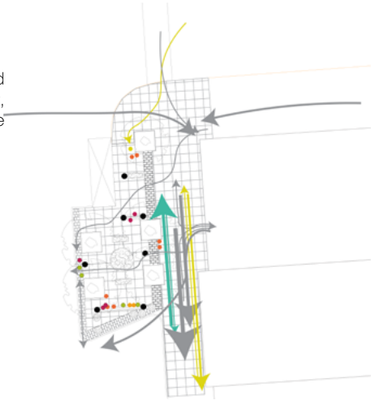
This is the spot that are more enclosed and surrounded by vegetation, so I observed some users like to sit and enjoy their reading in this spot.



Go Through	2
Pass By	5
Sitting	4
Standing	0

C
L'Ardoise Bistro

Since there is a restaurant and some condos next to this spot, there are more users and people who walk by this spot.

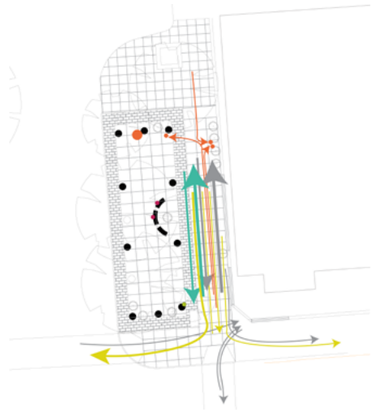


Go Through	4
Pass By	19
Sitting	10
Standing	7

- Resting
- Chatting
- Reading
- Dog walkers
- playing phone
- Exercise

D
Guy's Flower

There are numerous people walk by this spot since it is just one block away from the market street.



Go Through	1
Pass By	9
Sitting	3
Standing	2

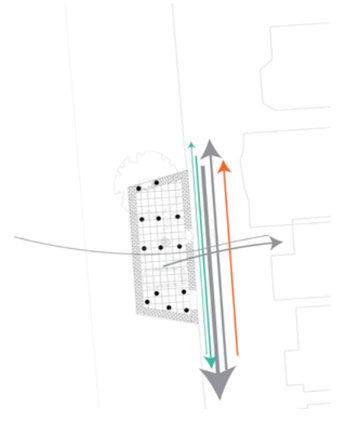
E
S & A
Liquors

Since there is a small market in front of the spot, I observed several users walk through the spot.

Go Through	3
Pass By	9
Sitting	1
Standing	2

F
41&43
Sanchez St

Since are no shades and parking in between the spot, I do not see anyone use this spot.



Go Through	3
Pass By	5
Sitting	0
Standing	0

SURVEY

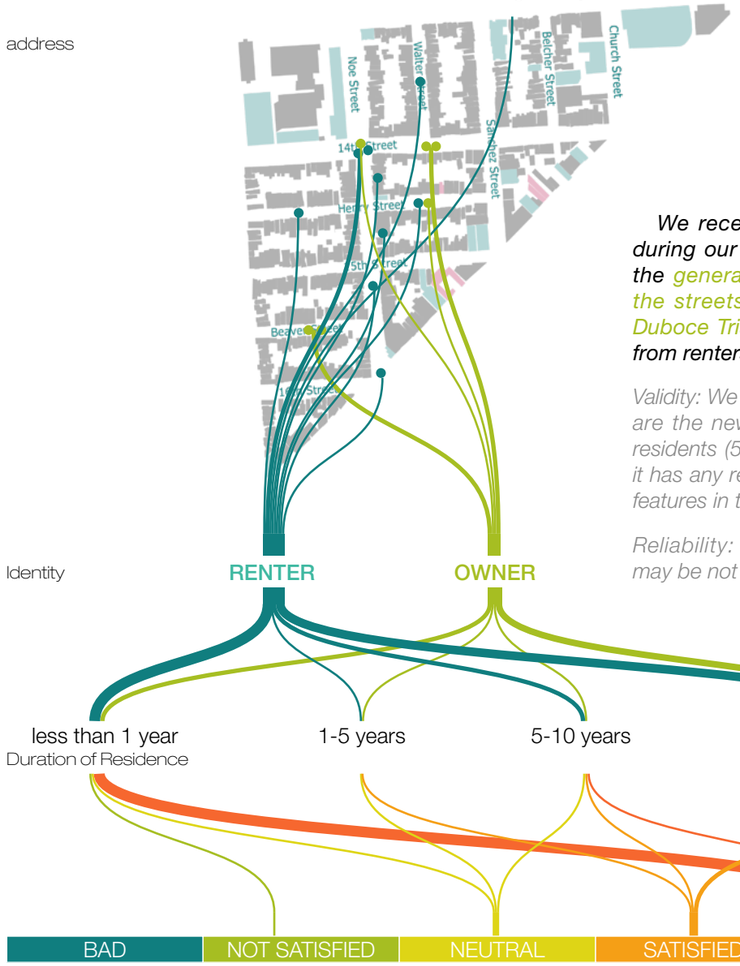
We created an online survey and used it to gather data in the block part in Noe Street and every time we went to do field trips.

We let people choose which sites they like and try to find out which sites are more attractive to people; people's preference of the amenities and the degree of satisfaction of the sites. We conducted 2 rounds and received 57 responses in total.

Reliability: 1/3 of the data are gathered in the block party in Noe Street, which may impact on people's choice of the sites.

General satisfaction degree

Takeaway Generally, we find the majority (68%) thinks highly of the streetside sitting space in the Duboce Triangle with 8 out of 19 very satisfied). Only one person feels not satisfied. The longer they live here, the more satisfied they feel.



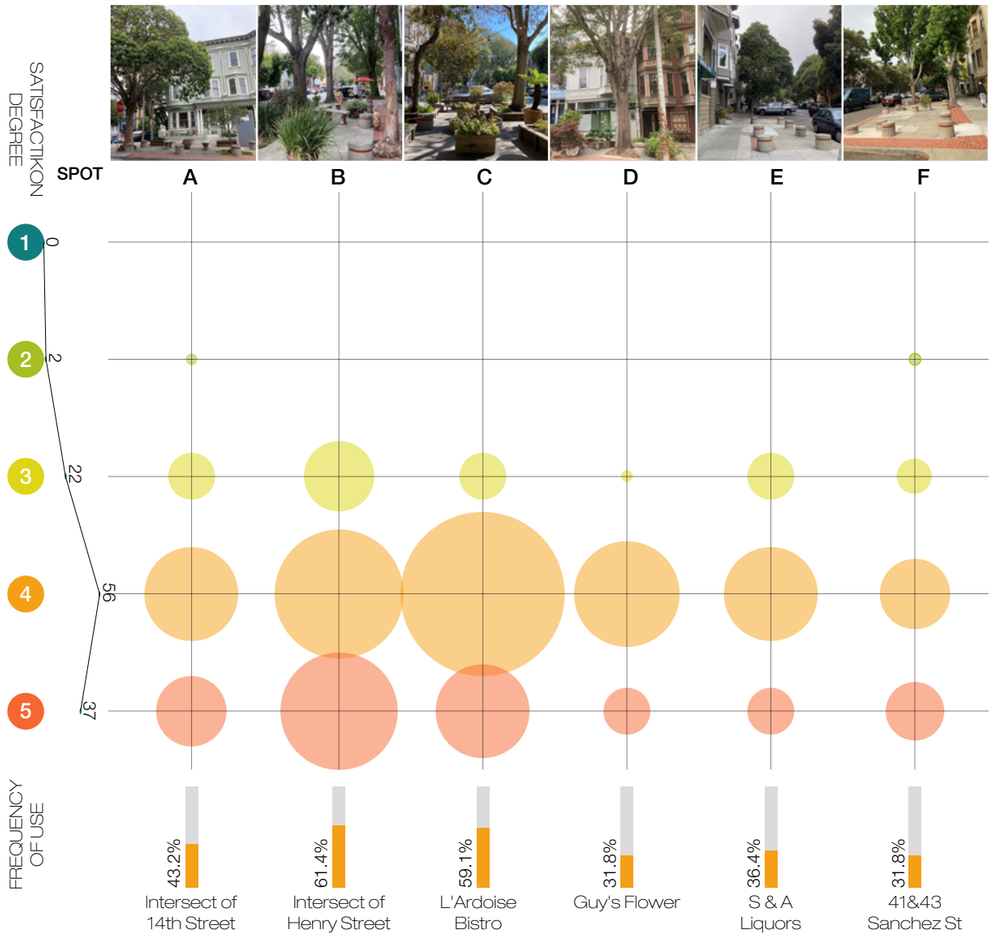
*See more in appendix - a3

We received 19 valid responses during our first-round survey about the general satisfactory degree on the streetside sitting space in the Duboce Triangle, with 12 responses from renters and 7 from owners.

Validity: We find most of the responses are the newcomers (7) or long-time residents (5), but it is unclear whether it has any relation to the demographic features in the Duboce Triangle or not.

Reliability: The number of samples may be not enough to summary.

On-site satisfaction degree & Use Frequency



After the first round, we revised our questions and conducted another two rounds to see the frequency of use and satisfaction degree on 6 selected streetside seating spaces in a wider range of groups - both insiders and outsiders - with 44 responses in total (29, 10 and 18 from renters, owners and visitors respectively).

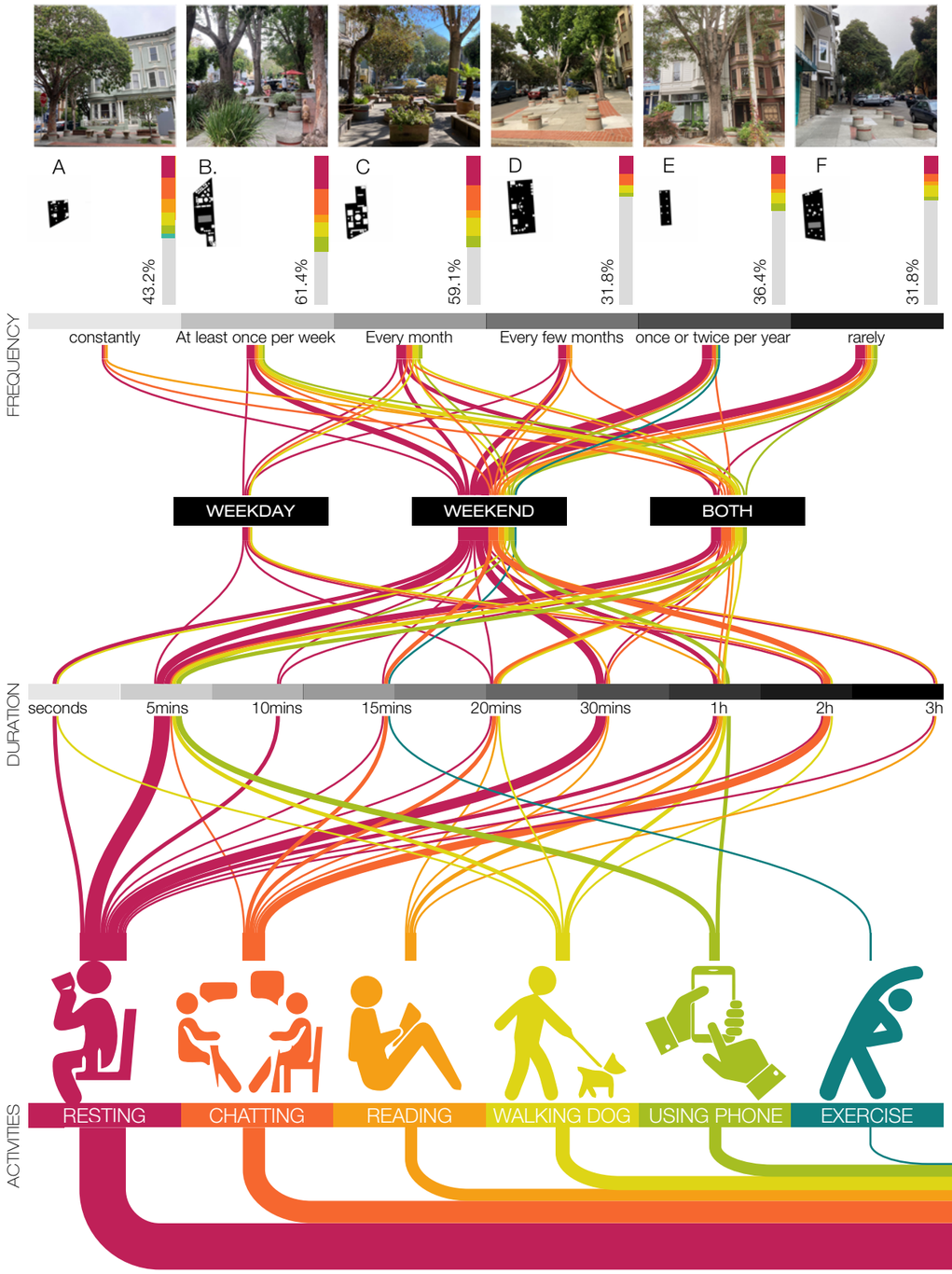
Basically, the satisfaction degree of each spot corresponds with the former result, but the proportion of very-satisfied people is lower. Combined with the PIN-UP map, we speculate that is because Duboce Park improves residents' living experiences so that they tend to rate higher in general.

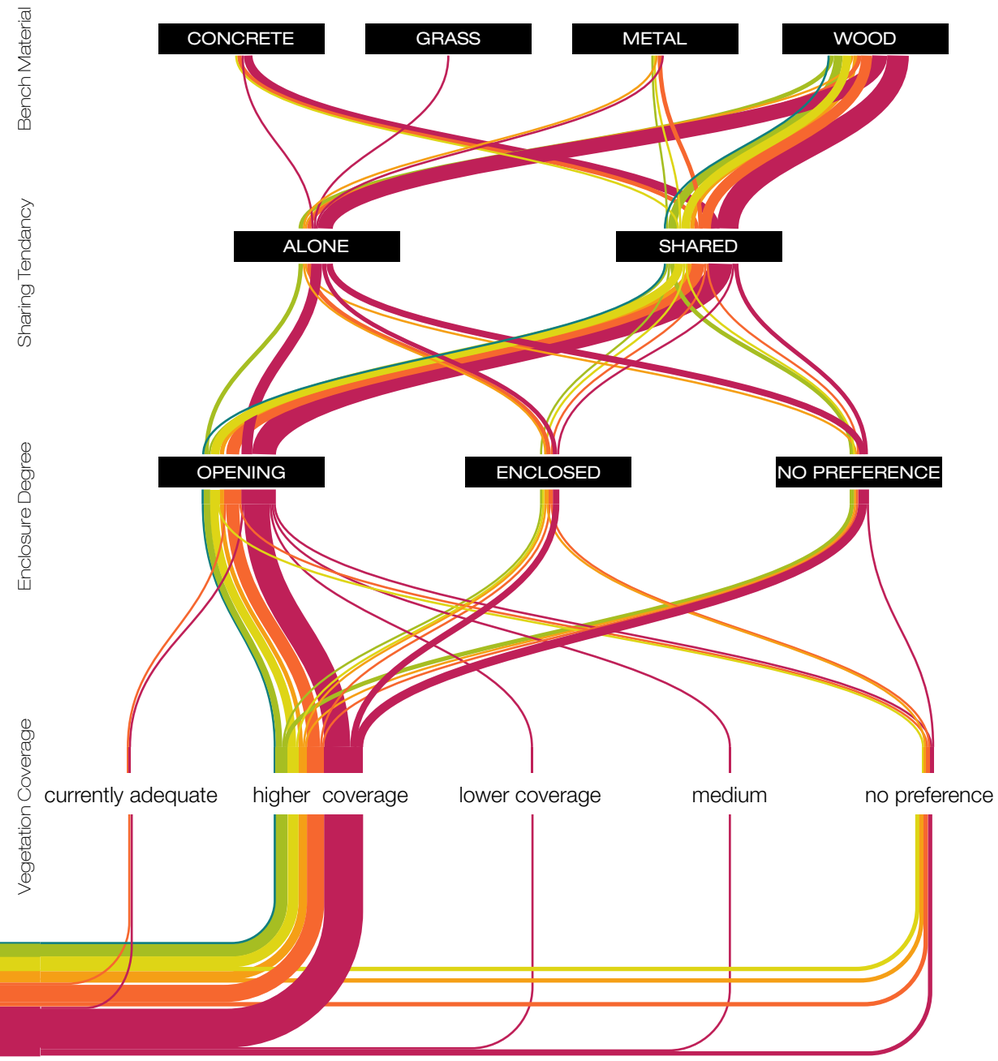
Takeaway

*See more in appendix - a3

In addition, here is no clear relation between the frequency of use and satisfaction drgee among those spaces, so we set more questions to analyze the using habits and preferences.

On-site satisfaction degree & Use Frequency





Takeaway

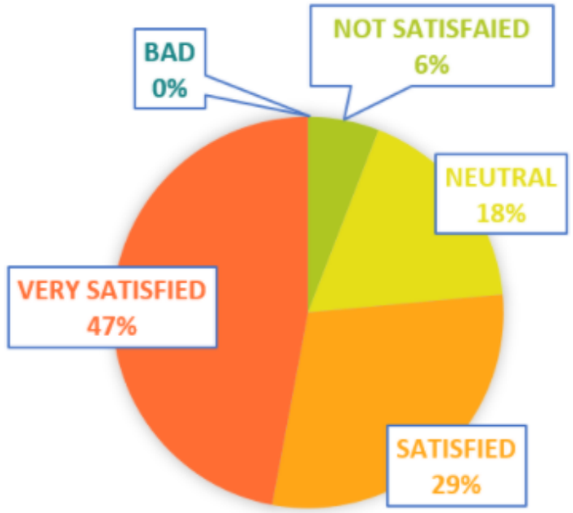
1. L'Ardoise Bistro used the most out of the six sites that we chose.
2. Half of the participants rarely use the sites.
3. People prefer to stay in a higher vegetation coverage site.
4. People tend to stay in an open space instead of an enclosed space.
5. People prefer to sit on wood benches out of other materials.
6. Majority think the mini-plazas are welcoming and friendly to use.

*See more in appendix - a3

Key Findings

GENERAL SATISFACTION DEGREE

The majority of people think positively towards public spaces in Duboce Triangle, with nearly half of whom are very satisfied with the surrounding.



RESIDENTS' PREFERENCE ON SITTING SPACES

93% 7%
HIGH VEGETATION COVERAGE | LOW

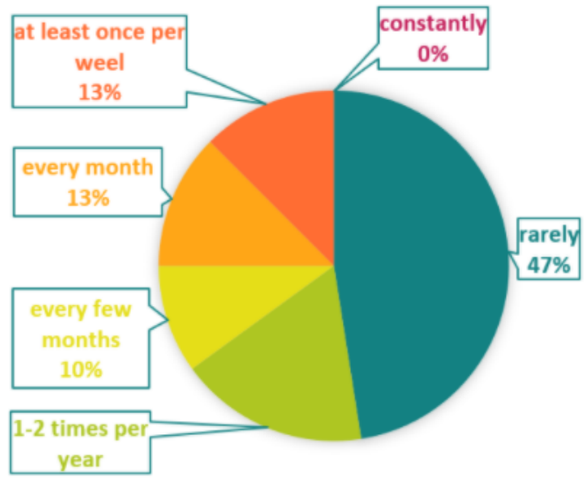
65% 35%
SHARE | STAY ALONE

75% 12%
OPEN | ENCLOSED

72% 15%
WOOD | CONCRETE
Seating Material

GENERAL VISIT FREQUENCY

48% rarely visit these mini-plazas



ACTIVITIES THAT MOST HAPPEN IN MINI-PLAZAS

Key Findings

ON-SITE

	Intersect of 14th Street	Intersect of Henry Street	L'Ardoise Bistro	Guy's Flower	S & A Liquors	41&43 Sanchez St
Traffic Condition	High	Low	Low	Below Medium	High	Medium
Amenity Coverage	Medium	High	High	Below Medium	Medium	Low
Vegetation	Medium	High	High	High	Very Low	Low
Population Quantity	Over Medium	Low	High	Medium	Below Medium	Low
Stay Ratio *(from observation)*	Below Medium	High	High	Over Medium	Medium	Low
Frequency *(from survey)*	Over Medium	High	High	Below Medium	Medium	Below Medium

1 TRAFFIC

There is no Strong Correlation between traffic condition and either stay-pass ratio and use frequency. But some people indicated during interview that they prefer a quiet place.

2 AMENITY

We did find a Strong Positive Correlation between Amenity Coverage (mainly the seats) with the people's willingness to stay.

3 LAYOUT

Also, during the interview, we found detailed design of amenities (like benches) matters; different activities prefer different layouts of amenity, which can guide the further re-arrangement of street furniture.

4 VEGETATION

As for the vegetation coverage, it corresponds with the stay-pass ratio, and we found many initiatives from residents in both the field notes and interviews. Like maintain the shrubs or just leave a beautiful flower along the street.

Have you used any other spaces like this? / Do you prefer to use these spaces in the intersections or in the middle of the block?

I only used the places in the Noe Street, because they are near my home.

I guess the spaces that are far from the Market Street may have less people using it.

I like to stay in the space where I can meet my neighbors. This intersection is noisy. Accidents sometimes happen. I'd prefer a quiet space.

What material do you prefer for the seating? / Do you have any preference for the arrangement of the benches?

I do not mind the material of it. But I would like the benches to have a backrest.

For a group of people arranging them in a semi-circle may be good. But for me I do not have a preference.

What material do you prefer for the seating? / Do you have any preference for the arrangement of the benches?

The trees have been plants for many years and I like the big trees. The planters or small vegetation sometimes are stolen by people. So, they are glued in the ground. Also, the leaves fall down in all seasons, so cleaning and managing the space is important.

Here isn't that much trees and plantings, it is not like the Noe Street. That street is better. We want more trees here.

One of my friend planted these trees many years ago. But many trees are died because of drought. They put planters instead, it's good.

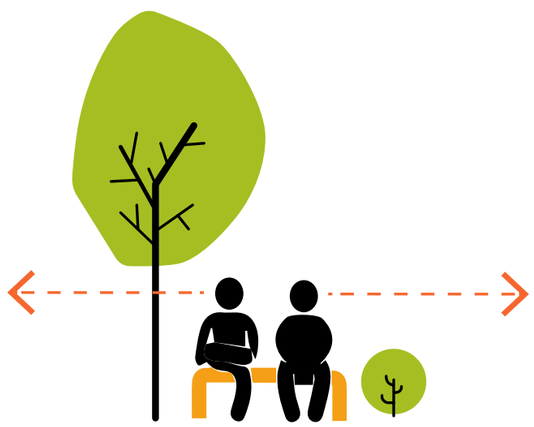
PRINCIPLES FOR A GOOD MINI-PLAZA

To sum up, we can easily say that more trees and more seats mean more people, but to make better mini-plazas, we believe fitness, accessibility, and a welcome attitude are necessary.

1 Green
Less air pollution
Less noise
HEALTHY
High Vegetation Coverage
Traffic Calm
Shading

2 Eye and Body
ACCESSIBLE
Reasonable Height of Plants' Crown
Few Obstacles & Flat Surfaces

3 Convenience
Cleanness
WELCOME
Well Laid Out Amenity
Well - Maintained



The first thing is to slow traffic and provide more trees so that people can be closer to nature with less air pollution and noise.

Secondly, the eye contact with each other when passing by and the easy access to the mini-plazas are important to get people involved. So reasonable height of the plants' crown and few obstacles with flat surfaces are necessary.

Last but not least, to arrange street furniture wisely and maintain the plazas well can show more welcome impression which encourages people to stay.

GENERAL RECOMMENDATION

1. **Traffic signs & Speed humps** in the intersections of roads (especially of the 14th & 15th street)
2. **Flatten surface and clear barriers** on the sidewalk
3. A **guideline** on tree height & seat arrangement based on activities
4. A tactical & **participatory** framework for residents to involve

ON-SITE SUGGESTION

2

Parking Configurations On Traffic Calming & the Public Realm

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Our vision is on Walkability and Mobility. Our research question is “Which parking configuration yields desirable conditions for traffic calming and the public realm?” Parking configuration (parallel, angled, perpendicular) being our independent variable, we will measure through a series of methods to conclude if in fact parking orientation affects traffic calming and the public realm. Our field work focus will be predominantly on Sanchez and five intersections that were deemed high traffic zones. (Noe/14th, Sanchez/Duboce, Sanchez/Henry, Sanchez/14th, Castro/16th)

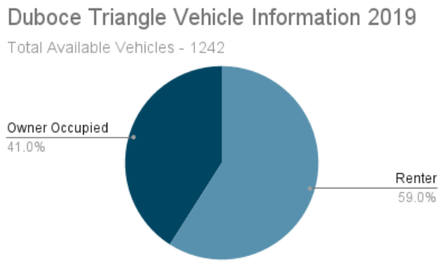
IN THIS CHAPTER

Background

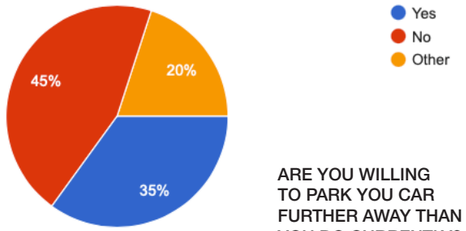
During the pandemic, three blocks of Noe Street between Beaver and 15th Street were turned into a Slow Street which provided valuable feedback and sparked the vision to make the Duboce Triangle a Slow Triangle.

Based on the Slow Triangle vision that the DTNA provided us, it is vital to incorporate walkability, protecting cyclists, activate the public realm and the redesign of streetscape, etc.

Why parking configurations ?



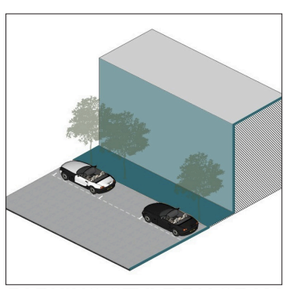
SOURCE: CENSUS.GOV - TABLE B25046 AGGREGATE NUMBER OF VEHICLES AVAILABLE BY TENURE



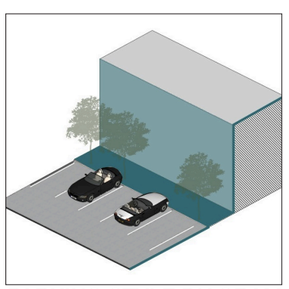
ARE YOU WILLING TO PARK YOU CAR FURTHER AWAY THAN YOU DO CURRENTLY?

From the census data, we found out that owner occupied available vehicles 41% and renter available vehicles 59%. Our preliminary survey conducted at the Block Party showed 45% of 20 respondants stated they are not willing to park their car further away then they currently do; meaning, the needs of vehicle ownership still holds a important factor in the Duboce Triangle, based on balancing the same needs of access to residents, the realm of cars would be the tipping point of incorporating into a slow triangle.

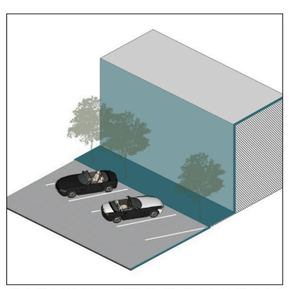
Parking configuration is the main buffer between the sidewalk and traffic it influences how pedestrians use the public realm. The public realm consists both the sidewalk and the street, shaping the public realm means more comfortable for pedestrian users.



PARKING STYLE DIAGRAM
PARALLEL



PARKING STYLE DIAGRAM
PERPINDICULAR



PARKING STYLE DIAGRAM
ANGLE

Why is streetside gathering space important?

Through this data we gain a better understanding of the municipality design and see the way people store their vehicles based on street width, traffic speed and topograpghy.

Verticle
Angled
Perpendicular

PARKING CONFIGURATION MAP

Total Parking #:

1149

Sanchez Parking #s:

110

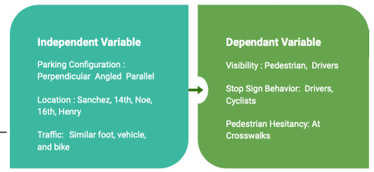
50 - 80
30 - 49
20 - 29
0 - 19

PARKING COUNT MAP

Research

In drafting our Research Question and Hypothesis, we first asked ourselves, "what is the role of the car in Duboce Triangle?" And then analytically asked, "Does the community want the Duboce Triangle to be a parking lot (car storage soley) or do they want to find ways to incorporate cars with the public realm?" We concluded with the research question: Do diffrent parking configurations yield diffrent public realm and traffic conditions? With this question and findings we hope to open the idea of parking and parking styles as a way of creating an equitable public realm.

In order to proove our hypothesis (below), we constructed a series of methodologies to support our observations. (Observations being: Stop Sign Behavior, J-Walking Behavior, and Pedestrian Hesitancy). First, what are our Independant (IV) and Dependant Variables (DV)? IV are as follows: Parking Configurations, Location, and Traffic; DV are as follows: Visibility, Stop Sign Behavior, J-Walking Behavior and Pedestrian Hesitancy.



Executive Outline

Our Methodology included: Video documentation, Photography analysis (Photo Coding), Field notes, Mapping and Surveys/Interviews. Over the time span of three months we did five site visits:

QUESTION

1. Descriptive:

What is the role of the car?

Does the community want the Duboce Triangle to be a parking lot (car storage soley) or find ways to incorporate cars with the public realm?

Based on how cars are used and stored in the triangle and how it affects the pedestrian movement.

the triangle and how it affects the pedestrian movement.

2. Analytical

How both car storage and movement affect the experience of the public realm?

Is the phenomena initiated by cars friendly for all users on the street?

Does the continuity of the public realm has a role to play that can be traffic calming?

3. Projective

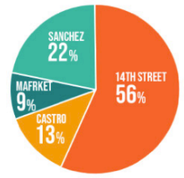
Do different parking configurations yield different public realm and traffic conditions?

How are the relations between perspectives of street users (i.e. pedestrians, cyclists, drivers), is there a balanced way of calming each realm?

1. Different parking configurations yields different public realm and traffic conditions.
2. Parallel parking will yield a higher J-Walking count by being more visible.
3. Parallel parking yields a lower Pedestrian Hesitancy count, creating easier crosswalking experiences.
4. Parallel parking yields lower Stop Sign passing for both cars and bikes.
5. Parallel parking increases visibility for all parties.

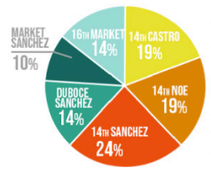
SITE SELECTION

WHICH STREET INSIDE DUBOCE TRIANGLE DO YOU FIND HAS THE BUSIEST VEHICULAR TRAFFIC?

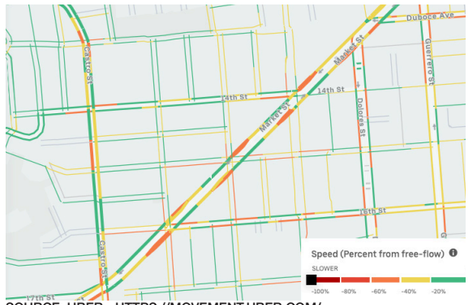


Derived from the Block Party initial survey, we found out that 14th, Sanches and Castro were the busiest streets in Duboce Triangle. We concluded our site determination based on Site Visits, overlain with Block Party survey results and 2020 uber data. The following 5 sites were chosen as shown in the map below:

WHICH JUNCTION INSIDE DUBOCE TRIANGLE DO YOU FIND HAS THE BUSIEST VEHICULAR TRAFFIC?



UBER DATA
DATE RANGE: 1/2020 - 3/2020



SOURCE: UBER - HTTPS://MOVEMENT.UBER.COM/EXPLORE/SAN_FRANCISCO/SPEEDS/QUERY?DT[TPB]=ALL_DAY&DT[WD;]=1,2,3,4,5,6,7&DT[DR][SD]=2020-01-01&DT[DR][ED]=2020-03-31&FF=&Z.=15&LAT.=37.7668897&LNG.=-122.4346289&LANG=EN-US

A. Noe / 14th

B. Sanchez / Henry

C. Sanchez / 14th

D. Sanchez / Duboce

E. Castro / 16th

SITE SELECTION MAP

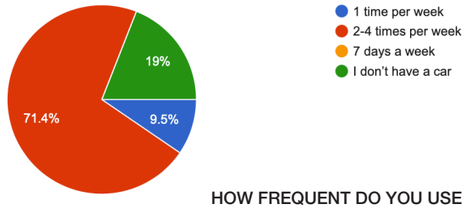
Key Findings

Data Collection

Our data collection consisted of interview, survey, photography documentation, field notes, mapping and coding. As shown in the timeline previously, this data was collected over the span of 3 months.

INTERVIEW

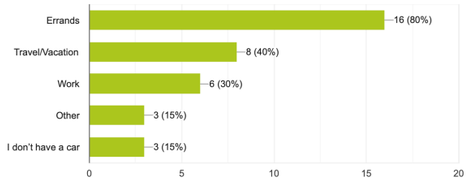
In total, the team held 30 interviews. These interviews helped us gain a better understading of what the community wants and is willing to change. Especially historical context, this helped us understand that the layout of the community has definetly changed over the years.



HOW FREQUENT DO YOU USE YOUR CAR?

SURVEY

The Survey was conducted of the residents of Duboce triangle to understand the importance of cars in their everyday life. The majority of the people use the car 2-4 times a week for everyday errands. Even though the Duboce is a walkable neighbourhood, people feel safer and comfortable using their cars.



WHAT DO YOU USE YOUR CAR FOR? PLEASE CHOOSE ALL THAT APPLY TO YOU.

PHOTOGRAPHY

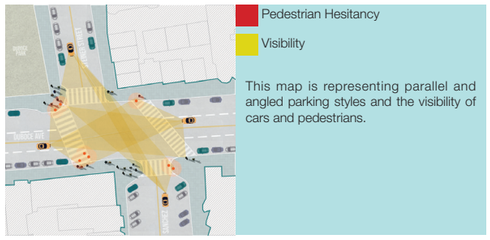
Based on the sites we chosen, the photographs taken are the documentations of the driver's perspective when approaching intersections. The constant finding is how cars are blocking the intersection of pedestrian crossing The object highlighted in orange is showing the cars perspective of what is blocking their viewpoint. The initial finding from this drive through is angled parking seems to be causing more visibility issues than parallel parking.

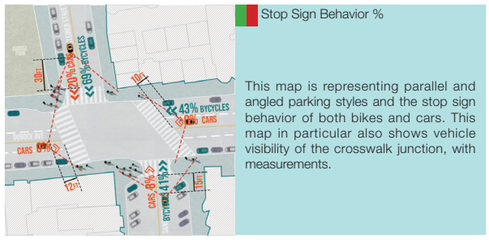
Please refer to the appendix for the images taken at diffrent times of the day.

MAPPING

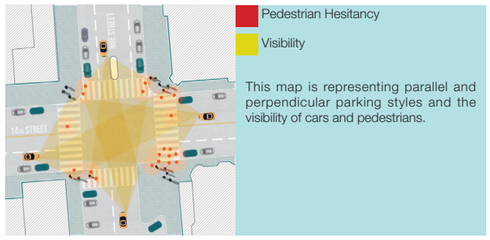
In conjunction with the car photography documentation, we took detailed field notes of each site. Each intersection we documented Car, Bike, Pedestrian total counts, stop sign behavior, pedestrian hesitancy Visibility and the combined findings. "Stop Sign behavior" means a car or bike passing the stop sign without stopping. "Pedestrain Hesitancy" means when a pedestrian halts while crossing the street due to a car or bike not stopping completley. The maps below showcases the combined data as well as its orientation to the diffrent parking styles. For the raw data of how we came to these percentages please refer to the Appendix.

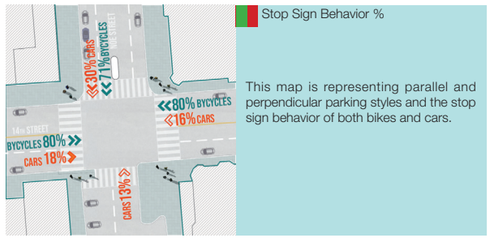
Duboce Avenue/ Sanchez Street



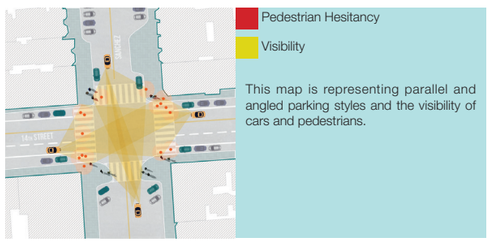


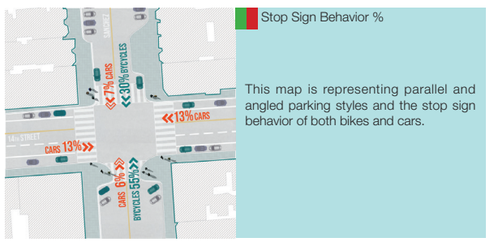
14th Street/ Noe Street



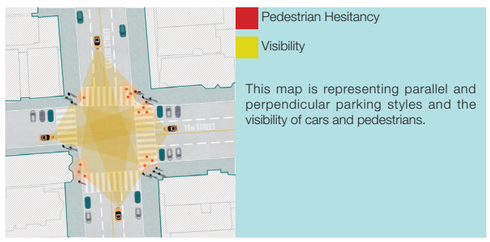


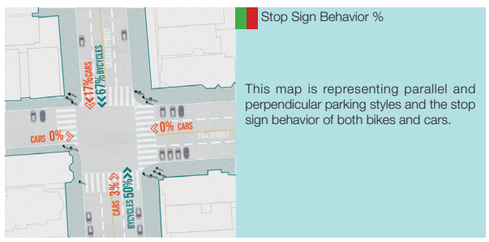
14th Street/ Sanchez Street





16th Street/ Castro Street



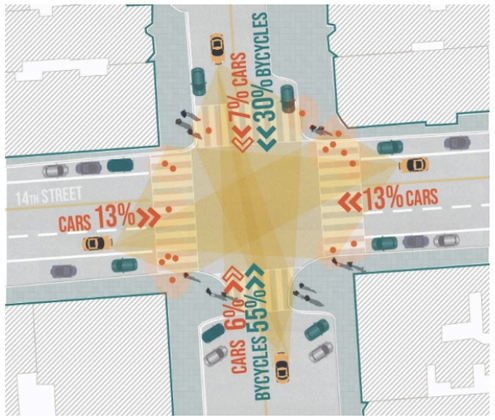


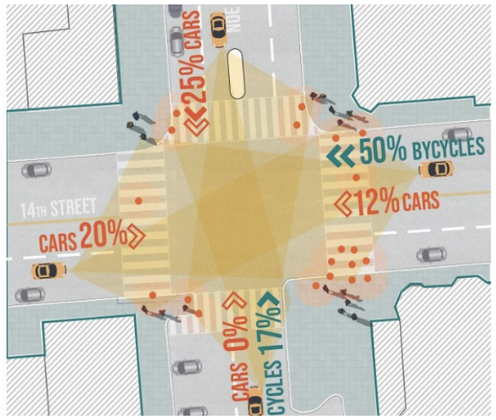
General Assessment

Qucik take aways: Pedestrian corssings with parallel parking, caused more pedestrian hesitancy.Perpendicular and angled parkings are associated with bulbout designs in the Duboce Triangle, hence it's better visibility. 11% of bikes, 5% of cars did not stop at the stop sign there is perpendicular parking. 45% of bikes, 8% of cars did not stop at the stop sign there is angled parking. 31%of bikes, 12% of cars did not stop at the stop sign there is parallel parking.

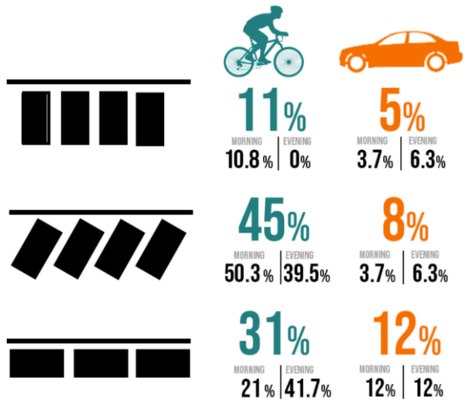
OVERALL STATSTICS

Stop Sign Behavior overlap/ Visibility





VEHICLE VISIBILITY ZONE
PEDESTRIAN HESITENCY SPOT
% CARS SKIPPING STOP SIGN
% BIKES SKIPPING STOP SIGN



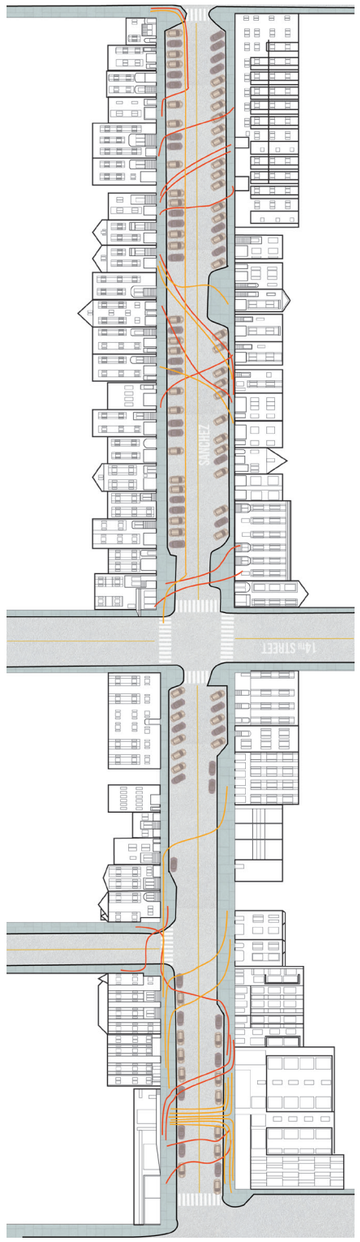
This visual is an overlapping of car and bike passing the stop sign ratios; vehicle visibility and a culmination of the points where pedestrians hesitated.

So visibility is the key issue when it comes to causing vehicles to run through stop sign and ultimately causing pedestrians to hesitate when crossing the street.

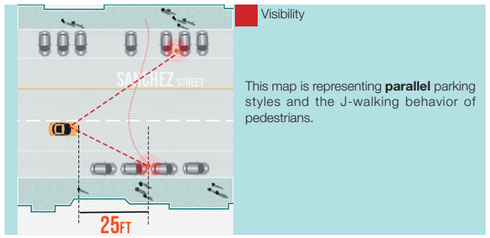
All of the mapped hesitancy falls in the views that drivers are not able to visually see pedestrians

MAPPING

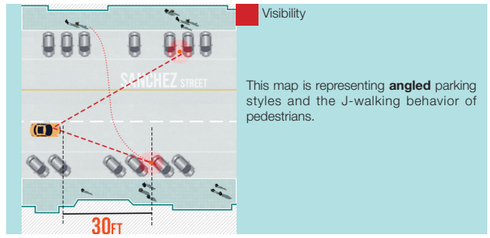
Based on the differnt parking configurations, we divided the street into three sections in order to derive any patterns of people jaywalking. We counted the site in the morning and in the evening, red being the evening and orange being the morning. The data below shows the total pedestrian count divided by the number of J-walkers to get a perventage of J-walkers per parking orientation.



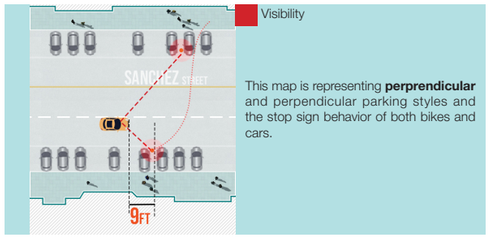
Sanchez Street



This map is representing **parallel** parking styles and the J-walking behavior of pedestrians.



This map is representing **angled** parking styles and the J-walking behavior of pedestrians.



This map is representing **perpendicular** and perpendicular parking styles and the stop sign behavior of both bikes and cars.

Based on the differnt parking configurations, the vehicle needs a minimum of 25ft of visual clearance to see a pedestrian J-waling from a parallel parked car, 30ft for a angled parked car and 9ft for perdpedicularlly parked car.

LEGEND:
Evening Count
Morning Count

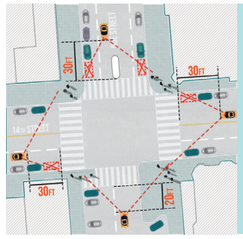
BASED ON PEDESTRIAN HESITANCY & STOP SIGN BEHAVIOR FINDINGS

Parking Stalls Emilination Proposal

Duboce Avenue/ Sanchez Street

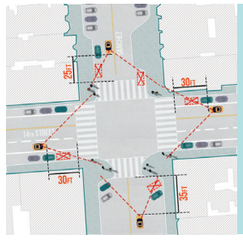
Eliminate 2 parking stalls in order to increase adequate visibility of pedestrains for vehicles.

14th Street/ Noe Street



Eliminate 4 parking stalls in order to increase adequate visibility of pedestrains for vehicles.

14th Street/ Sanchez Street



Eliminate 5 parking stalls in order to increase adequate visibility of pedestrains for vehicles.

16th Street/ Castro Street

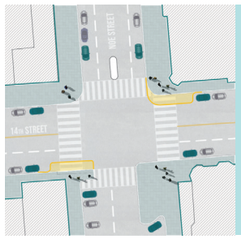
Eliminate 4 parking stalls in order to increase adequate visibility of pedestrains for vehicles.

Bulbout Proposal

Duboce Avenue/ Sanchez Street

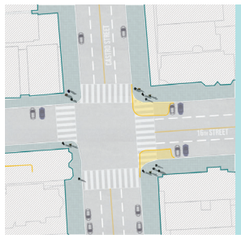
As part of the FACE Program this intersection already has bublouts.

14th Street/ Noe Street



14th Street/ Sanchez Street

16th Street/ Castro Street

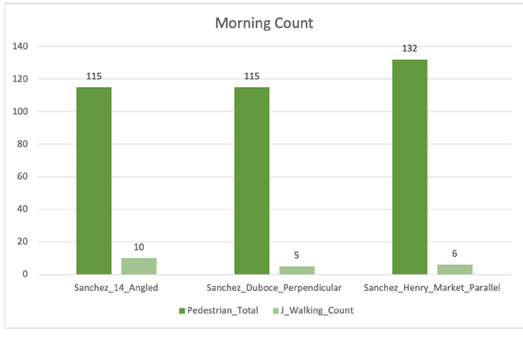


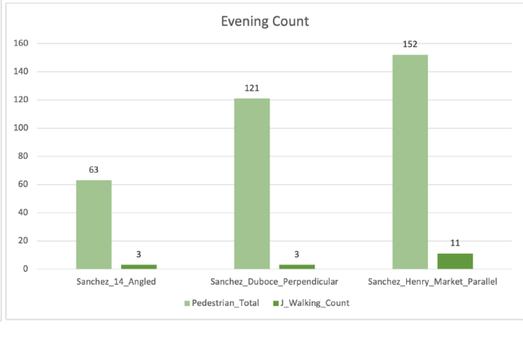
With the elimination of parking stalls this increases open space to give back to the public realm. The bulbout design can incorporate the findings of our teammembers who looked to see how to activate open spaces. Or a simple paint job as a temporary fix until funds become available.

General Assessment

Qucik take aways: Based on current conditions on Sanchez, no changes to parking orientation are being proposed. Parking orientation on 14th would be a good candidate for parking orientation change, from parallel to angled. The information below shows the raw data for the J-Walking counts for the morning and evening. The graphic on the bottom right showcases the date in a easier to read format.

OVERALL STATSTICS





J-WALKING PERCENTAGE

Parking Orientation - **Parallel**

Jaywalking Count / Total Pedestrian Count: **17 / 284**

Percentage: **5.8%**

Parking Orientation - **Angled**

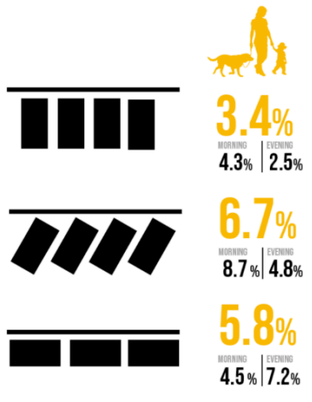
Jaywalking Count / Total Pedestrian Count: **13 / 178**

Percentage: **6.7%**

Parking Orientation - **Perpendicular**

Jaywalking Count / Total Pedestrian Count: **8 / 236**

Percentage: **3.4%**



Recommedations

BASED ON J-WALKING FINDINGS

Based on the data collected, there was no significant finding in our J-walking vs parking orientation question, therefore we propose no changes to parking orientation along Sanchez St.

Angled parking does however, show higher rates of Jaywalking due to higher visibility.

We would also like to acknowledge that J-Walking is illegal and this may have skewed our results. We would also like to acknowledge Stop Sign behavior is illegal as well, and a suggestion from a resident is to increase police enforcement in the particular intersections we have described.

Appendix:

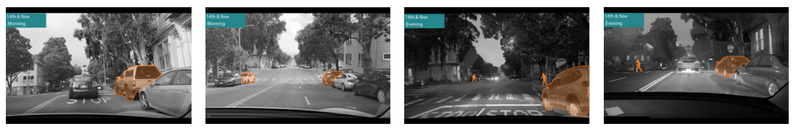
PHOTOGRAPHY

Based on the sites we chosen, here are the documentations of the driver's perspective when approaching intersections at each intersection. The constant finding is how cars are blocking the intersection of pedestrian crossing The object highlighted in orange is showing the cars perspective of what is blocking their viewpoint. The initial finding from this drive through is angled parking seems to be causing more visibility issues than parallel parking.

Duboce Avenue/ Sanchez Street

14th Street/ Sanchez Street

14th Street/ Noe Street



16th Street/ Castro Street

Appendix continued on page 48 of this document

2

Commercial Street Slow 14th Street

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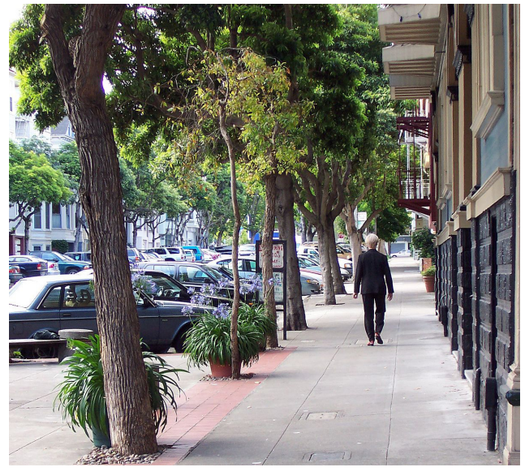
Our Team

IN THIS CHAPTER

Vision
safe and walkable 14th street

The focus of our team is to establish relationships between street traffic, physical factors and people's movement. Our research attempts to address - "how to make 14th street in Duboce Triangle safe and walkable?". By measuring the physical aspects and traffic on 14th street, we will conclude on how these factors affects people's movement and also give several design recommendations for improvements at the end of the proposal.

Provide a safe and walkable street for the neighbourhood.



Part 1 : Background

Slow Street and Shared Spaces Objective : SFMTA

From “Slow Street” to “Slow Triangle” :

Slow Triangle takes the concepts of Slow Streets and Shared Streets and applies them at a neighborhood scale rather than a single street. According to the vision, the perimeter streets, Market, Castro, and Duboce/Church would continue to act as the primary automobile thoroughfares. While the blocks inside the triangle would become a network of slow streets - meaning they would have a very low-speed limit and would be shared by all travelers, not just those in a car. Businesses and restaurants could utilize sidewalks and parking spaces to activate the street, as on Noe, Church, and Market street, which made the neighborhood more accessible to everyone.

SFMTA Objective :

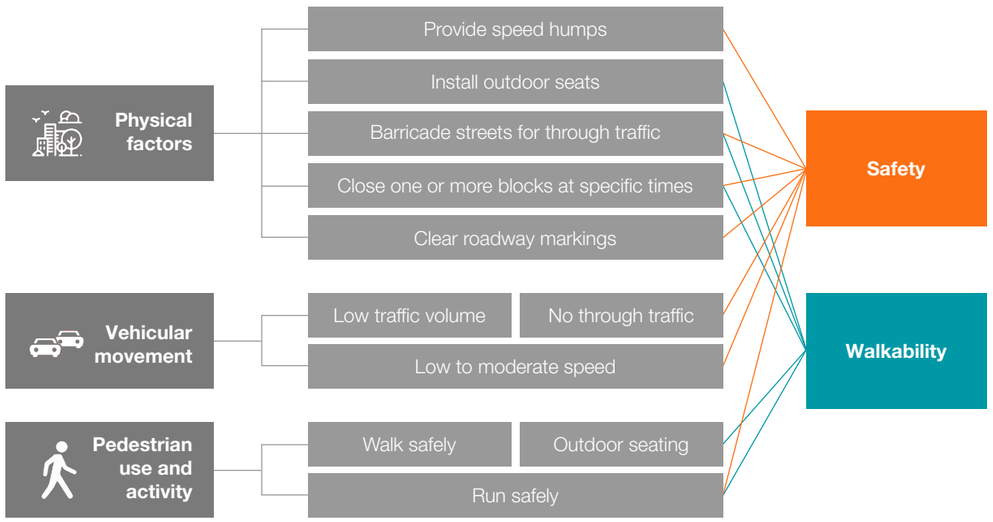
Reduce traffic volume and speed

Streets with low vehicle volume and low to moderate speeds

Slow street & Shared Space initiative Diagram :

We looked at some of the SFMTA's key recommendations for safety and walkability. Physical factors such as speed humps, outdoor seating, barricading the street, closing blocks, and cleaning the route contribute to making the street safer. While other aspects of vehicular movement, such as decreased traffic volume and slower to moderate speeds, also help to make the street safer.

For increasing walkability, they suggest constructing outdoor seating, barricading streets, and closing off blocks. All of these increase walkbility by making it safe to run, walk or pause



Positionality

The way that we as researchers view and interpret the community project is impacted by where, when, and how we are socially located and in what community. The position from which we see the Duboce Triangle Neighborhood impacts our research interests, the questions we ask, and how we interpret the data. In our study, we use our architectural, landscape architectural and urban design identities and backgrounds to shape our project approach, access, insights amd limitations. Hence as experts of the built environment.

Site Image

Site Location

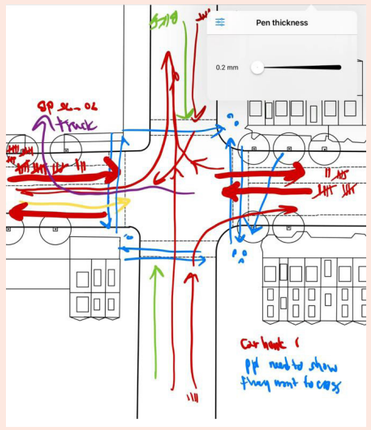
Part 2 : Research Outline

Methods

Observational Mapping

Observational Mapping

Morning-afternoon-evening observational mapping by counting cars/people and their movements paths and activities



Participatory Mapping

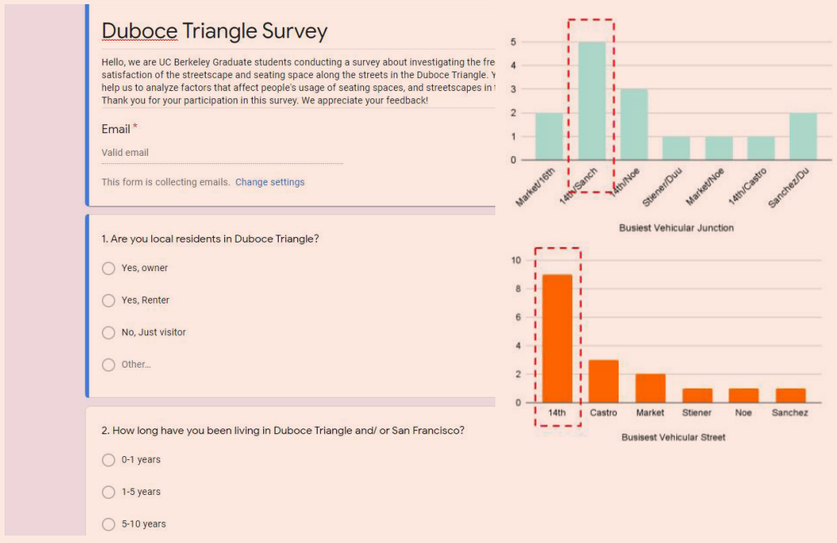
Participatory Mapping

Paticipatory map with reseidents perception of all activity nodes

Online &Offline Surveys

Online survey

A survey from 17 people in block part



Lengthy Interviews

Photograph Coding

Photograph Coding

Photograph Coding of people's activity

Following the online survey, we found that 14th Street is the busiest vehicular street / 14th Street/ Sanchez is the busiest vehicular junction

Observational Mapping

Number of Vehicular and People on street

By counting the number of cars passing by each street in Duboce Triangle every 5 minutes, we were able to determine the number of vehicles passing by. We also took the same 5 minutes count for the number of people who would walk through each junction.

Following our observations, we discovered that 14th street had the highest number of cars

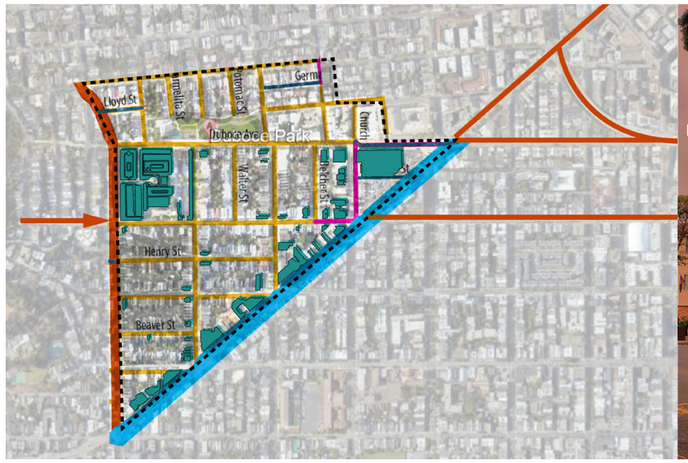
(85, as shown on the map) and the highest number of people at every 14th street intersection.

Number of People who use stopping node

By recording the number of people pausing for more than 5 minutes and the places at which they were pausing, the nodes in Duboce Triangle were located. The number of people, types of activity and their purpose for stopping was recorded through intercies and observations

Following our observations, we found a relationship between pedestrian stopping pattern and non-residential landuse. Pedestrians stopped at places for or closer to commercial uses.

Key Findings from initial observation and survey
Site Selection : 14th Street



Research Question

" How do physical street factors and vehicular movement affect the pedestrian use and activity? "

+ What is the relationship of junction safety to pedestrian and car movement patterns?

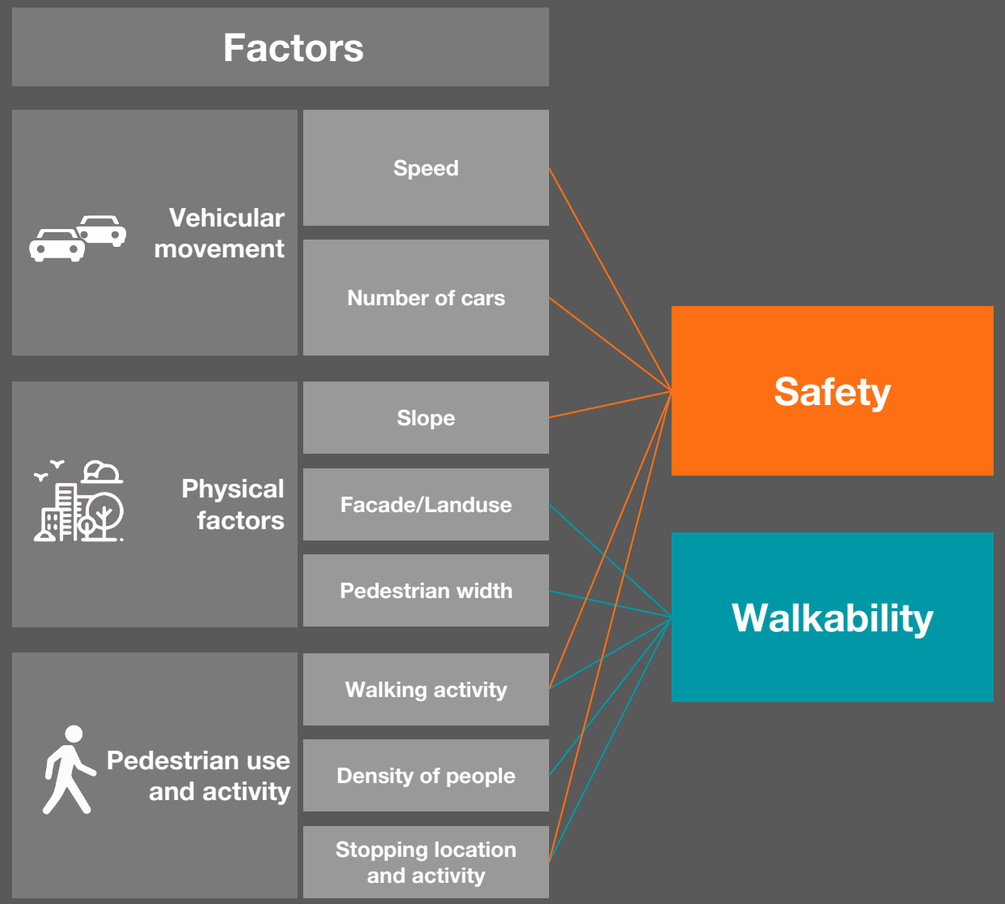
+ What is the relationship between pedestrian width and pedestrian activity?

+ What is the correlation of stopping spots with landuse type?

Hypothesis

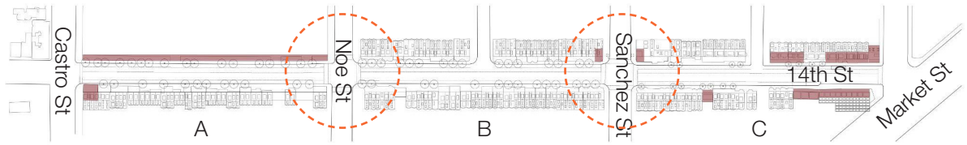
Overarching	There are fewer pedestrians on heavy traffic streets
Safety	Pedestrians avoid using busy streets because of their perception of it being a **fast and unsafe street.**
Walkability	Fewer pedestrians use footpaths with **narrow pedestrian width** Pedestrians **stay or pause** around areas of commercial activity.

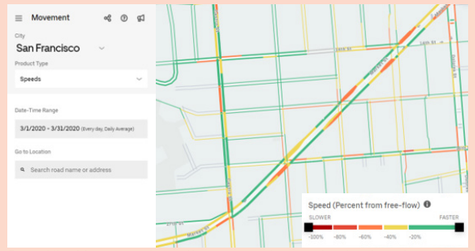
Analysis for slowing 14th street



Analysis: Safety

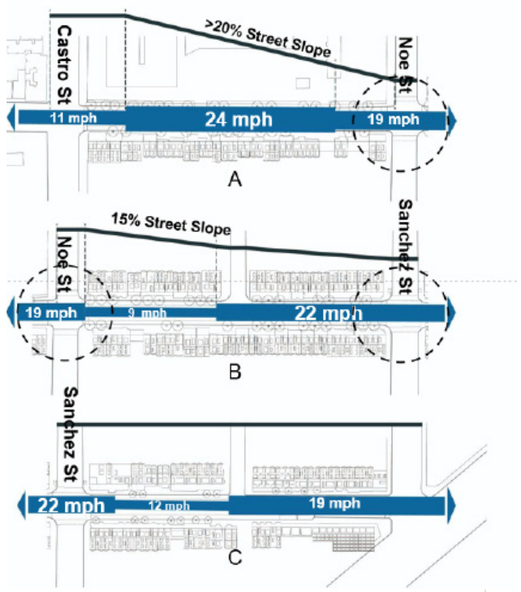
Car Speed & Street Slope





Data: UberMovement: https://movement.uber.com/explore/san_francisco/speeds/query?dt[tpb]=ALL_DAY

DataSF: https://data.sfgov.org/Geographic-Locations-and-Boundaries/Slopes-of-20-Or-Greater/3vv2-nvev

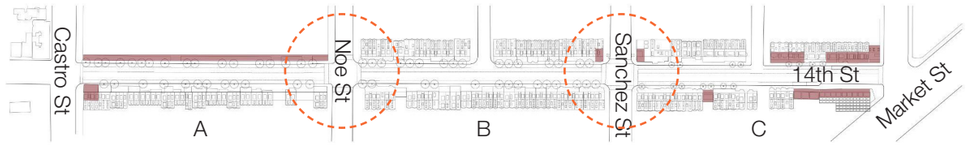


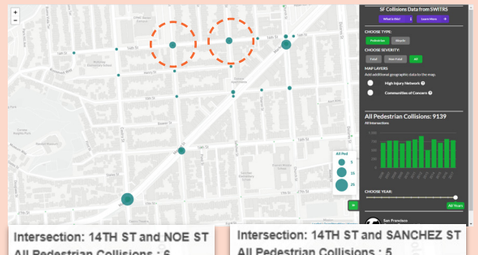
From Castro St to Noe St the street slope is greater than 20% and the car average speed is 24 mph;

From Noe St to Sanchez St, The street slope is about 15% and the car average speed is about 20 mph

Analysis: Safety

Collisions in Juntions and number of people



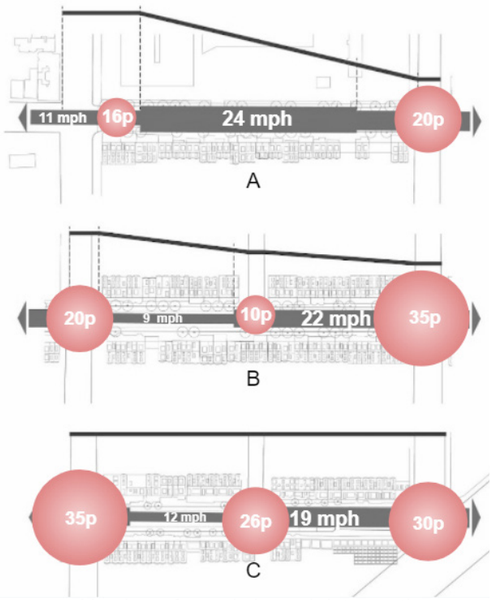


Data: http://safety.sfcta.org/

Maximum number of Pedestrian collisions:

14th St-Noe St and Sanchez St

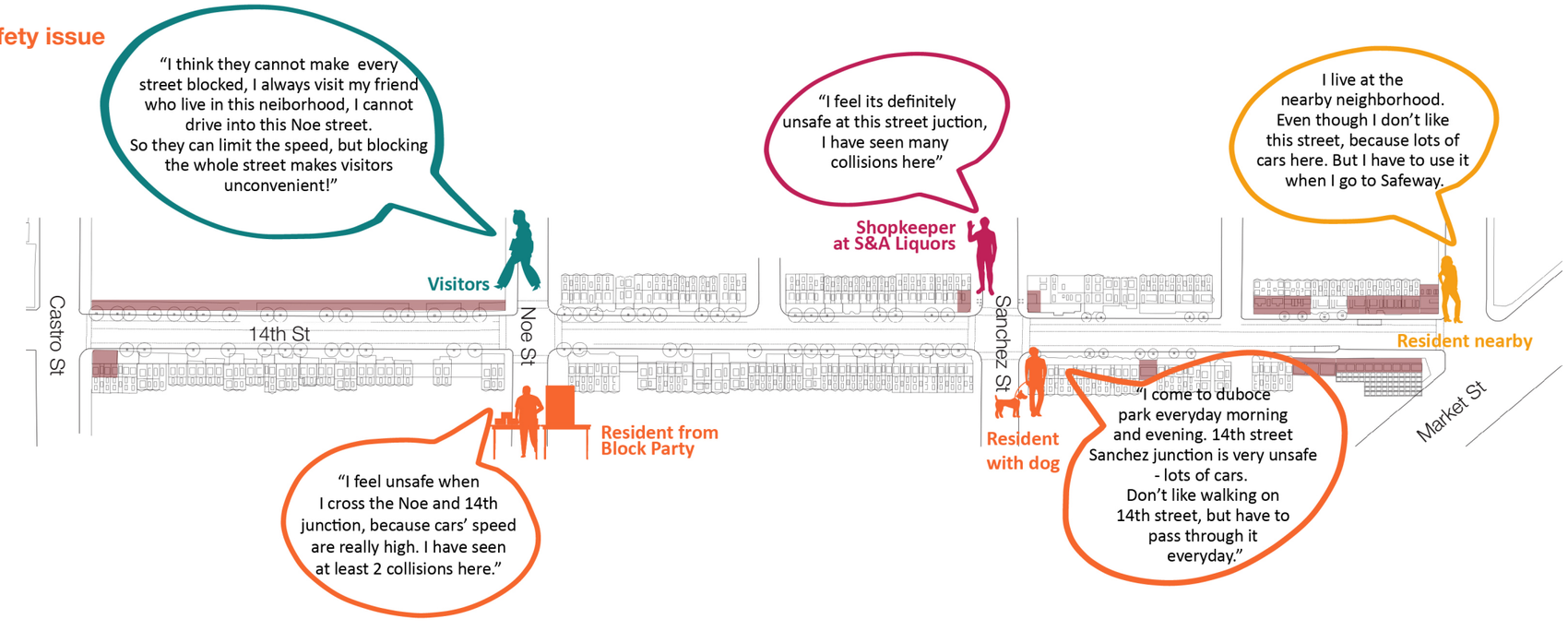
Hence these junctions need a closer analysis



Number of people in each intersection

Interview with passerby's in relation with safety issue

Interviews with passerby's, residents and shopkeepers mentioned that they did not feel safe walking on sanchez and ndoe junction, espacially with their dog and children, but they still had to use it because 14th street came in their line of commute.

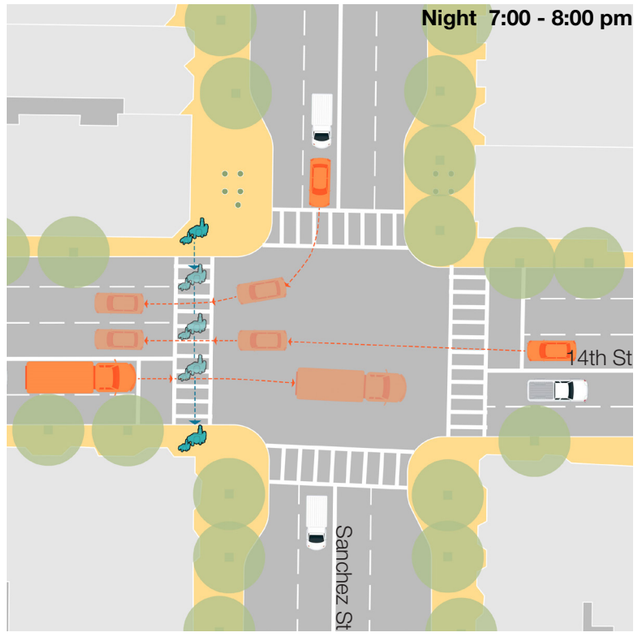


Analysis: Safety

Movement patterns: Sanchez Intersection

Unsafe feeling for people

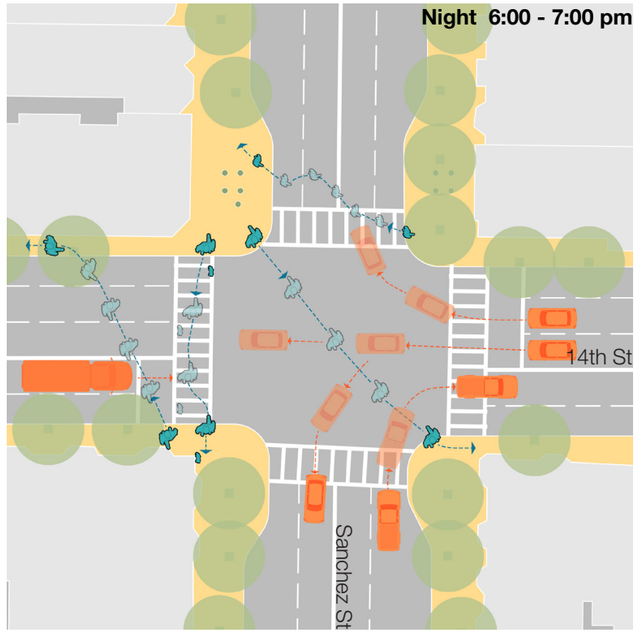
Pedestrian feel unsafe at junctions due to high car speed and slope



Unsafe feeling for drivers

People's movement paths are random, does not give a clear signal of movement to cars

Both pedestrians and drivers need clear instructions to know who goes first



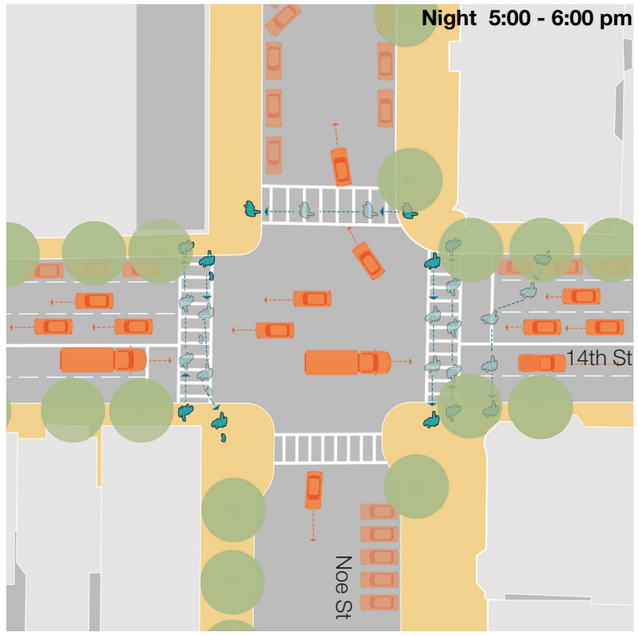
Analysis: Safety

Movement patterns: Noe Intersection

Fast car speed

At Noe St intersection, the car average speed is very high, about 22mph;

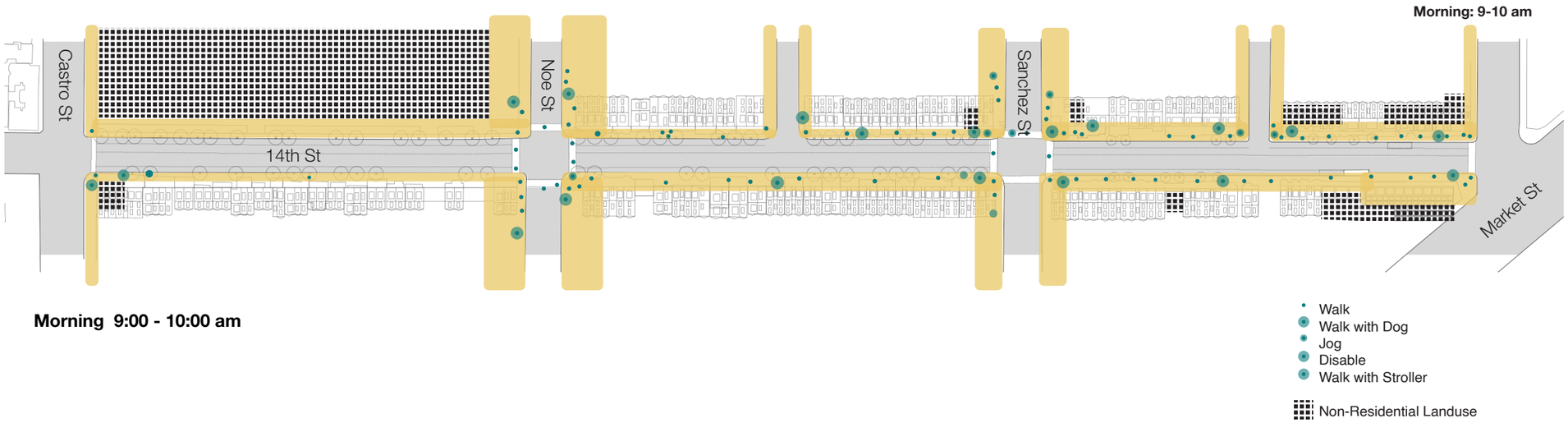
A huge number of cars pass through, about 45 cars/5mins.



Analysis: Walkibility

Walking pattern of people

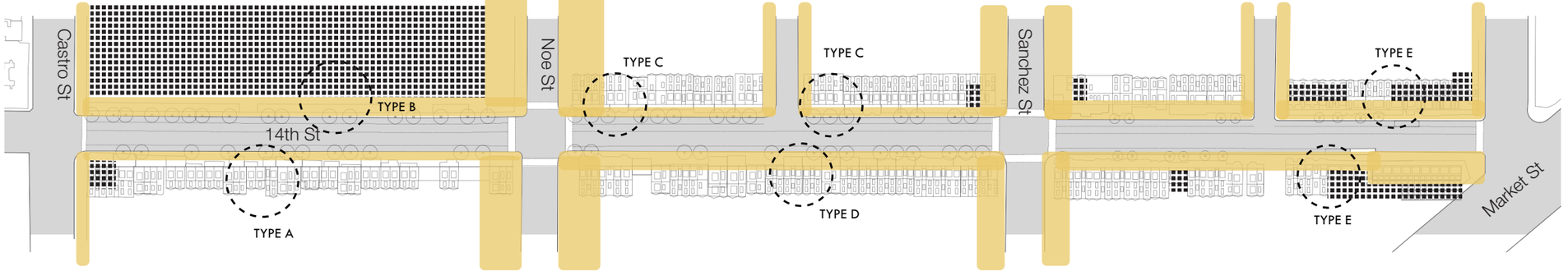
The walking pattern of people was recorded for morning, afternoon and evening. On 14th street, it was observed that people were walking, jogging, walking with thier dogs, children and strollers. There was especially more activity found around the 14th street and sanchez junction. Observations were taken for 10 mins at every junction - to count the number of people passing through.



Morning 9:00 - 10:00 am

Pedestrian width

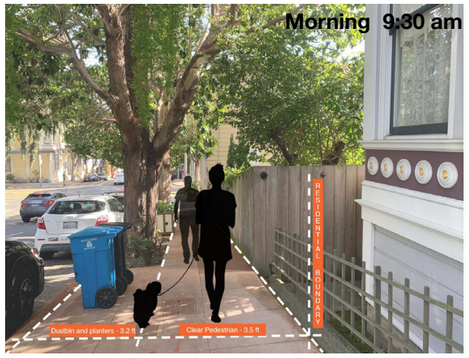
Clear pedestrian width excluding planters and ultility bands was measured along the entire stretch and compared with the data on pedestrian density every 10 minutes. Based on these two observations, and stretch's adjacency to a non-residential land use, the pedestrian stretches are typified into Type A,B,C,D and E. Details are mentioned below



	Land Use	Clear pedestrian width (ft)	Pedestrian density
Type A	Residential	3.5	4/10 mins
Type B	Commercial	5	4/10 mins
Type C	Residential	3.5	15/10mins
Type D	Residential	5	12/10 mins
Type E	Commercial	5	10/10 mins

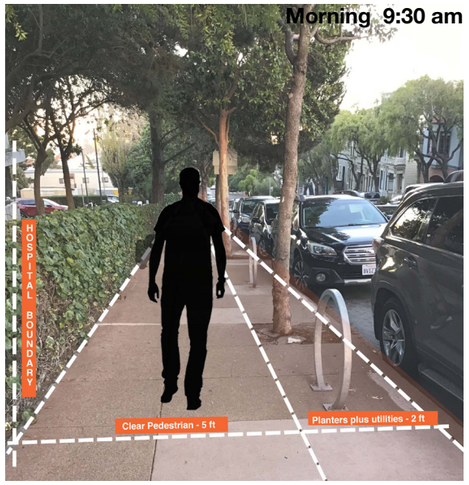
Analysis: Walkibility

Pedestrian width sufficiency analysis



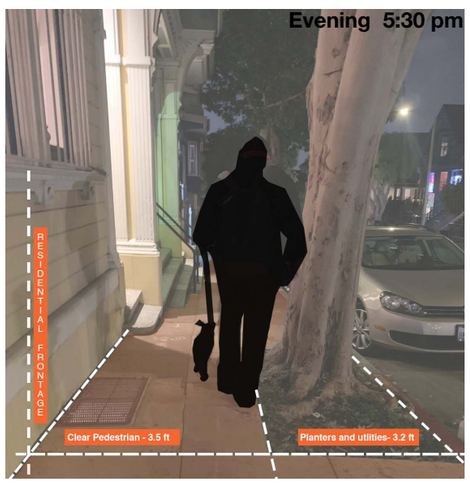
TYPE A

Type A has low pedestrian density, but is also a residential front witha utlility band required on the outer edge of the footpath for dustbins, signages, etc. Hence the clear pedestrian width remaining is found to be insufficient



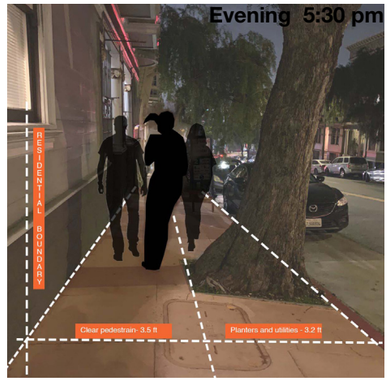
TYPE B

Type B is in front of the hospital fence and has lesser pedestrian activity through the day, hence the larger 5 ft pedestrian width was found to be sufficient for this patch



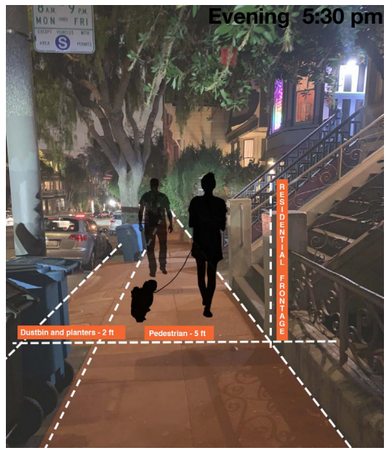
TYPE C

Type C has high pedestrian density, and very low clear pedestrian width because of the tree pit extending to about 3.2 ft. The pedestrian width is thus insufficient for activities like walking with dog



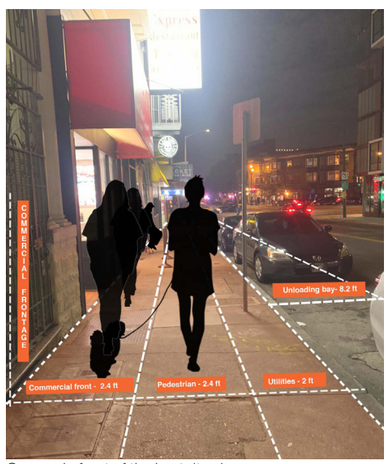
TYPE C

Type C has the maximum pedestrian density, people jogging and walking, often collide because of the low pedestrian width



TYPE D

Type D has the high pedestrian density, with residential utility band running towards the road edge, this gives a clear pedestrian width of only 5 ft, which is insufficient for different pedestrian activities like dog walking



Queues in front of the Last rites bar

Parklet plus high pedestrian density at commercial

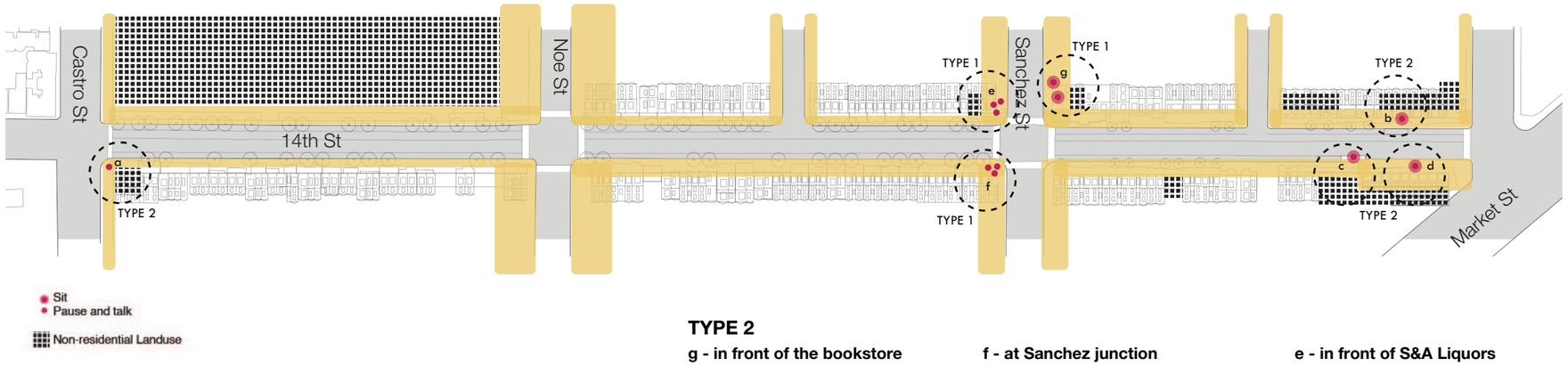
TYPE E

Type E has high pedestrian density in the evenings with people queuing up for the bar and sitting in the parklet for non-residential functions, a buffer of almost 2.4 ft goes into accomodating them, so pedestrian width is extremely less.

Analysis: Walkibility

Pedestrian stopping patterns

The stopping pattern of pedestrians was observed for the entire street and typified according to use. It was considered stopping if pedestrians paused or stayed at the same spot or more than 3 minutes. The kind of activity was recorded, as stopping to talk or sit - classified as Type 2 for leisure and stopping to buy, eat etc - classified as Type 1 to engage with commercial fronts. The frequency was measured - based on the number of times the particular activity was observed for the 12 times the site was visited. In all cases it was found, that people stopped at places which were in closer proximity to a non-residential or commercial landuse.



Type		Spot	Shops	Street furniture	Activity	Frequency
TYPE 1	Commercial activity	a	Courtney's shop	absent	stand and buy	2/12
		b	Last rites bar	absent	sit, stand and wait	sit - 3/3, stand - 4/2
		c	NA	bus stop	sit	5/12
		d	Pizza hut	parklet	sit and eat	3/12
TYPE 2	Talking	e	S&A Liquors	seat not used	stand and talk	9/12
		f	NA	absent	stand and talk	2/12
		g	Bookstore	seat	sit and talk	1/12

TYPE 2

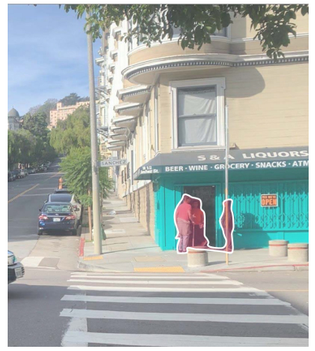
g - in front of the bookstore
Morning 11:30 am

A couple sat and talked in front of the bookstore, they used the street furniture, but this was observed only once in the 12 times.

f - at Sanchez junction
Afternoon 12:30 pm

A bunch of people were found to stop and talk at Sanchez Junction. This activity was observed no more than 2 times in the 12 times.

e - in front of S&A Liquors
Morning 10:30 am

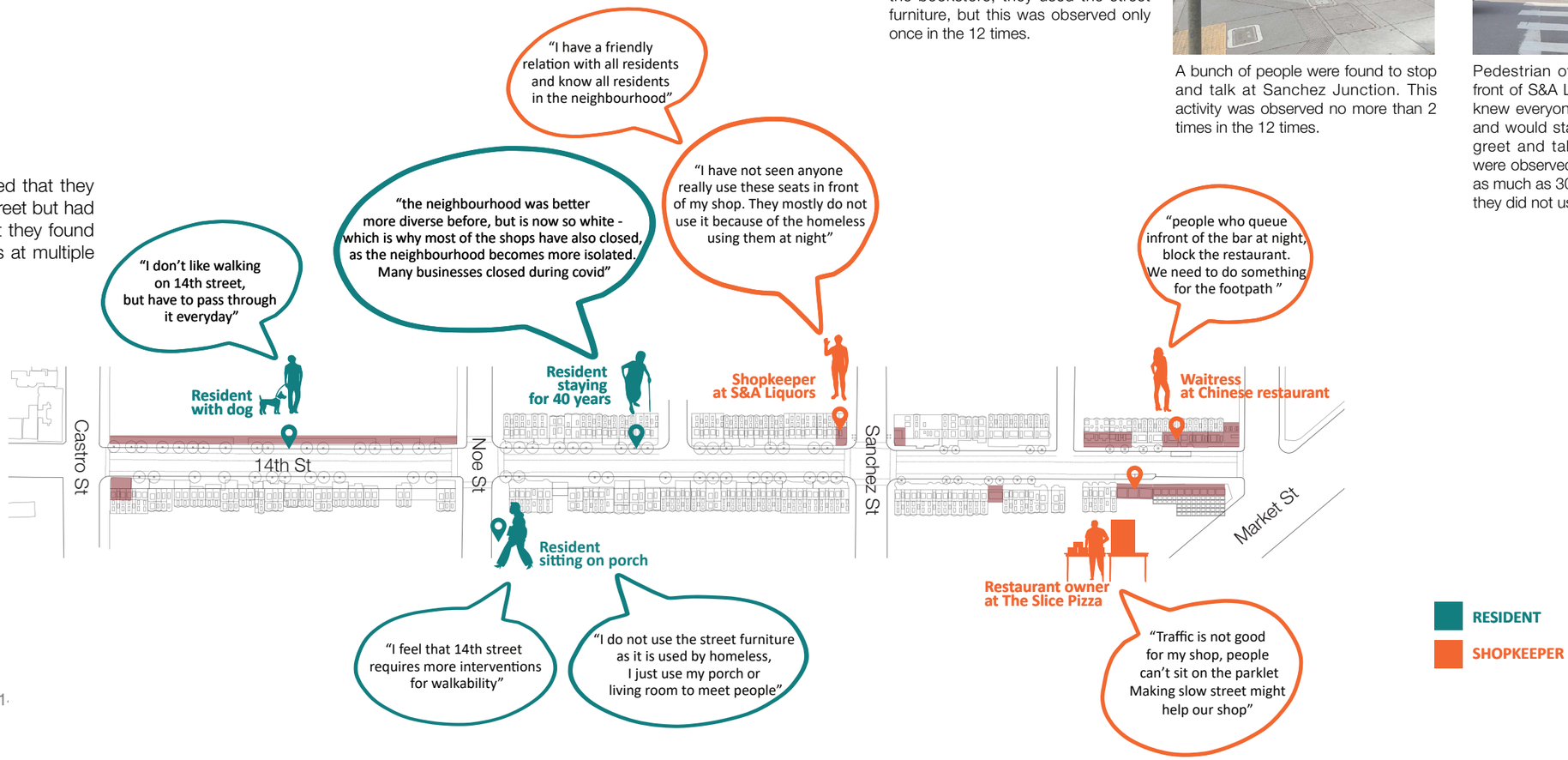


Pedestrian often stopped to talk in front of S&A Liquors. The shopkeeper knew everyone in the neighbourhood and would stand outside his shop to greet and talk with people. People were observed to be standing here for as much as 30 minute to talk, however they did not use the street furniture

Summary of interviews :

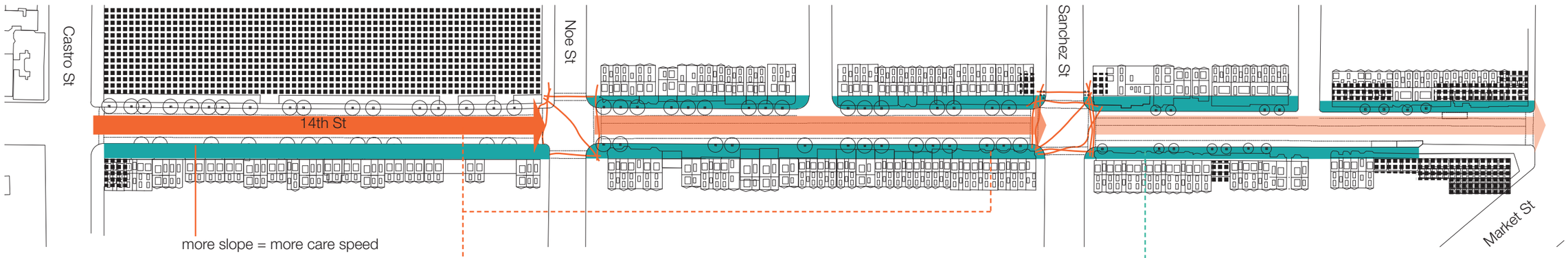
Pedestrian movement

Most pedestrians expressed that they disliked walking on 14th street but had to pass through it and that they found the ppedestrian space less at multiple places on the street.



Part 4 : Findings

Key Findings



Safety:

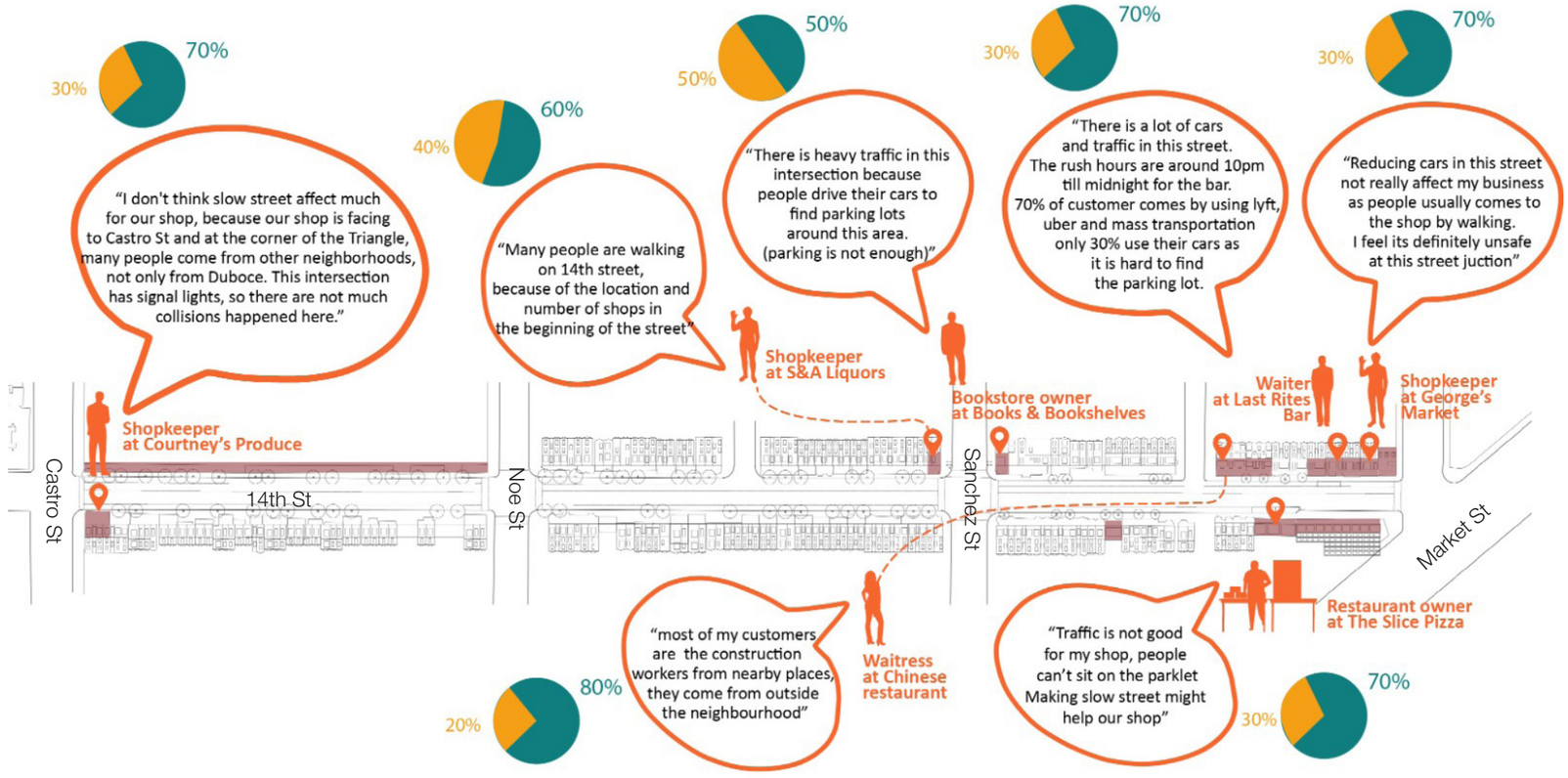
- People's movement paths are random which does not give a clear signal to cars
- Pedestrian's feel unsafe at junctions due to high car speed and slope
- Pedestrian's feel unsafe to cross st junctions due to long exposure time on road

Walkibility

- High pedestrian movement and activity found on stretches with least pedestrian width
- Pedestrian width is insufficient for the kind of pedestrian activity for TYPE B, C, D, E
- More pedestrians stop at places with commercial activity

Interview with shopowners in realtion to cars

Most of the shopowners mentioned that they were dependept on cars only for loading and unloading of goods. While most of their customers either came walking r by mass tranit systems. A few customers who came by car, would just stop by to pick up something and leave. They expressed positivity to make the street slower.



Part 3 : Precedents & Guideline

Objective for Slowing 14th Street

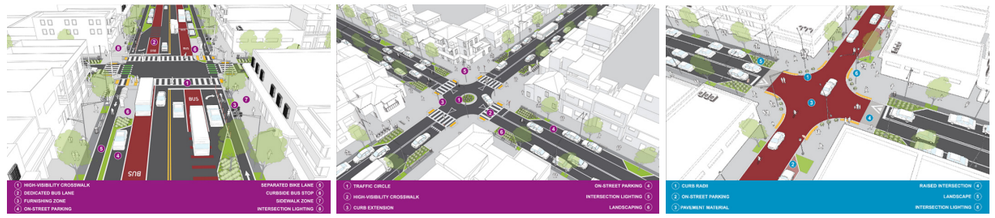
People can walk, bike, and run safely, need vehicles passing through the street, not block vehicles from the street

14th street: Commercial-Residential Street

Precedents

Low-speed Zone Guide, World Resources Institute

WRI's classification for diverse kinds of streets



High-density mixed use streets | Residential streets | Shared streets

Residential streets should provide safe, accessible spaces for social interaction. Wide sidewalks, layered planting of trees and shrubs, and appropriate street lighting improve overall pedestrian comfort, walkability and safety.

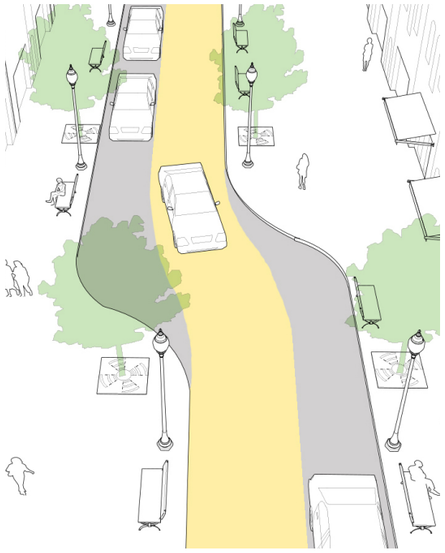
It's important here to visually and physically narrow the roadway to encourage slower speeds.

For safety at intersections, street space and crossing locations should be clearly designated as per transport mode.

- Traffic Circle
- High-visibility Crosswalk
- Curb Extension
- Intersection Lighting
- Landscape and street furnitures

Precedents

SF shared streets



SF shared streets initiative talks about the importance of traffic calming. Shared public ways should utilize traffic control and calming strategies to slow traffic and emphasize the pedestrian nature of the space.

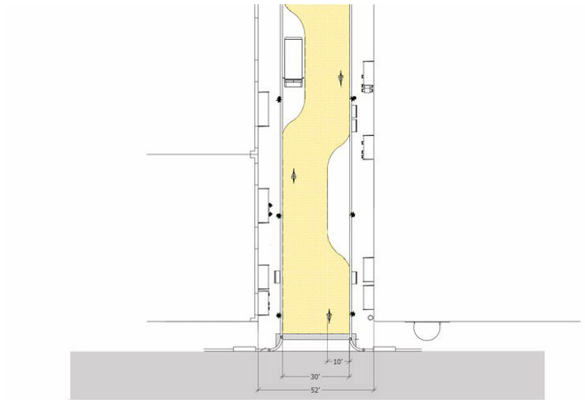
1. Gateways. Narrowing the entrance to the shared zone of the shared public way at the entrance from a standard street. Gateways may include flanking raised planters or vertical pylons or temporary element such as motorized gates or retractable bollards. They should not block crossing sidewalks.

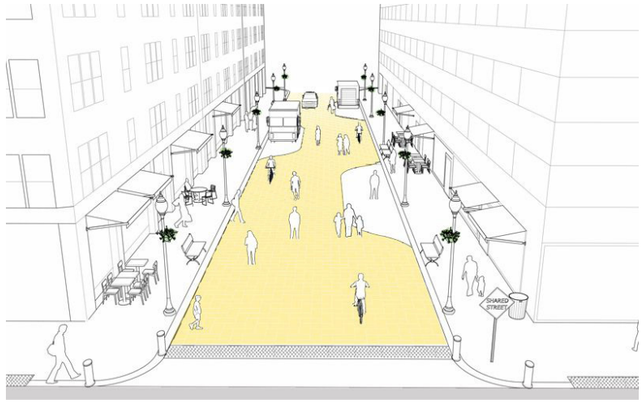
2. Driveway treatments. Raising the entrance to the shared public way to the level of adjacent sidewalks such that vehicles and bicycles must ascend a driveway apron to access the shared public way.

3. Chicanes. Introducing serpentine pathways for vehicle and bicycle travel, employing horizontal shifts (chicanes) through placement of landscaping, bollards, street furniture, parking, and other streetscape elements, while preserving unencumbered pedestrian travel.

Precedents

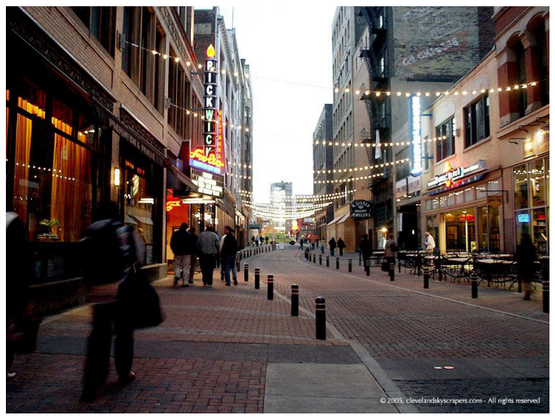
Commercial shared street - National Association of City Transportation Officials - NATCO





A commercial shared street environment should be considered in places where pedestrian activity is high and vehicle volumes are either low or discouraged.They can be imagineed as 'pedestrian malls'.

These are some examples by NATCO on commercial shared spaces, used by both vehicles as well as pedstrians.



Recommedation

General 14th street Plan

Safety

1/ Give clear signals for cars and pedestrians

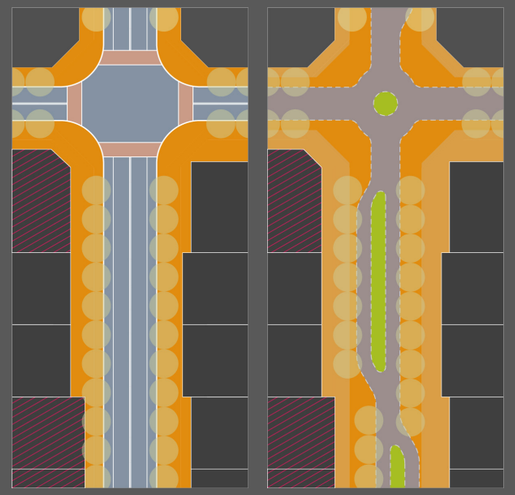
2/ Add medians to shorten pedestrian crossings

3/ S-shaped “chicanes” to reduce car speed

Walkability

4/ Add curb extensions at commercial areas

5/ Increase pedestrian width for comfortable use



Current Adaption

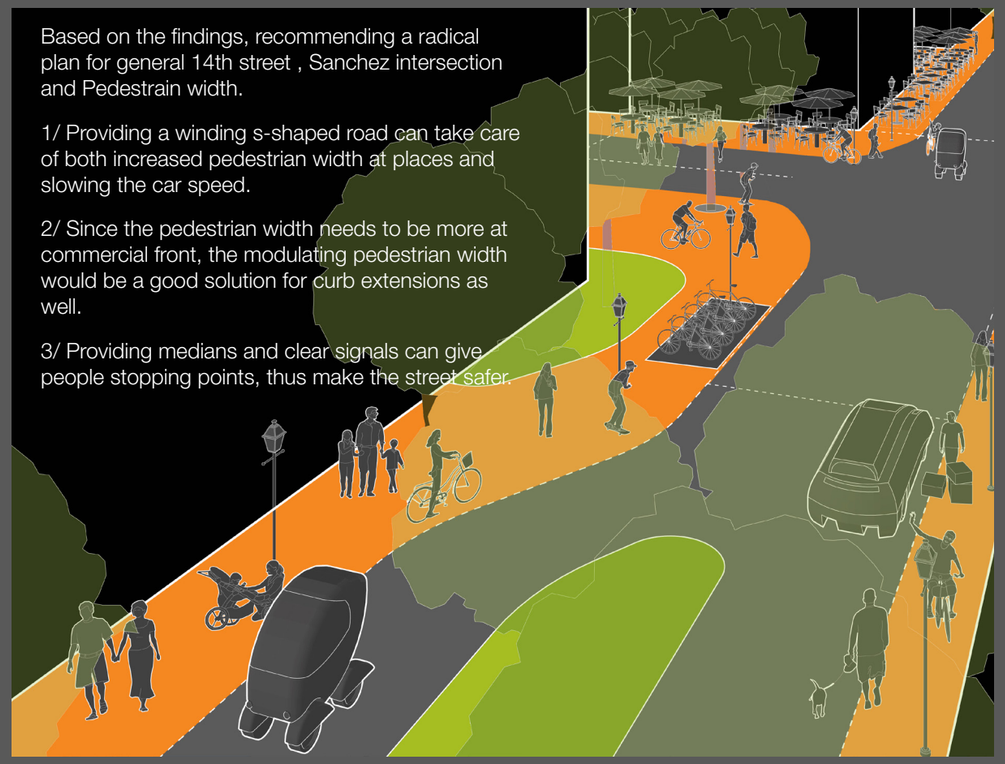
Sanchez Intersection

Based on the findings, recommending a radical plan for general 14th street , Sanchez intersection and Pedestrain width.

1/ Providing a winding s-shaped road can take care of both increased pedestrian width at places and slowing the car speed.

2/ Since the pedestrian width needs to be more at commercial front, the modulating pedestrian width would be a good solution for curb extensions as well.

3/ Providing medians and clear signals can give people stopping points, thus make the street safer.

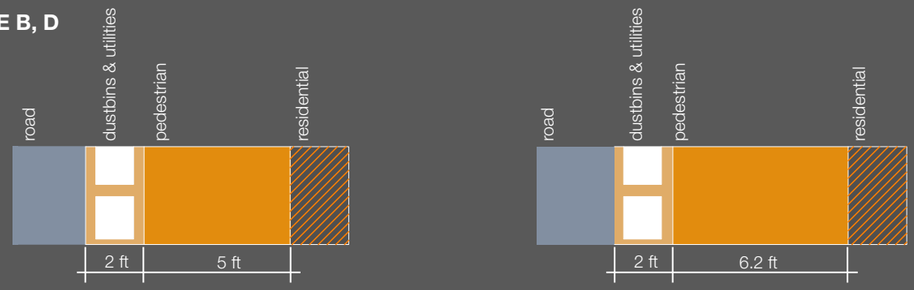


Sanchez Intersection

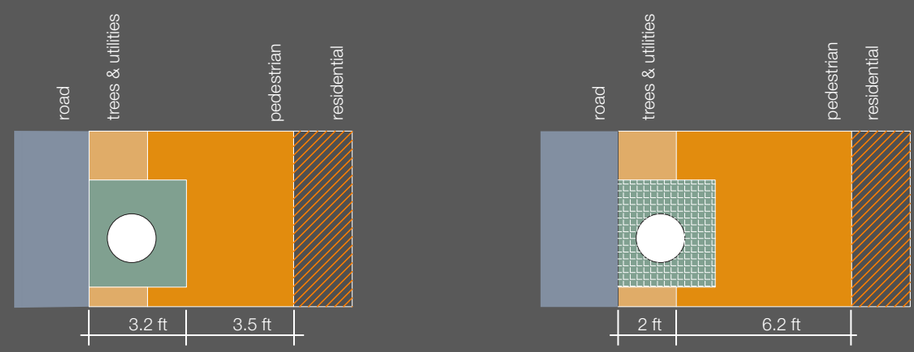
Pedestrain

The pedestrian width was found to be insufficient, hence following that, we have proposed an increase in the pedestrian width to a minimum of 6.2 ft clear walkable space. The proposal considers the different types identified through the study to then give guidelines according to that

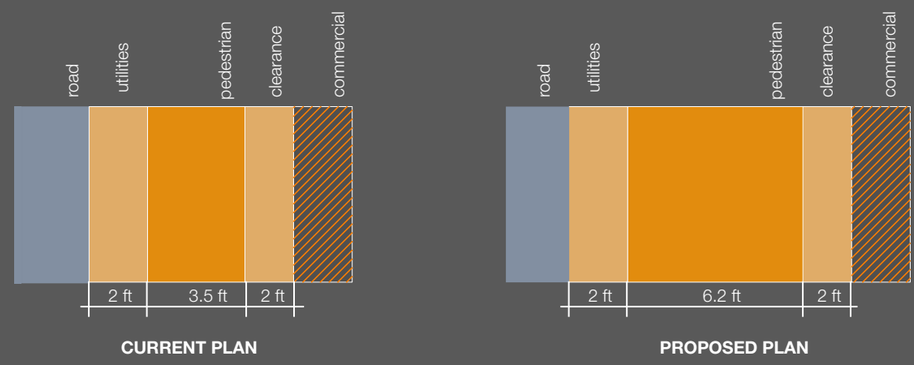
TYPE B, D



TYPE C tree grate proposed on the bed, to increase walkable area



TYPE E commercial frontage considered as clearance for extended curb



Limitations of the study

- The research is limited to the 21 people we surveyed and 22 people we interviewed
- The research is limited to the 12 instances of site visit for field observations
- The people interviewed/surveyed/observed are limited to those using the streets or having shops in Duboce Triangle Neighbourhood
- The speed data is limited to uber data and observations

Future directions of study

- **Signages** could be studied in relation to people's movement patterns, to decipher any effects on safety
- **Street lighting** at night in Duboce triangle could be a factor affecting pedestrian safety
- **Pedestrian stopping behaviour** could be studied more in detail by comparing physical characteristics of people's stopping locations with each other for the entire neighbourhood
- **Shading** could be studied in relation to people's stopping patterns to derive a relation to pedestrian use
- **Visibility** of pedestrians could be studied in more detail to test the safety of a junction
- **Street noise** could be studied in relation to people's stopping activities and spots, to derive a relation. As more people were seen stopping at sanchez junction, inspite of the high decibel of noise, espcially in the evenings

Appendix Street side mini plaza

Appendix

a1: Archive

Data Sources:

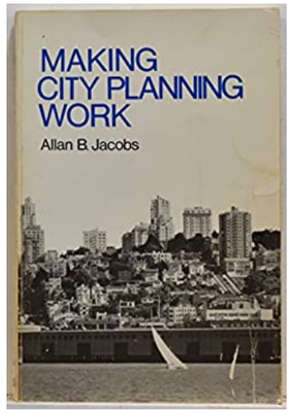
Jacobs, Allan B. Making City Planning Work. American Society of Planning Officials, 1978.

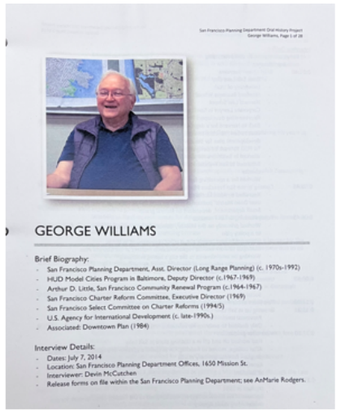
San. “ST. FRANCIS LUTHERAN CHURCH,” n.d., 134.

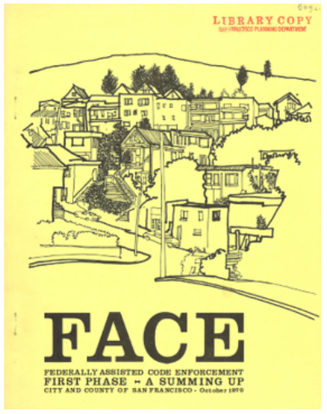
“FACE Application for Grant [1966].Pdf,” n.d.

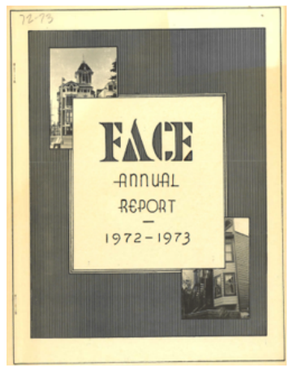
“FACE Fderally Assisted Code

FACE What It Is and How It Works [1971].Pdf,” n.d.









a2: Interview

QUESTIONS

1. Do you live in the Duboce Triangle neighborhood?

2. How long have you been living here?

3. How often do you use any of the neighborhood streetside gathering spaces like this one here?

4. When do you use the streetside gathering spaces in Duboce Triangle?

5. How long do you tend to stay any given time?

6. What do you do in these streetside gathering spaces?

7. Do you often meet and talk with neighbors in these streetside gathering spaces?

8. How long do you do theses encounters typically last?

9. Do you prefer more or less vegetation in the streetside gathering space in Duboce Triangle?

10. Are there other elements or amenities you would like to see in the streetside gathering spaces?

ARCHIVES

11/17/2021 SATURDAY 11:30 AM

A man who biked out in the morning and on the way back home:

Q: Are you residents in Duboce Triangle?

A: Yes.

Q: How long have you lived here?

A: I lived here for 3 years.

Q: Have you ever used any of the sitting spaces like this in the community?

A: No. I have not used these spaces. I have been in America for many years, so I have many friends. In my spare time, I usually go out with them. **I like these sitting spaces, but there’s no reason for me to stay. So, I just walk by and look at the space.** In the weekend, there’s a art market at the Intersection of Noe Street and Market Street. I have a friend who is a painter, so sometimes I went to that place.

Q: How do you think about the vegetation in these spaces?

A: They are very good. When I pass the space I will slow down and see them. It feels good. I think for thes spaces, it lacks programs for me to come. It feels weird to just stay here. There needs something attracts me to come.

11/27/2021 SATURDAY 3:00 PM

A man about 30 years old sitting outside in one of the sitting space:

Q: Do you live in the community?

A: Yes.

Q: How long have you live here?

A: About two years?

Q: How often do you use the public sitting space like this?

A: I live near here. About once per month.

Q: What do you do here?

A: I just want to stay outside of my home and find an outdoor space to stay.

Q: Do you meet your neighbors in these spaces?

A: I would like to, but during the pandemic it is harder. If there is the opportunity, I would like to.

Q: Do you prefer more vegetation or seating here?

A: It's great. It's never too crowded, so I can usually find a place to stay.

Q: What kind of materials do you prefer for the seating?

A: **I do not mind the material of it. But I would like the benches to have a backrest that will feel much better.**

Q: Have you ever used any other sitting spaces like this in Duboce Triangle community?

A: Yes. **I only used the places in the Noe Street, because they are near my home.**

Q: Have you ever used the one opposite in the street there?

A: No. I think that one has a slope and that is diagonal. I like to stay here, it is **flat and the benches are bigger**.

Q: Do you like the benches here placed in a semi-circle?Or do you have any preference for the arrangement of the benches?

A: I guess, for a group of people this will be good. But for me I do not have a preference.

Q: For the size of the space, how do you feel about it?

A: I think this is the perfect size, I've never seen this is full.

11/27/2021 SATURDAY 2:20 PM

Four men about more than 40 years old enjoying champagne and Thanksgiving:

Q: How long have you lived in Duboce Triangle?

A: About 35 years.

Q: How often do you use the sitting spaces like this?

A: I use it whenever I want. I usually use the space.

Q: How do you think about the seating?

A: The dividers are placed to prevent the homeless to lie here. **But it can also let us use it as a handrail.** It's comfortable. Now, at night, even when we are in home we can smell the homeless here. Also, **before the pandemic, the restaurant often put tables here. At that time, a lot of people use this space everyday.**

Q: How do you think about the vegetation here? Do you prefer more big trees or more planters?

A: The trees have been plants for many years and I like the big trees. **The planters or small vegetation sometimes are stolen by people. So, they are glued in the ground.** Also, the leaves fall down in all seasons, so cleaning and managing the space is very important. In Berkeley, the vegetation and public space is not very good. Even they are designed or planted well, the mantainance is not good.

Q: What do you do here? Do you prefer staying here alone or with others?
A: You see, there's also a bicycle guy, **it's community things. We are here today for our Thanksgiving day,** because it's the only day all we four can be together.

11/27/2021 SATURDAY 3:30 PM

A man more than 80 years old who lived in Sanchez Street:

Q: Do you live in the community?

A: Yes.

Q: Have you ever used the sitting space along the street?

A: Hardly. **Everyday I come outdoor and walk on the road to exercise. I do not sit in the spaces.** Some are no vegetation. Here has big trees, **but here the seating does not feel comfortable, they are too small.** I rented an apartment here. When there's some big events, the Sanchez Street will be closed and many people parade in this street.

a3: Survey

QUESTIONS

1. Are you a resident of Duboce Triangle?

2. Which mini-plazas have you used in the image?

3. How often do you use the streetside mini-plazas in Duboce triangle?

4. Do you come and use streetside mini-plazas in Duboce Triangle during weekdays or weekends?

5. How long do you stay in streetside mini-plazas in the Duboce triangle?

6. What do you do in streetside mini-plazas? (ex. reading, resting, dog petting, etc)

7. Do you prefer more or less vegetation in streetside mini-plazas?

8. Do you prefer to stay in a more open or enclosed seating space along the street?

9. Do you prefer to use the seating space alone or share the space with whoever comes in?

10. How do you think about the seating in the space? Do you have any thoughts about it?

11. Which seating material do you prefer?

12. Do prefer the size of the spaces to be bigger or smaller? Why?

13. In general, do you feel comfortable using the seating space along the street in the Duboce triangle?

14. Rating the place in the image that you selected in question two please.

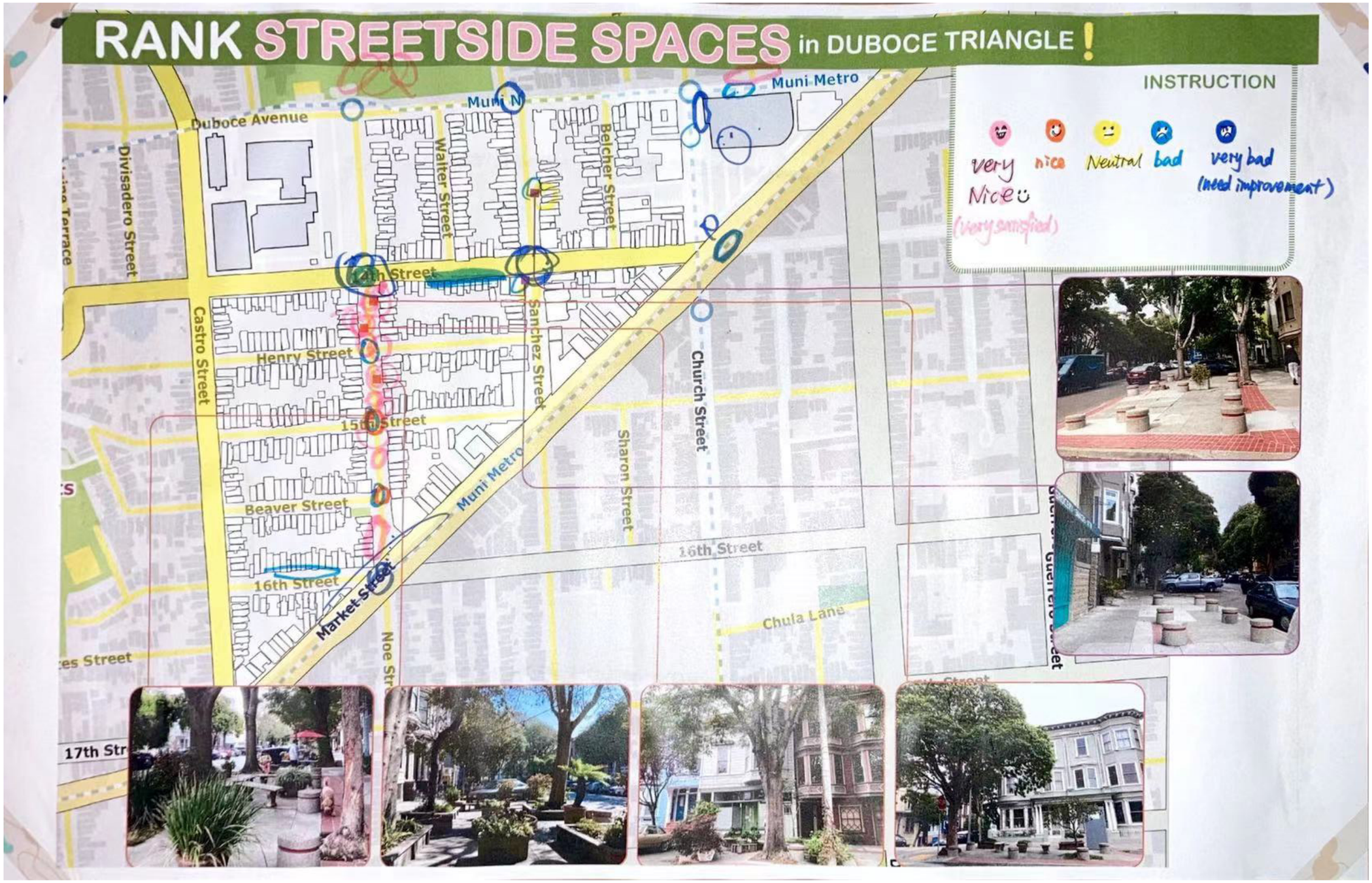
SCAN ME

ARCHIVES

Email Address	1. Are you local residents in Duboce Triangle?	2. How long have you been living in Duboce Triangle and/ or San Francisco?	3. What street/ section do you live on? Please Specify.	8. Which is your favorite spot to sit/hang around, in Duboce Triangle Neighbourhood?	14. Which streetside seating space have you used in the image?	15. Rating of the place in the image that you selected in question two please.	16. How often do you use the streetside seating spaces in Duboce triangle?	17. Do you come and use the seating space along the street in Duboce Triangle during weekday or weekend?	18. How long do you stay in the seating spaces along the street in Duboce triangle ?	19. What do you do in these streetside seating space? (ex. reading, resting, dog petting, and etc)	20. Do you prefer more or less vegetation in the streetside seating space?	21. Do you prefer to stay in a more open or enclosed streetside seating space?	22. Do you prefer to use the streetside seating space alone or share the space with whoever comes in?	23. Which seating material do you prefer?	25. In general, to what degree do you feel comfortable using the streetside seating space in the Duboce
woman#livedhere-for-30y@gmail.com	Yes, Renter	10 or more years	Noe and 14th	Lardoise	B, C	4	Every few months	Weekend and Weekday	20 minutes	Resting	High vegetation level	no preference	shared the space	Wood	5
andyes86@icloud.com	Yes, Renter	5-10 years	Noe and Market	Duboce Park	B, C, E	3	Every month	Weekday	1-3 hours	Dog petting and social with neighbors	High vegetation level	Open	shared the space	Wood	5
rpk1430@yahoo.com	Yes, owner	10 or more years		The park	B, C	5	At least once per week	Weekend	15 min	Resting convo	Adequate currently	Open	shared the space	Wood	4
cragunwatts@gmail.com	Yes, Renter	0-1 years	Walter street	Duboce park			Rarely				no preference	Open	shared the space	Wood	2
awoman@gmail.com	Yes, owner	10 or more years	Beaver	My street and front yard	A, B, C, G Other Places	5	Every few months		20 min	Conversing with people	High vegetation level	Open	shared the space	Wood	5
jessecotari@gmail.com	Yes, owner	5-10 years	14th between Noe and Sanchez	Duboce park	A, E	3	1-2 time per year	Weekend	15 minutes	Exercise	High vegetation level	Open	shared the space	Wood	3
emma.mcconnell42@gmail.com	Yes, Renter	0-1 years	Henry Street	Duboce park	B, C	4	Every month	Weekend	30 mins-1 hr	Read, talk on the phone	High vegetation level	no preference	shared the space	Wood	5
allison27892@gmail.com	Yes, Renter	0-1 years	133 Noe	My stoop	E	4	Every month	Weekend	10 min	Resting	High vegetation level	Open	shared the space	Wood	3
esk11211@yahoo.com	Yes, Renter	10 or more years	Between 14th and noe st	Duboce park	A, B, C, D, E, F	5	Constant	Weekend and Weekday	5 min	Taking a break for our kids that get tired easy	High vegetation level	no preference	stay alone	Wood	4
westyn@gmail.com	Yes, Renter	0-1 years	Noe Street	The parklets	A, B, C, D, E, F		Constant	Weekend and Weekday	20 mins?	Reading, meet with friends	no preference	Enclose	stay alone	Wood	5
amanwaitinghisthreekidssitinthesitewedeleted@gmail.com	Yes, owner	0-1 years	HenryStreet	Noe St	B	5	Every month	Weekend	30 mins	Watch the world go by	High vegetation level	Open	shared the space	Wood, Concrete	5
sashag1025@gmail.com	Yes, owner	0-1 years	Noe/14	Henry/Noe; Duboce Park	A, B, C	5	At least once per week	Weekend and Weekday	30 min	Hang, play, talk, meeting spot, wine	High vegetation level	no preference	shared the space	Wood, Concrete	5
raeush@me.com	Yes, owner	10 or more years	Beaver st, Castro/ Noe	Home	A, B, C, D, E, F	4	Rarely	Weekend	15 seconds	Tie your shoe	No preference as long as they're maintained	Open		The way it is, it shouldn't encourage long term sleeping	4
patrickm.406@gmail.com	Yes, Renter	0-1 years	169 Noe st	The park	A, B, C, D, E, F	4	At least once per week	Weekend	30 minutes	Resting	High vegetation level	no preference	shared the space	Other, please specify	5
elliecotari@gmail.com	Yes, owner	1-5 years	14th btw Noe and Sanchez	Duboce park	F	3	Every few months	Weekend	15 minutes	Random Running into neighborhood friends	no preference	Open	shared the space	Wood	3
emma.twersky@gmail.com	Yes, Renter	1-5 years	460 Duboce	Duboce Park or the park let near Henry and Noe	A, B, C, E	4	Every month	Weekend and Weekday	An hour	Read hangout with friends and pet dogs	High vegetation level	Open	shared the space	Wood, metal	4
asps430@gmail.com	Yes, Renter	5-10 years	Henry	I love Duboce Park	A, B, C, E	4	Every month	Weekday	It depends	Making a phone call	High vegetation level	I don't have a preference, I'd just love more slow streets	shared the space	Wood, metal	4
goddessvert@sbcglobal.nwt	Yes, owner				A, C, D, E	4	Every month	Weekend and Weekday			Low vegetation level	Open	shared the space	Wood	
leslietagorda@gmail.com	Yes, owner				A, B, C, D, E, F	3	Every few months	Weekend and Weekday	A few min chatting w Neigbors	Catch up with neighbors	High vegetation level	Enclose	shared the space	Wood	
timhkirk@gmail.com	Yes, Renter				A, B, C, D, E, F	5	At least once per week	Weekend and Weekday	20 min.	Dog training	High vegetation level	Open	shared the space	Concrete	
misterdavidgallagher@gmail.com	Yes, Renter						Rarely		I don't spend any time		High vegetation level	no preference			
tiffay.huang@gmail.com	No, Just visitor				F	2	Rarely		Not often		High vegetation level	Open	shared the space	Wood	
jack.c.williams09@icloud.com	Yes, Renter					5	Rarely		1-2 min	Relax for a second, tie shoe	High vegetation level	Open	shared the space	Concrete	

jennakebert@gmail.com	Yes, Renter					5	Rarely	Weekend	Barely. Usually run n walk	Resting or tight shoes	High vegetation level	Open	shared the space	Concrete	
malcolm.flint@gmail.com	Yes, Renter				B	3	Rarely	Weekend	I sat there once with my partner to give out Halloween candy cause there are more trick or treaters on noe than 15th	See above	High vegetation level	no preference	shared the space	Any is fine as long as it' s comfy	
tlamirato1@gmail.com	Yes, Renter				F	3	Rarely	Weekend	A few minutes	Rest	High vegetation level	Enclose	stay alone	Wood	
001.dylan.smith@gmail.com	Yes, owner				C	4	Rarely				High vegetation level	Open	shared the space	Wood	
class-steams0v@icloud.com	Yes, Renter				A, B, C, D, E, F	4	At least once per week	Weekend and Weekday	A few minutes	Rest and walk dog	High vegetation level	Open	shared the space	Concrete	
dillonlouislarson@gmail.com	Yes, Renter				A, B, C, D, F	4	At least once per week	Weekend and Weekday	No more than 2-5 minutes	Resting, dog petting, adjusting attire	High vegetation level	Enclose	shared the space	Wood	
justin.lj.wei@gmail.com	Yes, Renter				B	3	Every few months	Weekend	1 min	chill, nothing much	no preference	no preference	stay alone	Wood	
yamadak@gmail.com	No, Just visitor					3	1-2 time per year	Weekend	30m	Talk on phone	High vegetation level	Open	stay alone	Wood	
ofung@cca.edu	No, Just visitor					3	Rarely	Weekend	Not long	If I did have to sit it'll be texting or waiting for someone	High vegetation level	Open	stay alone	Wood	
meaganlelah@gmail.com	No, Just visitor				C	3	Every few months	Weekend	30 min	Homework	High vegetation level	Open	stay alone	metal	
emelysvega3@gmail.com	No, Just visitor				D	4	Rarely	Weekend	30 mins	resting or homework	High vegetation level	Open	shared the space	Wood	
smosshorwitz@gmail.com	No, Just visitor				B	5	1-2 time per year	Weekend	3 hr	Hanging out	no preference	Open	stay alone	Grass	
paixb612@gmail.com	No, Just visitor				A	2	Every few months	Weekend	I usually sit in the park for a few hours	Reading, art making, and socializing	High vegetation level	Open	shared the space	Wood	
adnarim.nguyen@gmail.com	Yes, Renter				B	4	Rarely	Weekend and Weekday	A couple of minutes	Waiting / resting	Medium	Open	stay alone	Concrete	
fogel.jack@gmail.com	No, Just visitor				C	4	Rarely	Weekend	1 hour	Reading, sitting	High vegetation level	Open	shared the space	Wood	
kwclawson@gmail.com	Yes, Renter				A, B	3	At least once per week	Weekday	120 min	Relax, work, eat	High vegetation level	Open	shared the space	Wood	
maggiebrickner_1@hotmail.com	Yes, Renter				C, E	3	Every month	Weekday	5-10 minutes	Rest, waiting for friends, people watching, drink coffee	High vegetation level	Enclose	stay alone	Wood	
crgschmitt@gmail.com	Yes, Renter						Rarely	Weekend and Weekday			High vegetation level	Open	shared the space	Wood	
ryan.galas@gmail.com	No, Just visitor					3	Rarely	Weekend	Rarely	Resting	High vegetation level	Open	stay alone	Wood	
kangil.cheon@gmail.com	No, Just visitor				C		1-2 time per year	Weekend	5mins	Resting	High vegetation level	Open	stay alone	Wood	
caitlinlostocco@gmail.com	Yes, Renter					3	Rarely	Weekend	1-2 hours	talk with friends	High vegetation level	Open	shared the space	Concrete	
juliaorly4@gmail.com	Yes, Renter				B	5	At least once per week	Weekend and Weekday	an hour	Reading	High vegetation level	no preference	stay alone	metal	
caroline.trejo52@gmail.com	Yes, Renter						Rarely	Weekend			High vegetation level	Open	shared the space	Wood	
whuff88@gmail.com	Yes, Renter						1-2 time per year	Weekend	1 hour	Relaxing	High vegetation level	Enclose	shared the space	Wood	
tealjenkins@icloud.com	No, Just visitor					5	1-2 time per year	Weekend	1-2 hours		High vegetation level	Open	shared the space	Wood	
kelly14watts@gmail.com	No, Just visitor						1-2 time per year	Weekend	2 hours	Hanging out with friends	High vegetation level	Open	shared the space	metal	
ryanschork@gmail.com	Live in Pac Heights				B, C, D	4	Every month	Weekend and Weekday	10 minutes	Sit on a nice day	Low vegetation level	Open	shared the space	Wood	
anoshan_ac@hotmail.com	No, Just visitor				C	4	Rarely	Weekend	Haven't		High vegetation level	Open	shared the space	Wood	
bchinnakotla@berkeley.edu	No, Just visitor				A	5	Every month	Weekend and Weekday	30 min	Resting, reading	High vegetation level	no preference	stay alone	Wood	
arthibobbala@gmail.com	Yes, Renter				C	5	Rarely	Weekend	less than 5 minutes a week	look up directions, rest,	High vegetation level(more trees)	Open	shared the space	Wood	
patyalbanese@gmail.com	No, Just visitor				D, F	4	Every month	Weekend	2 hours	Picnic with friends	High vegetation level(more trees)	Open	shared the space	Wood	
leticiaolima@gmail.com	No, Just visitor				C, F	5	1-2 time per year	Weekend	1 hour	Resting	High vegetation level(more trees)	Open	shared the space	Wood	
danielstan78@gmail.com	No, Just visitor				A	3	Rarely	Weekend	30 min	Reading	High vegetation level(more trees)	Open	stay alone	Wood	
fcbenedetti@gmail.com	Yes, Renter				B	3	Rarely	Weekend and Weekday	few minutes	waiting someone	High vegetation level(more trees), High vegetation level(more bushes and planters), High vegetation level(more grass)	Open	shared the space	Wood	

a4: Pin-up

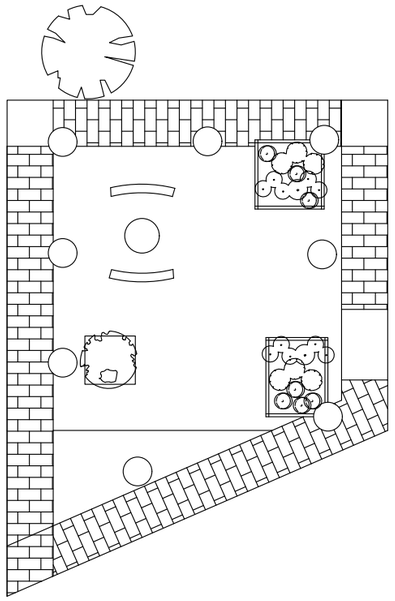

RANK STREETSIDE SPACES in DUBOCE TRIANGLE !
INSTRUCTION
very Nice ☺
(very satisfied)
nice
Neutral
bad
very bad
(need improvement)
Duboce Avenue
Muni N
Muni Metro
Divisadero Street
Walter Street
Belcher Street
14th Street
Castro Street
Henry Street
Sanchez Street
15th Street
Church Street
Sharon Street
Beaver Street
Muni Metro
16th Street
Market Street
Noe Street
Chula Lane
17th Str

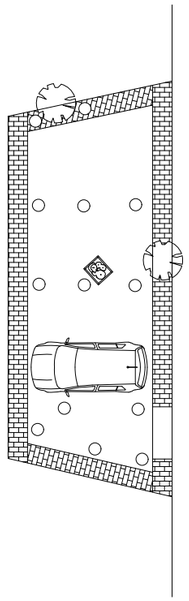
a5: Observation

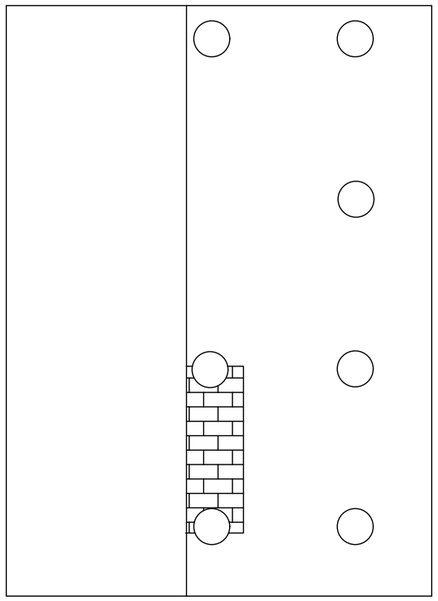
Observation Data																
Site	**Date**							**Behavior**								
#	Date	Day	Weather	Temp.	Time	Total # ppl	Taking pet	Stand	Sit	Chat	jog	reading	resting	using phone	go through	pass by
guys flower	10/10/2021	Sunday	sunnny windy	20 C	11:20	10	3	2	1	1	2		1		1	2
guys flower	11/9/2021	Thursday	Mist windy	12.5 C	17:35	8	1				2					5
guys flower	11/12/2021	Sunday	Sunnny	23.5 C	14:18	6			2	2			1	1		2
L'Ardoise Bistro	10/10/2021	Sunday	sunnny windy	20 C	11:37	26	3	5	4	4	1	1	2	3	2	10
L'Ardoise Bistro	11/9/2021	Thursday	Mist windy	12.5 C	17:50	9	3		1		3				1	2
L'Ardoise Bistro	11/12/2021	Sunday	Sunnny	23.5 C	14:40	17	1	2	5	3		1	3	1	1	7
Intersect of 15th St	10/10/2021	Sunday	sunnny windy	20 C	11:37	6	1		2		1		1	1		3
Intersect of 15th St	11/9/2021	Thursday	Mist windy	12.5 C	17:50	2					2					
Intersect of 15th St	11/12/2021	Sunday	Sunnny	23.5 C	14:40	4	1		2				1	1		2
Intersect of 14th St	10/10/2021	Sunday	sunnny windy	20 C	11:55	14	4	3	3	2			2	1	3	2
Intersect of 14th St	11/9/2021	Thursday	Mist windy	12.5 C	18:10	4					4					
Intersect of 14th St	11/12/2021	Sunday	Sunnny	23.5 C	14:57	9				2	4		2	1	1	1
S&A Liquors	10/10/2021	Sunday	sunnny windy	20 C	12:15	11	3	2	1					1	1	3
S&A Liquors	11/9/2021	Thursday	Mist windy	12.5 C	18:30	3	1									2
S&A Liquors	11/12/2021	Sunday	Sunnny	23.5 C	15:18	8							2		2	4
Books & Bookshelves	10/10/2021	Sunday	sunnny windy	20 C	12:38	2										2
Books & Bookshelves	11/9/2021	Thursday	Mist windy	12.5 C	18:47	4	1				3					
Books & Bookshelves	11/12/2021	Sunday	Sunnny	23.5 C	15:40	6									3	3

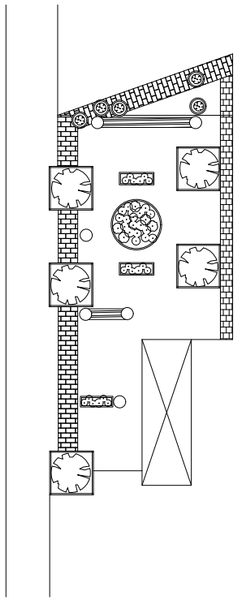
**red indicate stay the full time when I observed

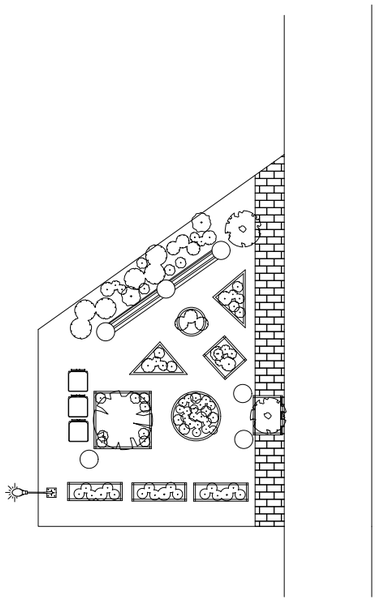
a6: Field Notes

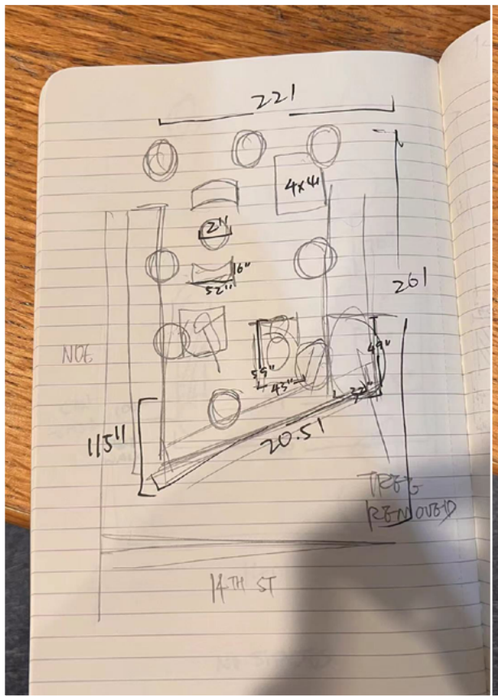


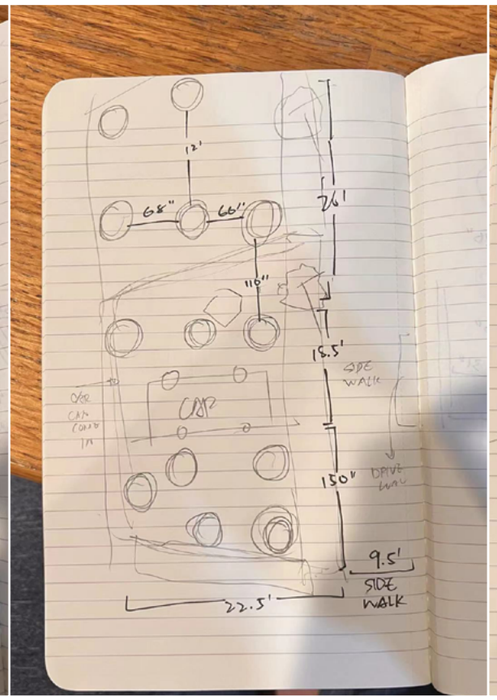


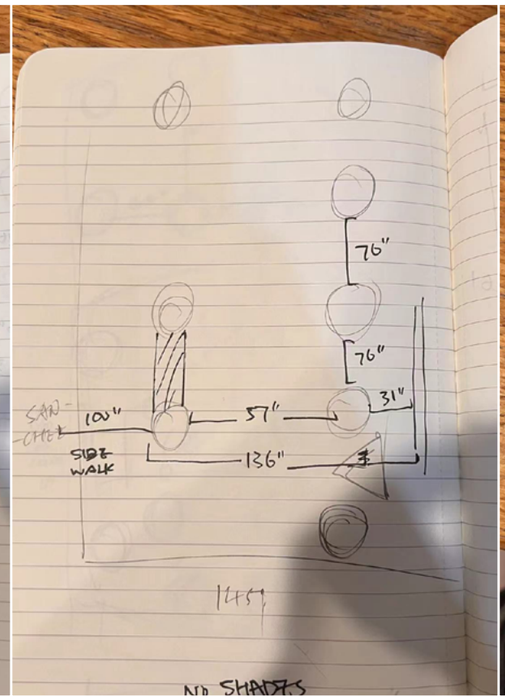


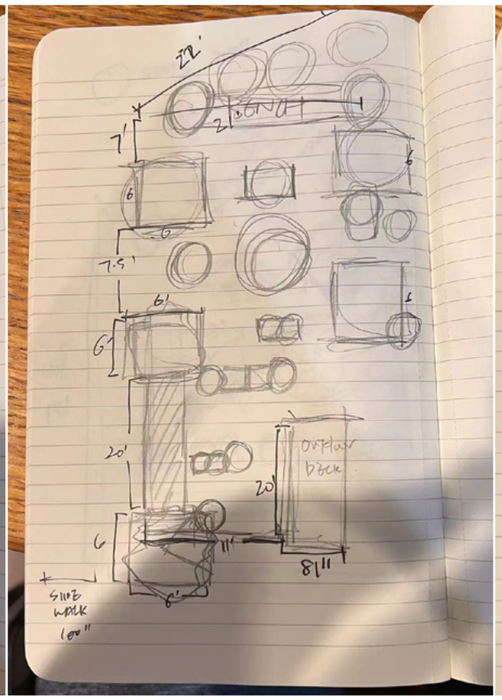


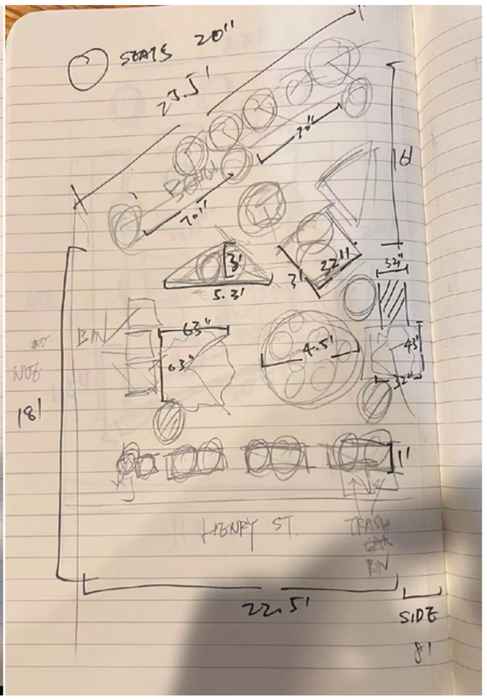












Appendix Parking Configuration

ID	Geography	Cars_Total	Bikes_Total	Pedestrian_Total	Pedestrian_Hesitancy_Total	Bike_Sidewalk_Total	Pedestrian_Hesitancy_Angled	Pedestrian_Hesitancy_Perpendicular	Pedestrian_Hesitancy_Parallel	Pass_Stop_Sign_Bike_Car_Total	Pass_Stop_Sign_Car	Pass_Stop_Sign_Bike	Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpendicular			Pass_Stop_Sign_Parallel			Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpendicular			Pass_Stop_Sign_Parallel		
																CARS									BIKE					
MornAfter	Castro_16	266	9	45	5	5			5	44	22	22				41	3	7.3%	225	19	8.4%				41	3	7.3%	225	19	8.4%
MornAfter	Sanchez_14	168	50	96	8	1	4		4	31	17	14	77	6	7.8%				91	11	12.1%	30	14	46.7%						
MornAfter	Sanchez_Duboce	127	80	102	5	2	1		4	20	13	7	50	4	8.0%				77	9	11.7%	13	7	53.8%						
MornAfter	Noe_14	134	10	67	5	0		1	4	23	21	2				4	0	0.0%	130	21	16.2%				7	1	14.3%	3	1	33.3%
															7.9%			3.7%			12.1%			50.3%			10.8%			20.9%

ID	Geography	Cars_Total	Bikes_Total	Pedestrian_Total	Pedestrian_Hesitancy_Total	Bike_Sidewalk_Total	Pedestrian_Hesitancy_Angled	Pedestrian_Hesitancy_Perpendicular	Pedestrian_Hesitancy_Parallel	Pass_Stop_Sign_Bike_Car_Total	Pass_Stop_Sign_Car	Pass_Stop_Sign_Bike	Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpendicular			Pass_Stop_Sign_Parallel			Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpendicular			Pass_Stop_Sign_Parallel		
																CAR									BIKE					
AfterEv	Castro_16	66	0	60	3	0			3	48	46	2				81	0	0.00%	358	46	12.85%							4	2	50.00%
AfterEv	Sanchez_14	275	68	98	11	3			11	53	22	31	130	8	6.15%				145	14	9.66%	68	31	45.59%						
AfterEv	Sanchez_Duboce	205	99	151	8	1	2		6	48	18	30	67	7	10.45%				137	11	8.03%	18	6	33.33%				81	24	29.63%
AfterEv	Noe_14	165	11	114	16	0		2	14	33	28	5				8	1	12.50%	152	27	17.76%							11	5	45.45%
															8.3%			6.3%			12.1%			41.7%						41.7%

CARS

		TOTAL		TOTAL		TOTAL		TOTAL																						
		N to S		S to N		E to W		W to E		N	S	E	W																	
MORNING	**Castro_16**	134	11	91	8	30	3	3	0	8%	9%	10%	0%																	
EVENING		230	40	128	4	16	0	5	0	17%	3%	0%	0%																	
	Sanchez_14	31	4	60	8	50	3	27	2	13%	13%	6%	7%																	
		44	0	107	13	86	1	44	7	0%	12%	1%	16%																	
	Sanchez_Duboce	6	0	27	0	50	4	44	9	0%	0%	8%	20%																	
		23	0	47	1	67	7	67	10	0%	2%	10%	15%																	
	Noe_14	49	6	71	14	4	0	4	1	12%	20%	0%	25%																	
		69	11	73	13	8	1	10	3	16%	18%	13%	30%																	

BIKES

		TOTAL		TOTAL		TOTAL		TOTAL																						
		N to S		S to N		E to W		W to E		N	S	E	W																	
MORNING	**Castro_16**																													
EVENING		3	2	1	0					67%	50%																			
	Sanchez_14					20	11	10	3			55%	30%																	
						12	4	56	27			33%	48%																	
	Sanchez_Duboce	21	9	10	0	17	7	32	22	43%	0%	41%	69%																	
		29	4	12	0	18	6	40	20	14%	0%	33%	50%																	
	Noe_14	2	1	1	0	6	1	1	0	50%	0%	17%	0%																	
		1	1	1	1	2	0	7	5	100%	100%	0%	71%																	

ID	Geography	Cars_Total	Bikes_Total	Pedestrian_Total	Pedestrian_Hesitancy_Total	Bike_Sidewalk_Total	Pedestrian_Hesitancy_Angled
AfterEv	Castro_16	66	0	60	3	0	
AfterEv	Sanchez_14	275	68	98	11	3	
AfterEv	Sanchez_Duboce	205	99	151	8	1	2
AfterEv	Noe_14	165	11	114	16	0	

Pedestrian_Hesitancy_Perpendicular	Pedestrian_Hesitancy_Parallel	Pass_Stop_Sign_Bike_Car_Total	Pass_Stop_Sign_Car	Pass_Stop_Sign_Bike	Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpe	
									CAR
	3	48	46	2				81	0
	11	53	22	31	130	8	6.15%		
	6	48	18	30	67	7	10.45%		
2	14	33	28	5				8	1
							8.3%		

ndicular	Pass_Stop_Sign_Parallel			Pass_Stop_Sign_Angled			Pass_Stop_Sign_Perpendicular		
								BIKE	
0.00%	358	46	12.85%						
	145	14	9.66%	68	31	45.59%			
	137	11	8.03%	18	6	33.33%			
12.50%	152	27	17.76%						
6.3%			12.1%			41.7%			

Pass_Stop_Sign_Parallel		
4	2	50.00%
81	24	29.63%
11	5	45.45%
		41.7%
	t	

Appendix Commercial Street Slow 14th Street

Appendix

Acronymns

DTNA - Duboce Triangle Neighbourhood Association

SFMTA - San Francisco Municipal Transportation Agency

Online Survey Questions - 21 responses

1. Which is your favourite spot to hang around in Duboce triangle?
2. Which area/spot do you dislike and often avoid passing through?
3. Which street do you find the most vehicle busy in Duboce triangle?
4. Which street do you find the least vehicle busy/quietest in Duboce triangle?
5. Which intersection do you think is the most busy in Duboce triangle?

Interview questions for residents and passerby's - 15 responses

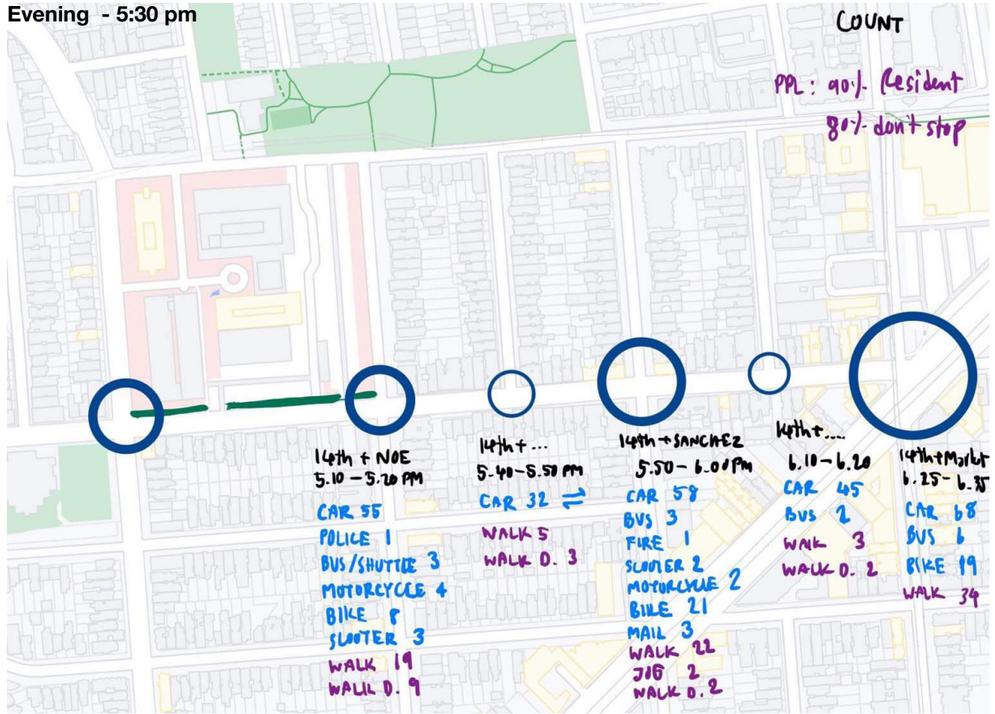
1. Where are you going? Where are you coming from?
2. How many times in a week do you use 14th street?
3. Do you find 14th street safe? if not, what do you find unsafe?
4. Do you like walking on the street? What do they like or dislike?
5. Do you stop/pause at any spots on 14th street? if yes, for what?
6. Do you find 14th street crowded with pedestrians?

Interview questions for shopkeepers - 7 responses

1. Approximately how many people come to your shop in a day?
2. What are the busy/rush hours for your business?
3. Do youmostly get duboce triangle residents as customers or passerby's? what is the proportion
4. How do your customers come to your shop? by foot, car or mass transport? what is the majority?
5. Where do your goods come from? Do you require loading and unloading trucks?How frequently do they come? Is there a designated space for them?
6. Do you see vehicles and people using 14th street as a thoroughfare?
7. Does your business benefit from the vehicles passing through 14th street?
8. Would you prefer to make 14th street slow? what effects could it have on your business?

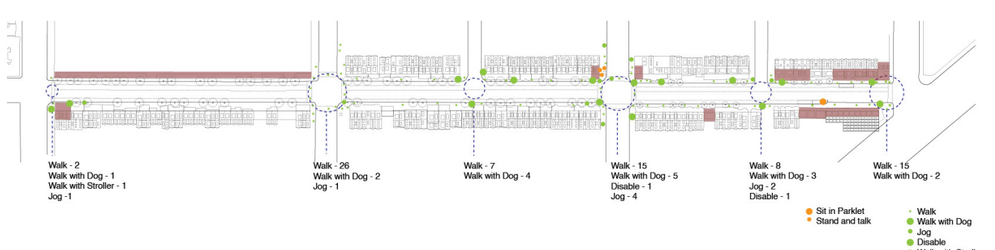
Counting maps - on site and initial notes

Evening - 5:30 pm



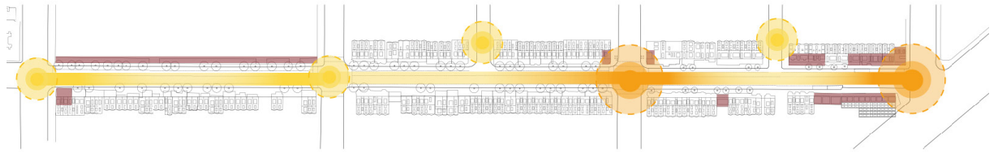
Afternoon 1:00-5:00pm

Morning 8:00-10:00am

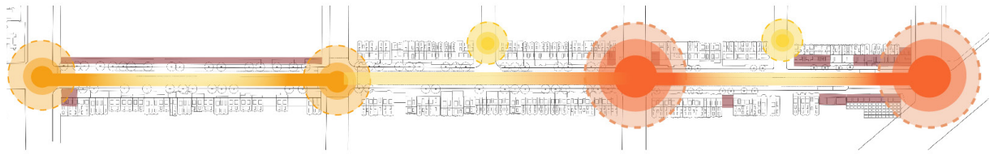


Noise maps - after measuring decibels

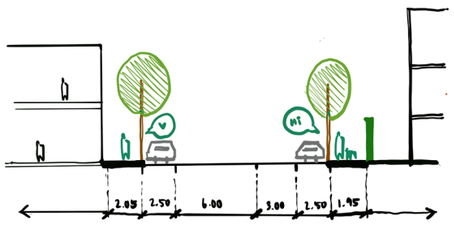
Morning - 10 30 am and Afternoon - 2:30 pm

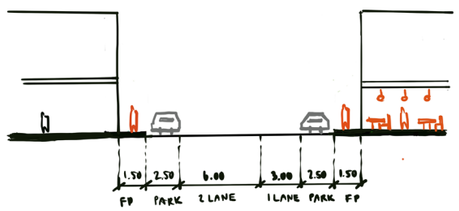


Evening - 5:30 pm



On site - Sections





Participatory mapping with residents