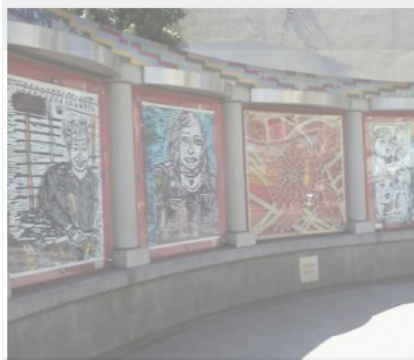




BART PLAZAS IN SAN FRANCISCO



DESIGNING SAFE AND COMFORTABLE WAITING SPACES



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Landscape Architecture
Senior Project 2009

ABSTRACT

Transit plazas will become more valuable public spaces for communities as new patterns of development bring more mixed-use activities around public transportation nodes. Plaza spaces have the potential to support social interaction among community members, and can be places where people gather to meet with their friends, catch up with their neighbors, eat lunch, or linger. Unfortunately several BART plazas in San Francisco do not adequately provide users with a safe and comfortable waiting environments that encourage frequent use. The plaza designs sacrifices the experience of the pedestrians in order to provide ease of use for cars, buses and trains.

In my research, I focus on elements that affects the sense of comfort and safety among users such as seating opportunities, pedestrian space and accessibility, and the amount of visual interest. The three sites that I study are 16th Street Plaza, Balboa Park Plaza, and Glen Park Plaza. Through site analysis, behavior observations, and community surveys, I was able to pin point some of the successful and unsuccessful features of each plaza space.

The prevailing problems of the plazas include the lack of comfortable seating, crowding, dangerous pedestrians crossings, and unused isolated seating areas. Remedies to these problems include adding more informal seating and leaning opportunities, using more vibrant vegetation palettes, and adding color to blank walls to enliven dull spaces. The plazas can benefit from an update of bus shelters that can accommodate the high volume of users and can provide protection from the elements. Lastly, informal stages can provide opportunities for neighborhoods to host community events and activities which can help to strengthen community ties among residents.

ACKNOWLEDGMENTS

Thank you

To my family for supporting me and feeding me delicious home cooked meals

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Bart Transit Plazas in San Francisco

Designing Safe and Comfortable Waiting Spaces

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INSPIRATION

Last summer I had the opportunity to travel to Japan to learn about Japanese culture in a study abroad class taught by Professor Isao Fujimoto. I had never imagined, that in the month that I stayed, I would grow so attached to the neighborhood of Seta. Even though I could not read the street signs or understand Japanese, I could sense the warmth that the locals exuded. It was really amazing how much one can learn about a place by slowing down and being more observant. I got to see and experience many aspects of the neighborhood that I would have otherwise disregarded if I had taken the bus instead of walking.

During one of my many runs to the local 7-11 for green tea ice cream, I noticed there was a small plaza in front of the train station situated in the middle of the bus turnaround. (Fig.1) The plaza was surrounded by businesses including convenience stores, bars, and restaurants, a bakery, bank, and police station.

The space was consciously designed with seating area under mature trees and views of a



Fig.1 Seta Train Station

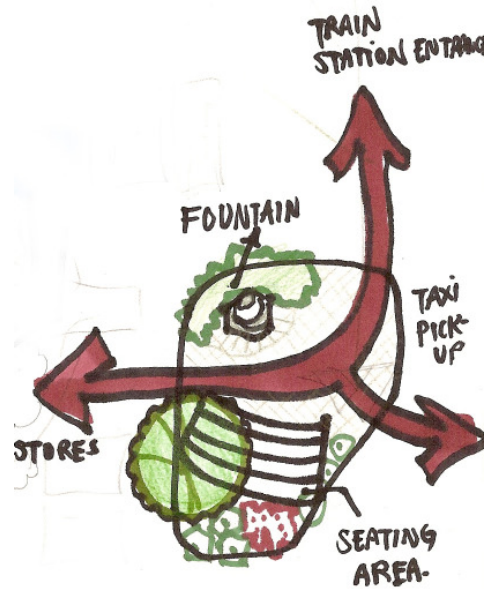
nearby water fountain. I spent a weekday afternoon sitting in the plaza and noticed how empty the space was. There would be an occasional person walking through the space to get to the surrounding stores, but nobody sat in the plaza to have lunch, or to linger. I wondered why this was the case in such a busy and frequently used location.

Maybe it was because the space was overwhelmed by the movement of the cars and buses. Maybe it was difficult for pedestrians to get to the area because the crossings were not clearly marked and were blocked by moving

INSPIRATION



Seta Station



Sketch of the plaza space

buses and cars. It was also quite possible that the users of area preferred the air-conditioned stores over sitting outdoors in the heat. These small observations sparked my initial interest in how the design of transit plazas influences user behaviors.

INTRODUCTION

Transit plazas are often times the forgotten spaces leftover from the construction of transit stations which were created to allow people to pass through to access subway entrances and bus stops. The weakness of transit plazas is that they were designed around the of cars, buses, and trains without considering the experience of the pedestrians. Bay Area Rapid Transit (BART) system was developed during a time when the automobile dominated the roads . The designs that we see today at many BART plazas are remnants from 1970's design standards and are long due for an update.

BART plazas are highly used spaces that generate a lot of pedestrian activity. We can capture the dynamics of these areas and make the space more enjoyable for its users by creating more comfortable waiting environments. To utilize the space to its' full potential, plazas should be more than just places to wait for buses and places to pass through en route to another destination. By providing opportunities for social interaction, BART plazas have the potential to be vibrant places that help to foster solidarity among community members. The plazas can provide places for people to gather, to meet with their friends, to catch up with their neighbors, to eat lunch, or to just enjoy the space. The space is there, the users are there, and the opportunity is there, we just need to design the space so that it fits the users' need for comfort, safety, and interest.

As Transit Oriented Development becomes more ingrained into city planning, activities will be more clustered around transit centers, and transit plazas will become more prominent spaces for the public. In my research of transit plazas in San Francisco, I study how the design of BART plazas can affect the perceived comfort and safety of its users, and how this, in turn, influences user behavior. The goal of my project is to produce a set of guidelines recommendations in designing successful transit plazas.

METHODOLOGY

I selected three BART plazas in different parts of San Francisco to conduct case studies. The areas that I chose were 16th Street Plaza, Balboa Park Plaza, and Glen Park Plaza. Each of these sites are unique in its own way and represent the diverse populations within San Francisco. Through the case studies of 16th Street Plaza and Balboa Park Plaza, I observed how design factors encourage or discourage use and applied this research in studying Glen Park Plaza.

I began my study by visiting each of the plazas to examine how the nearby stores, offices, restaurants, and houses influences patterns of use. After I felt that I had a grasp of the character of the neighborhood, I began conducting a site analysis. All three of the stations had more than one plaza area, so I divided the spaces and spent time observing each space

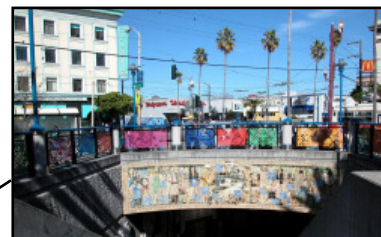


Fig.2 16th Street Mission



Fig.3 Glen Park



Fig.4 Balboa Park

METHODOLOGY

separately. Being as discreet as I could, I stayed in the plaza spaces for around ten to fifteen minutes observing the behavior of the people sitting and walking through. The sense of comfort and safety is the result of the physical and psychological experience of people and this affects whether and how often the space is used. Ultimately I wanted to figure out what made the plaza safe and comfortable for the users. In my observations I took note on how people interacted with one another and where people tended to use and avoid. Was there enough seating to accommodate the high volume of users, or were people forced to stand around? Was there a conscious effort to incorporate landscaping into the site? Does the design offer visual interest and does it reflect the character of the neighborhood?

For my case study of Glen Park I surveyed plazas users and nearby businesses. It was an invaluable experience gave me a better understanding of specific needs of the community, and also allowed me to share my enthusiasm and get others interested in beautify their neighborhood.

CASE STUDY: 16TH STREET AND MISSION

Location and Context

There are two plazas located at the southwest and northeast corners between 16th Street and Mission Street. The surrounding area is mixed commercial and residential uses. Nearby restaurants include McDonalds, Burger King, as well as Chinese and Mexican family restaurants. There are also convenience stores, banks, art galleries, and ethnic supermarkets in the area.

MUNI Lines

There are 6 MUNI lines that run through the area. This includes 14 Mission, 14L Mission Limited, 22 Fillmore, 33 Stanyan, 49 Van Ness, and 53 Southern Heights line.

History and Description



Fig.5 Plaza space before redesign



Fig.6 Plaza space after redesign

Looking at the plazas today it is hard to imagine that it was once an uninviting space. Six years ago, Urban Ecology worked with the community and held design charrettes to come up with ideas to redesign the site. Community members wanted to see more seating, more color and bike storage. Taking community feedback into consideration, Urban Ecology removed the harsh steel fences, the drab concrete walls and planter boxes that made the space dull.

CASE STUDY: 16TH STREET AND MISSION

Both the southwest and northeast plazas were transformed with murals and colorful site furniture that reflect the cultural identity of the Mission district. Both plaza spaces share the same theme, but design of each space is fairly different. The design was started in 1997 and was completed on May 17, 2003 (Urban Ecology).



Murals and artwork



Fig.7 Flyer promoting poetry night at the plaza



Mural and colorful fencing

Special Activities

In the southwest plaza, there has been an open space designed to allow booths to be set up. When the open space is not used by vendors, it is used as a public stage for the many talented people of the community. Due to its prime location in the fairly busy place, the plaza successfully holds scheduled performances as well as informal mic nights every Thursday from 9:30 to midnight. The event, which is free for the public, has been going on for over five years and features performances from poets, musicians, bands and comedians (16th and Mission Review).

CASE STUDY: 16TH STREET AND MISSION







Site Analysis

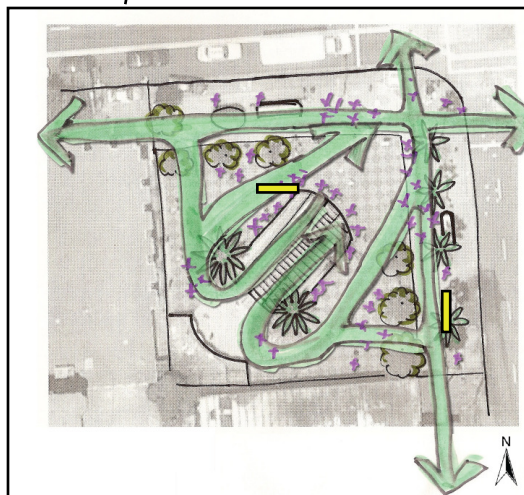
Context Map



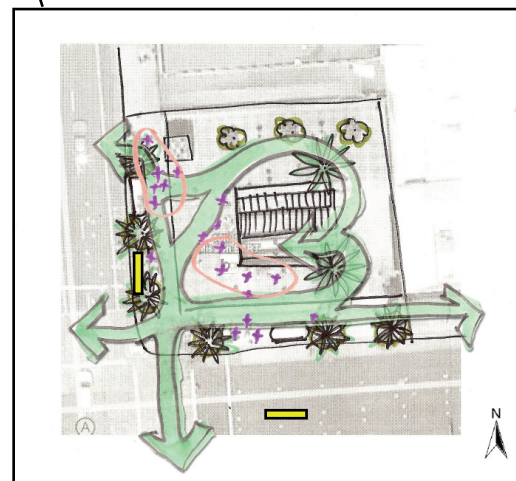
Fig. 8

Legend

-  Circulation Pattern
-  Noise
-  Wind Pattern
-  Afternoon Sun Exposure
-  Pedestrian Crowding
-  Bus Shelter



Southwest Plaza



Northeast Plaza

CASE STUDY: 16TH STREET AND MISSION

Site Observations

Southwest Plaza

Sunday 4/12/2009 1:00-1:15pm

Upon arriving at the plaza I was both surprised and intrigued that there was music playing and booths set up around the plaza selling clothing, jewelry and art. Immediately I felt like I had a reason to sit down and hang around. I was

no longer the college student working on a senior project, but I was a visitor enjoying the activities of the plaza and neighborhood.



Booths selling clothing and artwork

In the corner of the plaza there was a food vendor selling hot dogs and snacks, with a line of customers hungry for lunch. It was a lively atmosphere, where the music from the boom box overpowered the noise from traffic. The intersection of 16th street and Mission was fairly busy, but the controlled speed of the cars did not pose concern for pedestrians. There were crowds of people gathered around the bus shelter waiting for the MUNI lines. Although there were several benches in the plaza fairly close the bus shelter, there was still not enough seating to accommodate the users. Some of the activities that I observed were people eating lunch, a person sleeping on a metal bench, and people walking around the plaza examining things being sold at the booths. People working at the booth looked relaxed, and were leaning against the railing and walking around talking to one another. There was a constant stream of users entering and existing the station, some of which avoided the crowded space of the plaza, by taking alternative paths.

CASE STUDY: 16TH STREET AND MISSION

Sunday 5/24/2009 2:40-2:55pm

It was purely coincidence that I would visit the site on the same day the Carnival Street Fair took place. The difference between the previous site visit was more crowding and music from the festivities. When seating became limited, users leaned against the railing and took advantage of the informal seating steps. There was much more visible litter on the floor and trash cans were overflowing with garbage.

Northeast Plaza

Sunday 4/12/2009 1:20-1:30pm

There was fairly less activity occurring in this plaza space. I was surprised that even though there were working escalators going down to the BART, more users chose to take the stairs in the Southwest plaza instead. Walking toward the space the first thing I noticed was a row of



individual metal seats. My initial reaction to this plaza space was the feeling of unwanted confrontation. The people who were sitting in these individual seats were like sitting ducks because they were exposed to the public eye from all sides. There was a constant stream of people walking directly in front of the seating, so it was uncomfortable to stand and linger in the space for too long. The pedestrian space is more narrow and has visible problems of litter and pigeon droppings.

CASE STUDY: 16TH STREET AND MISSION

Findings

There is a lot of visual interest in these two plaza spaces. The overall theme of the plaza features bright colors of pinks, yellows, and blues which exudes excitement and energy. It is very appropriate color palette as it mirrors the festivities of the Mission district and gives a peek into the cultural identity of the neighborhood. There has been a conscious effort to cover as much walls with mural and artwork to reduce the amount of dead blank wall space. There is colorful furniture and site amenities dotted within the plaza. There are a wide range of seating options among the two spaces ranging from metal benches that seat two to three people, to individual metal seats, to informal seating on steps. What I appreciate most about the plazas is the amount of detail given to specific design elements such as the light poles, fences, trash cans, and even the pavement. Mexican palm trees are planted along the sides of the plazas to mark the plaza entrances and give the space more presence.

There is some public concern about the safety of the plaza because of undesirables such homeless occupying the space and sleeping on the benches. There is also considerable amount of garbage on the floor at any given day. While the plazas do receive a fair amount of light the general lack shading can be a nuisance when the temperatures rise. Lastly, the Southwest Plaza is more consistently used than the northeast plaza. This unequal distribution of use of the two plaza spaces is the result of the different design features of each space.

CASE STUDY: 16TH STREET AND MISSION

Summary

Southwest Plaza

Successful features

Strong cultural identity: art work provides interesting things to look at

Public restrooms are available to the public

Plenty of available seating that provides clear views to the bus stop

Space for activities that attracts crowds

Opportunities to linger provided by food vendors and sales booths

Bus shelters are connected with the plaza and provide clear sight lines

Easy access and direct path for pedestrians entering BART

Unsuccessful features

Lack of sheltered seating areas

Noticeable garbage and litter

Lack of shading from trees

Northeast Plaza

Successful features

Visual interest of art and murals

Bus shelters are connected with the plaza and provide clear sight lines

Unsuccessful features

Lack of trash cans

Little variation of seating and lack of group seating

Individual seating dominated the spaces and marks territories of space.

Metal benches are dirty

Unpleasant smell from pigeon droppings

CASE STUDY: BALBOA PARK

Location and Context

Balboa Park Station is located between Excelsior and Ingleside neighborhood. The station sits in between Interstate 280, and the busy streets of Ocean Avenue, Geneva Avenue and San Jose Avenue. It is close to Balboa Park, Denman Middle school, Lick Wilmerding High School, City College of San Francisco, the historic MUNI car barn, and



Transit users entering BART station

two restaurants. The general lack of restaurants and stores in the immediate area greatly reduces the opportunity for people to linger in the plazas. Although there is a high volume of commuters, users tend to walk through the plazas to transfer between MUNI and BART.

MUNI Lines

There are eight MUNI lines that serve this area: 9X Bayshore, 26 Valencia, 29 Sunset, 36 Teresita, 43 Masonic, 49 Mission, 54 Felton and 88 Shuttle line.

History

The station was opened in 1973. The station and plaza spaces were designed by architects and artist Corlett and Spackman, and Ernest Born. There was a lot of constraint in the design of the plaza space because the station is surrounded by MUNI tracks and Interstate 280.

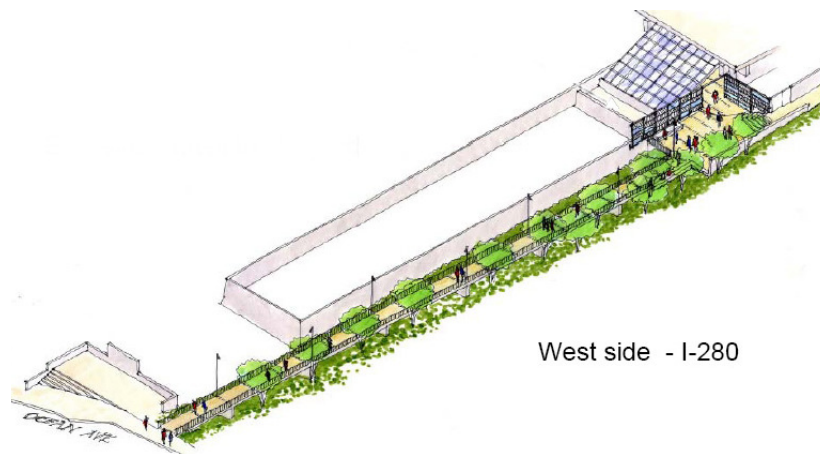
CASE STUDY: BALBOA PARK

Description

Having lived in the Excelsior district for seven years, I have used this BART station frequently. I was excited to sit down in these plazas space to try to figure out how the design impacts the way that people use it. This station is not a place where people tend to linger even though there is a hint of effort in creating waiting spaces for its users. There are no interesting features that warrant the user to hang around the site. The dominate material used in the design of the station and plaza spaces is concrete. There is minimal planting except for the few existing shrubs which are mundane and lack color. The energy from the hundreds of users of the plaza is the rush to leave the plaza to reach their destinations. I studied three plaza areas at Balboa, all which were disconnected from one another and have adequate seating and unsafe pedestrian crossings.

Process

It is an exciting time for the community because there are plans to redesign this public space. Balboa Park Station is part of the Better Neighborhoods Program, a program



West side - I-280

Fig.9 Artist Sketch of proposed walkway

CASE STUDY: BALBOA PARK

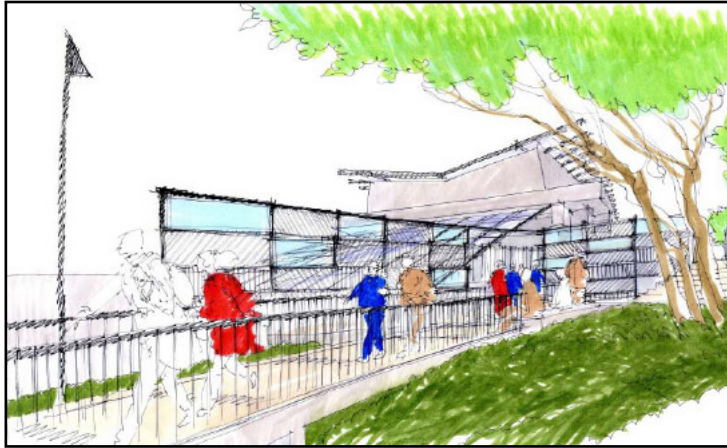


Fig.10 Artist Sketch- perspective view of walkway

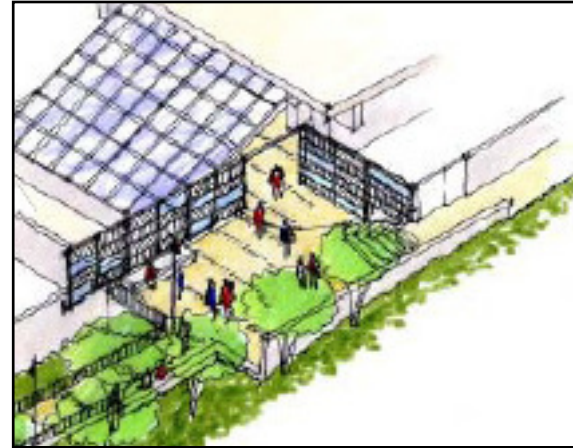


Fig. 11 Artist Sketch of new plaza entrance

that uses community-based planning to address the needs of the neighborhood. In April 2009, a new Station Plan to redesign the station area was adopted. Included in the design is a plan to update pedestrian waiting spaces, bus shelter, light fixtures and redesign the streets to make them more pedestrian and bike friendly (SF Planning, Balboa Park Station)

Curious about the new designs for the station, I emailed Tim Chan, a Senior Planner for the BART who is involved with the design of a new entrance in the west side of the station. The project, which is set to begin this summer, includes plans for a new attractive spacious plaza entrance. The plaza area will be connected to a 250 ft. walkway that links to Ocean Ave and will have new landscaping, planter boxes, and lighting. The goal of this new entrance is to provide a safe alternative for the transit users entering the station through the west side. Currently the only available route is along the narrow pathway of the train tracks (Balboa Park Ocean Avenue Plan). This project is a wonderful step in the right direction. The concept for the new plaza space takes into consideration the experience of the users as well as the look and feel of the space. Unfortunately, this cannot be said about the other plazas in the station.

CASE STUDY: BALBOA PARK

Site Analysis

Context Map

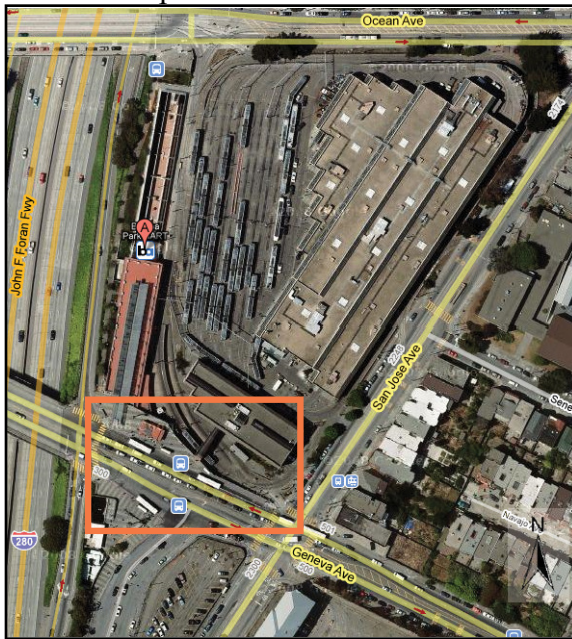







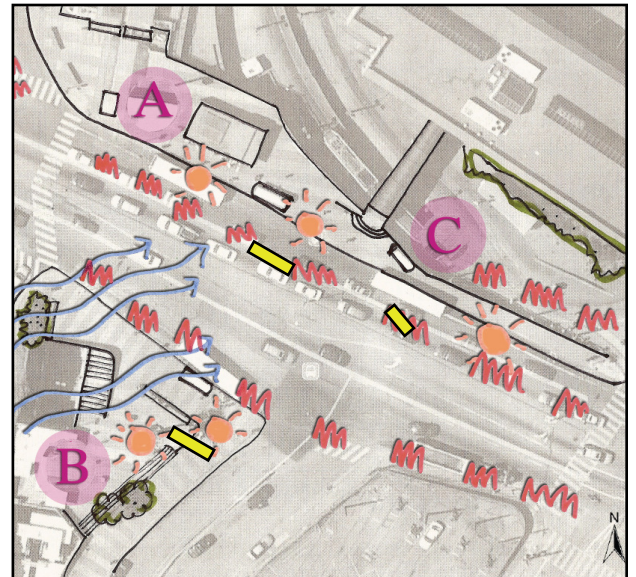
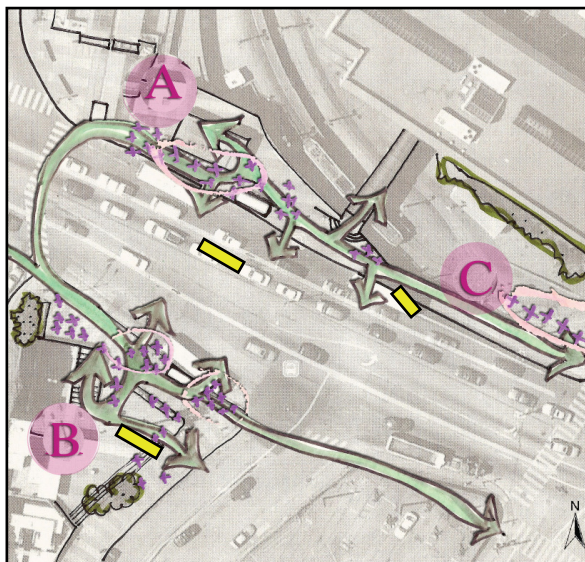


Fig.12

Legend

-  Study Area
-  Circulation Pattern
-  Noise
-  Wind Pattern
-  Afternoon Sun Exposure
-  Pedestrian Crowding
-  Bus Shelter



CASE STUDY: BALBOA PARK

Site Observations

Area A

Friday 3/27/2009 2:20-2:30 p.m.



Fig.13 Seating area



Fig.14 Narrow sidewalk with seating

There is no unifying theme for the plaza other than the consistent drab concrete and blank walls that fill the space. The area is unorganized and without defined loading zones, there is a lot of crowding where buses drop off passengers. The crowding causes conflict between pedestrians waiting for buses and those passing through. Since the pedestrians pathway are narrow, people are forced to walk uncomfortably close to others who are sitting on the benches. While there is lack of waiting spaces and seating opportunities, there is an abundance of duplicated and unused site furnishings such as newspaper stands. The area is cluttered by unused newspaper stands, many of which have been tagged or used as garbage containers. The duplication of these site amenities not only obstructs pathways, it also causes confusion for the users.

In the corner of this plaza (Fig. 13), is a seating area that is under utilized. This comes to no surprise considering the fact that the benches have been placed next to a garbage dumpster

CASE STUDY: BALBOA PARK

and hidden by bike lockers. Even though I have used this station for seven years, I did not find out about this seating area until I began my site analysis. The space is uninviting because of the high level of noise from traffic and the fast speed of cars and the buses passing through. It is considerably unsafe for those who try to cross this area



because there are cars entering the freeway. Three trash cans have all been placed in this area where no users wait. Since there is no wind coverage or shading from the sun, users opt to stand behind the bus shelters for wind protection, rather than sitting within. Many Bart and MUNI employees also use the space to chat with others during their breaks.

Area B

Friday 4/3/2009 7:00-7:15pm

The only designed space seems to be a long concrete bench that is fairly successful in accommodating the large volume of commuters. This may be its only redeeming feature as the concrete bench is cold and uncomfortable. Located in the middle of the plaza space, people sitting on the bench cannot see who is coming from behind them (Fig.15). It offers no protection from the elements, and is situated so far back from the sidewalk that it doesn't



Fig. 15 Seating area

CASE STUDY: BALBOA PARK



Fig. 16 Private bench area



Fig. 17 Car pick-up and drop-off area



not provide a clear view of the incoming traffic and buses. For this reason many users opt to stand next to the bus shelter or closer to the sidewalk. There is a fairly large area designated for users to stand, but the space could be used to its fuller potential by including more seating opportunities. There is a small seating area in the corner of the site, but this is the least favorable seating spot to use (Fig. 16). Not only is it adjacent to the freeway exit, it is furthest away from the bus stop, and the Bart station entrance. The planter box behind the bench offers little barrier from the strong winds, cars, and noise from the freeway and is littered with garbage. At the car pick-up and drop-off area, there is absolutely no seating for those waiting (Fig. 17). While there are stairs, few use it as seating since the narrow width and depth do not make it particularly comfortable to sit on. Lastly, there are eye sores like broken wooden poles, chain linked fences, as well as graffiti on the concrete walls.

CASE STUDY: BALBOA PARK

Area C

Saturday 4/11/2009 12:20-12:35pm

This is an area where passengers wait for the light rail trains J Church and K Ingleside



Fig. 18 Waiting space



Fig. 19 Entrapment spot

lines to depart from the terminal. This space generates a lot of user activity which a local food vendor has taken advantage of by setting up a food stand to sell snacks and drinks. There has been no thought put into the design of the area. It was not intended to be used as a waiting area in the original design, but ended up as a make shift waiting area because of its proximity to the terminal. There are no benches, so users are left with the only option of standing against the wall or sitting on the narrow edge of a planter box where a considerable amount of trash collects (Fig.18). Trash is littered on the floor because of the trash containers are placed in inaccessible areas. There are also several trouble areas in this space, where the design of the station has left awkward dark nooks where homeless take shelter (Fig. 19). The landscaping consists of a monotone shrubs and weeds that have been left overgrown.

CASE STUDY: BALBOA PARK

Findings

The general lesson learned from this site, is that seating is indeed the most important aspect of public space. Without seating not only is the wait for transit uncomfortable, it leaves no opportunities for users to linger. There needs to be direct access to BART entrances without conflict with users who are waiting for the MUNI. Trash cans need to be placed in areas that people use, otherwise garbage ends up on the floor. Balboa Park is a heavily used area surrounded by several highly regarded institutions and schools and is in dire need of updating. Hopefully the future redesign of the plazas, will properly reflect the charisma of the neighborhood and community.

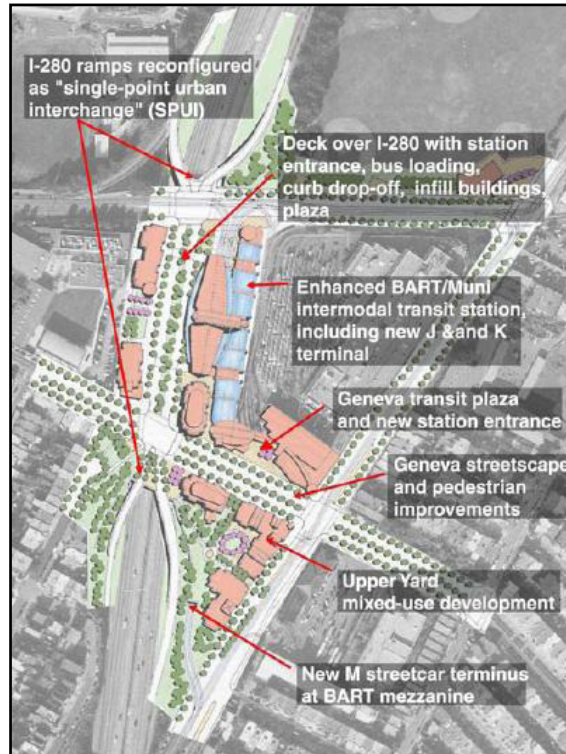


Fig. 20 Balboa Park Station Redesign Concept

CASE STUDY: BALBOA PARK

Summary

Successful Features

Warm, sunny areas

Direct routes to BART entrance

Relatively safe space because of frequent user activity

Unsuccessful Features

Lack of seating and covered shelters

Crowding

Uncomfortable seating that does not encourage socializing

Lack of protection from the elements

Hidden spaces

Lockers that intrude in spaces

No variation of color

Blank concrete walls that encourage graffiti

Lack of vegetation

Unsafe pedestrian crosswalks

Duplication of newspaper stands

Trash cans in inaccessible area

Visible trash on ground

CASE STUDY: GLEN PARK

Location and Context

The station is located between Diamond Street and Bosworth Street and is adjacent to Interstate 280.

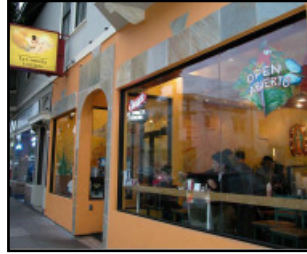


Fig. 21 Local restaurant

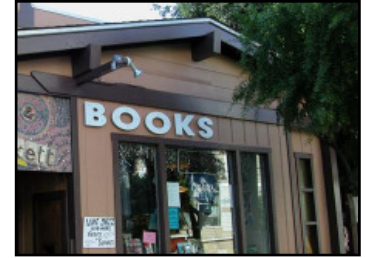


Fig. 22 Community bookstore

Downtown Glen Park is a small-scale mixed residential and commercial district with cafes, restaurants, a grocery store, public library, dental office, gym, small local stores and banks. Twin Peaks and Glen Canyon Park are two of the nearby recreational and tourist attraction spots. Residential homes in this neighborhood are typically single-family houses that are around two to three stories tall. (SF Planning, Glen Park Community)

MUNI Lines

There are five MUNI lines that serve the area: 23 Monterey, 26 Valencia, 44 O'Shaughnessy, 52 Excelsior and the J Church line.

History

Glen Park was once called Little Switzerland because of the Swiss-owned dairies that were dotted along the landscape. Many of the early residents were Irish and German laborers, but during the early 20th century the demographics began to shift as Norwegians, Swedes, English and Scots also moved into the area. The diversity among the community is reflected through the architecture of the buildings. The building styles range from Arts and Craft to Mission, and from Spanish Colonial to Mediterranean. Glen Park has remained a popular place for families to move into due to the natural beauty of the site, the cozy village atmosphere of a small town, and convenient public transportation (Verplanck, 2001).

CASE STUDY: GLEN PARK

Station Description

Glen Park plaza was designed by architects and artist Ernest Born and Corlett, and Spackman. The design features within the station include art work made from cut slabs of rich red and brown stone.

Plaza Descriptions

Lower Plaza

The lower plaza sits at the corner of Diamond and Bosworth Street and includes two seating areas, a flower kiosk, and telephone booths. The first seating area is an enclosed private space, composed of a long curvilinear



Fig. 23 Bus shelters at Lower Plaza

concrete bench surrounded by trees and a metal fence (Fig. 24). Behind the fence there are 26 newspaper stands placed facing towards the street. The second seating area is in a more public setting, with two shorter length concrete benches (Fig. 25). There have been efforts to define the plaza space from the sidewalk by using tinted red paving material



Fig. 24 Circular seating area



Lower Plaza space



Fig. 25 Second seating area

CASE STUDY: GLEN PARK

Upper Plaza

The upper level plaza is around 20 feet above the lower plaza and stretches along Diamond Street. There are a variety of seating opportunities ranging from social to secluded. There is a seating area that serves the users of the car pick-up and drop-off spot (Fig.26), and another seating area tucked into the southern corner of the property (Fig. 27). There is a row of olive trees planted along the sidewalk, with bike racks and bicycle lockers located in the corner of the plaza. A chain link fence separates the second seating area from the adjacent freeway.

The upper plaza allows pedestrians to access an overpass that connects to the J Church line.

Process

The San Francisco Planning Department is working with EDAW to develop a community plan for the downtown Glen Park neighborhood. They are looking at ways to improve the BART station. This includes updating the plaza space, improving pedestrian access to transit lines, improving the character and safety of



Fig. 26 Upper plaza seating area



Fig. 27 South end seating area

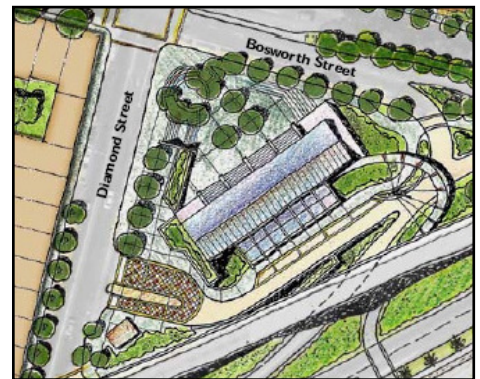


Fig. 28 Glen Park Station Redesign Concept

CASE STUDY: GLEN PARK

streets, and improving connections between open spaces and neighborhoods (SF Planning, Glen Park Community).

Activities

The Glen Park neighborhood is home to many talented artists and crafts people. In 1997 a group of neighbors decided that the unique culture of the neighborhood was special and should be celebrated through a festival. What started as a small spontaneous get together of neighbors selling goods and food, grew into an annual festival that features a whole day of music, dancing, food and entertainment. The festival brings in people into the neighborhood, and benefits the local restaurants, artist, and merchants. This year the festival was held on Sunday April 26th and proceeds were raised for local children's programs in Glen Park (The Glen Park Festival Committee).



Fig. 29 Grilling up some BBQ



Fig. 30 Unique sales booths



Fig. 31 Musical performances on stage

CASE STUDY: GLEN PARK

Site Observations

Lower Plaza

4/11/2009 1:50-2:15pm

Fairly clean plaza space

Two young boys using the trees in the plaza space as climbing structure.

Group of three teenagers sitting at the plaza space before leaving to take BART.

Woman running across from the parking lot where there is no crosswalk.

4/12/2009 12:15-12:25pm

Women sees people using the plazas and proceeds to enter and sit down. She waits at the plaza until she meets her friend and proceeds to take BART.

Lamp post and bike racks in the middle of the plaza is obtrusive and block access to the benches.

Man seen sitting on the ground using the edge of the bench as a back rest.

There is a regular flow of passengers taking the most direct path to ticket machines and fare gates.

Upper Plaza

4/11/2009 2:17-2:25pm

Man is seen sitting on top of bicycle lockers

Two women seen chatting while sitting on the benches where it is sunny.

A lot of seating available, space seems deserted.

Woman drops off a letter in the mailbox before entering BART.

4/12/2009 12:27-12:40pm

Elderly man is reading newspaper in sunny spot.

Two women are sitting on the bench having a conversation.

CASE STUDY: GLEN PARK

Lower Plaza

5/1/2009 4:00-4:10pm

Many people passing through the plaza.

People leaving station take most direct path to bus stops and crosswalks.

Crowding in the corner of Diamond and Bosworth where people cross the street.

Crowding near the two bus shelters, although there are seats available in the plaza spaces.

Faced with lack of seating near the bus shelter users lean against the half wall and using the small spaces in between the wall to sit.

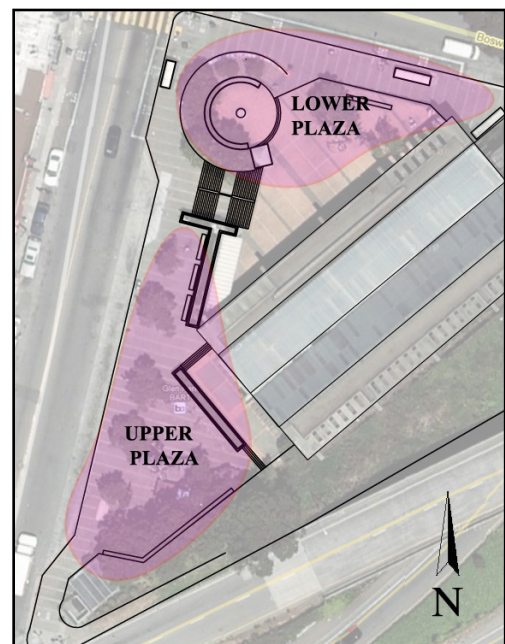
Upper Plaza

5/1/2009 4:11-4:4:20pm

Many users standing along Diamond Street waiting to be picked up.

Users avoid using seating areas that too far away from the bus shelters and edge of the street.

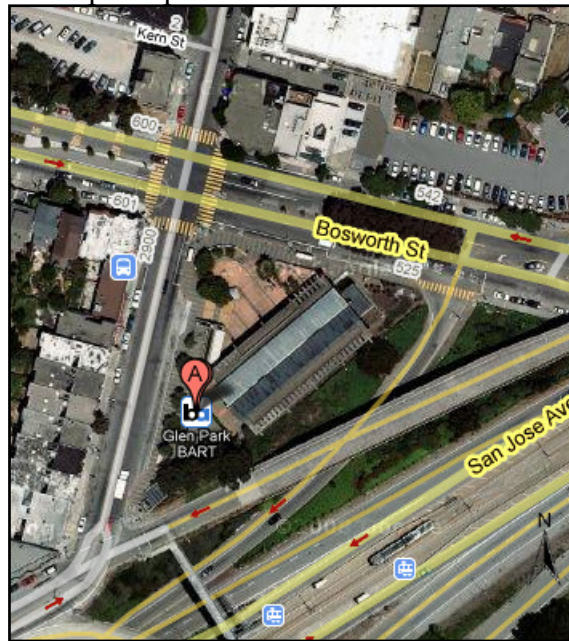
Traffic jam of incoming cars and buses. There is not enough room designated in car waiting zone to accommodate the high traffic.



CASE STUDY: GLEN PARK

Site Analysis

Concept Map



Legend







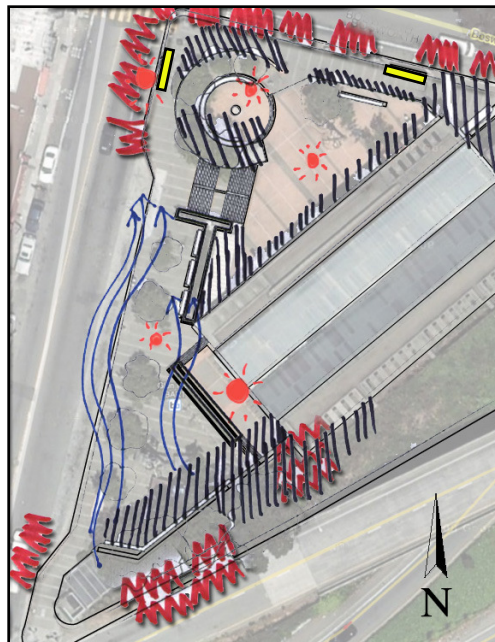
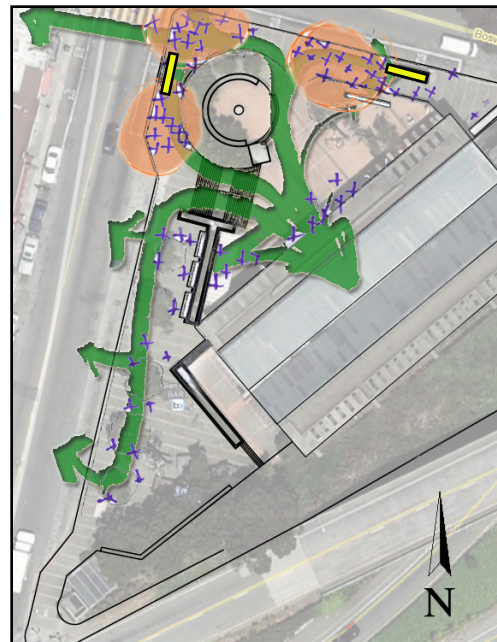
-  Circulation Pattern
-  Noise
-  Wind Pattern
-  Afternoon Sun Exposure
-  Pedestrian Crowding
-  Bus Shelter

Fig. 33



N.T.S Sun, Shade, Noise and Wind Diagram



N.T.S Fig. 34 Circulation Diagram

CASE STUDY: GLEN PARK

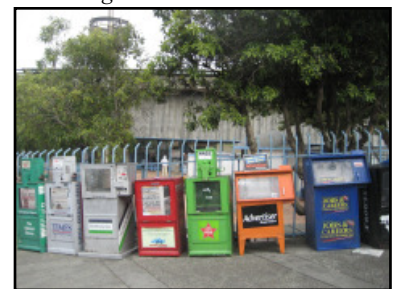
Findings

Lower Plazas

The biggest problem that I see in this area is the lack of seating near the bus shelters. During the after-work rush hour, the enclosed seating area is rarely used as it is too far away from the bus stops and does not allow users to easily see incoming buses. More people tend to use the space to wait for others or to linger during the midday. While this waiting space is often empty, the sidewalk is usually crowded. The sidewalk is also cluttered with a row of unused newsstands. A bike rack and large light fixture located in the middle of the plaza blocks pedestrian access to the second seating area which may explain why users pass over the area.



Crowding around the bus shelter



Duplication of unused newspaper stands

Upper Plaza

In this plaza space there are areas that are frequently used and others that are avoided entirely. The seating area that users prefer is the area closest to the entrance of the Bart station. The location of the benches allows the users to see the approaching cars and buses. There is a planter box behind the benches that provides protection from the wind gives allows users a surface to lean against. The seating area in the south corner of the plaza is fairly unused. The space is secluded from the general area where users like to wait, and although there are many opportunities to sit very few people use the benches making the space appear to abandoned and even less inviting. The space is noisier because of its proximity to the freeway and even has unattractive chain-linked fencing that draws attention to the freeway. This area has the most exposure to wind,

CASE STUDY: GLEN PARK



and has a row of bicycle lockers placed that obstructs pedestrian access to the seating space. Even during midday, there is very little sunlight in this area because there is too much shade coverage from the trees. There are few features that offer visual interest for its users. The concrete walls, planters and benches and monotonous olive green vegetation creates unwanted dead space.



Abandoned seating area



Traffic in car drop-off and pick-up area

CASE STUDY: GLEN PARK

Survey No. 1 Glen Park BART Plaza Survey

The first survey I conducted was a two part questionnaire that I used as a quick way to get to know the area. I went on a Friday afternoon and surveyed the users from 2:00 p.m. to around 5:00 p.m. I had a much more difficult time getting users to take the surveys during the 4:00 p.m. rush. The first part consisted of questions regarding the use of the plaza space. I asked users to identify the problems that they experienced in the area and what improvements they would like to see. The second part of the survey was a visual exercise where I gave users a map of the plaza and asked them to draw how they would typically walk through the plaza space. I then asked them to circle areas that they liked and place crosses in area that they didn't like.

Glen Park BART Plaza Survey

U.C. Davis Landscape Architecture Department

Gender _____

Age _____

1. How often do you use this area?

2. What do you use this area for?

- | | |
|--|--|
| <input type="checkbox"/> Passing through | <input type="checkbox"/> People watching |
| <input type="checkbox"/> Meeting with others | <input type="checkbox"/> Eating lunch |
| <input type="checkbox"/> Waiting for the bus | <input type="checkbox"/> Other: |

3. Draw how you typically walk through the area

4. What areas do you like? (please circle on the map)

5.. Are there any areas that you don't like? Why? (please put a cross on the map)

6. What are things about this area that need to be improved? (feel free to write notes on the map)

- | | |
|--|---|
| <input type="checkbox"/> Windy | <input type="checkbox"/> Fast moving vehicles |
| <input type="checkbox"/> Uncomfortable benches | <input type="checkbox"/> Crowding |
| <input type="checkbox"/> Noisy | <input type="checkbox"/> Not enough seating |
| <input type="checkbox"/> Dark corners | <input type="checkbox"/> Other: |

7. What sort of activities would encourage you to use the plaza more?

8. Which of the following changes would you want to see?

- | | |
|--|--|
| <input type="checkbox"/> Improved landscaping | <input type="checkbox"/> Improved lighting |
| <input type="checkbox"/> More bike racks | <input type="checkbox"/> Display of historical information |
| <input type="checkbox"/> More trash cans | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Incorporation of public art | |

9. Do you have any other ideas for improving the plaza?

CASE STUDY: GLEN PARK

Survey Results

Question 1: Out of the 22 people that I surveyed, most replied that they were frequent users of the site. Half of the respondents stated that they used the area at least 3-5 times a week. (Fig.35b) There were a few people who were first time visitors in the area and choose not to take the survey. One of the visitors said that based on initial reaction, he found that the plaza needed more color and interesting things to look at.

Question 2: What I found interesting is that a of the majority of the people I surveyed were at the plaza to meet with others. More people stated that they were waiting for others than for the buses or passing through the site. Other responses about uses in the plaza includes work, car pick-up and BART transfer (Fig. 35c).

Question 3: See Circulation Diagram (Fig. 34).

Questions 4 &5 : The areas that people liked were areas where there were seating opportunities. The areas that they disliked were areas that were crowded and lacked seating. (Fig.35d)

Question 6: The top responses concerning comfort and safety problems of the plaza was the wind, the uncomfortable benches, the lack of seating, and the fast moving vehicles (Fig.35e). I was surprised that given the amount of crowding that I saw at the plaza, users did not choose crowding as a top problem. It is possible that the data does not accurately reflect the weight of the issue because less people took the survey during the busiest time of rush hours. Among the written responses, people stated the lack of organized parking and the need for more lighting. A frequent answer was the need for rain covering and shelter.

CASE STUDY: GLEN PARK

Question 7: There was a wide range of activities that users said would encourage them to use the plazas space more frequently. Their responses include staffed bike lockers, places that sell MUNI passes, food kiosks, coffee stands, live music, other bus routes, farmer's market, and street fairs. A possible space to accommodate these new activities is in the south corner of the Upper Plaza. The space is under used even though there are many seating opportunities.

Question 8: Regarding improvements to the site, many people found that there needed to be more trash cans, improved lighting, more public art, improved landscaping, and display of historical information (Fig.35f).

Question 9: The last question gave the users a chance to share any other ideas that they thought could help improve the plaza. Many of the responses were similar, stating the need for more bus shelters, seats, and pedestrian space. A common answer was shelter from the elements and screens for windy places. The plaza space could benefit from more color, more greenery, safer car drop off zones, and more bicycle lanes.

CASE STUDY: GLEN PARK

Community Survey Responses

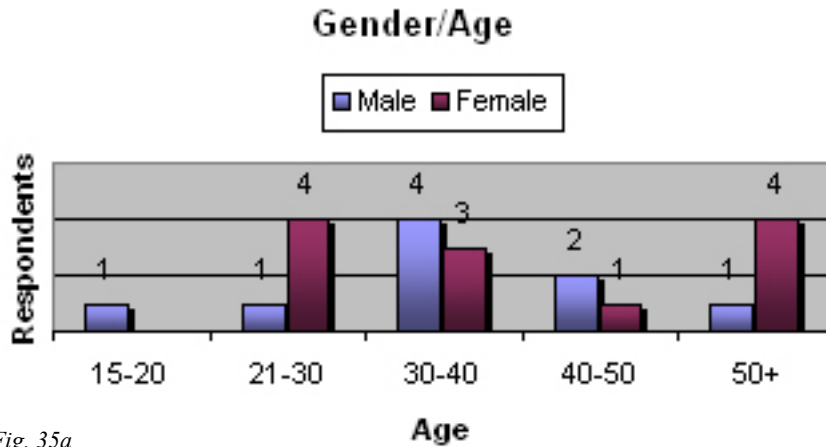


Fig. 35a

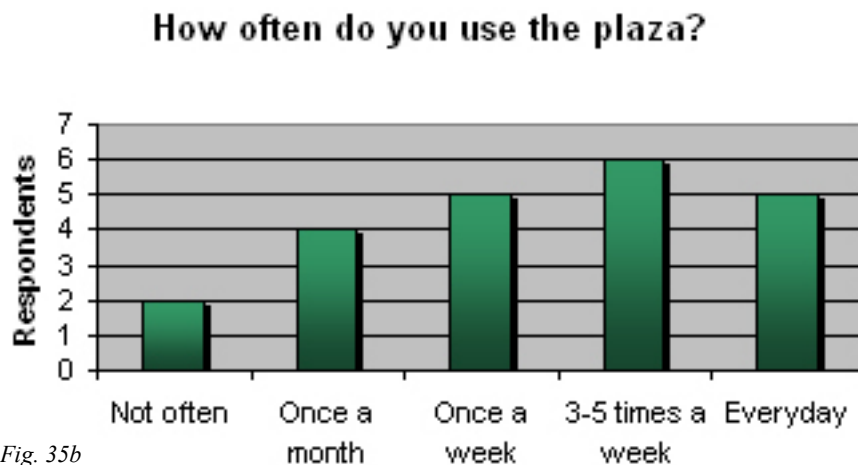


Fig. 35b

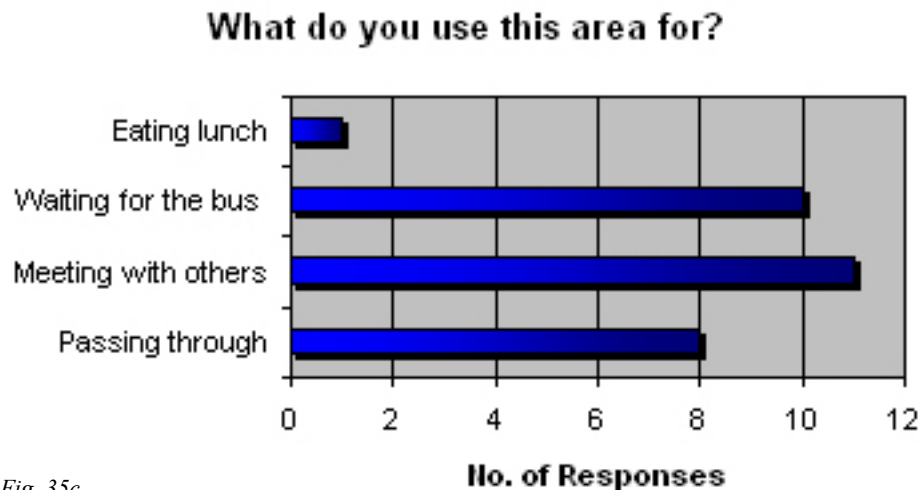


Fig. 35c

CASE STUDY: GLEN PARK

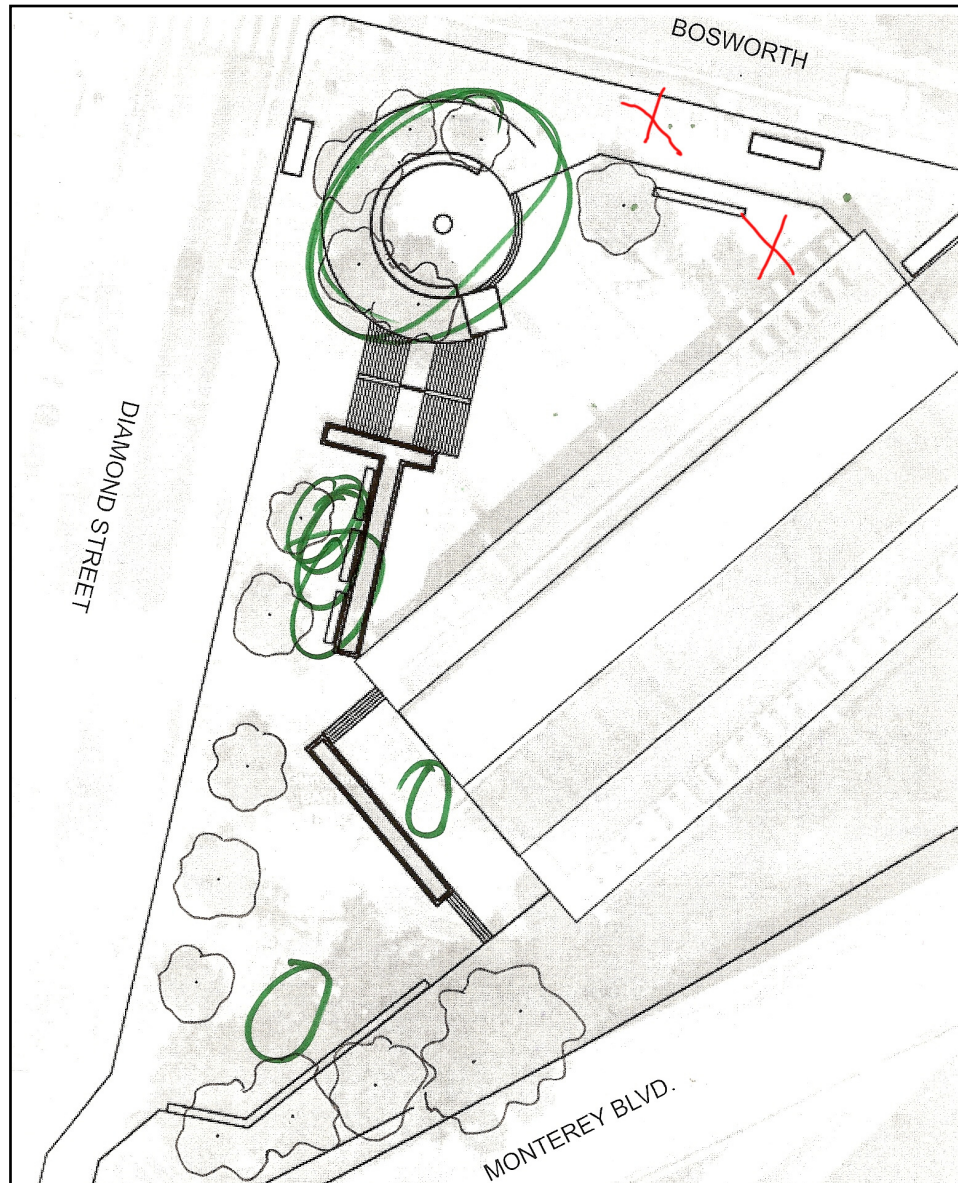


Fig. 35d Areas of Like (green circle) and Dislike (red cross)

CASE STUDY: GLEN PARK

What are things about this area that need to be improved?

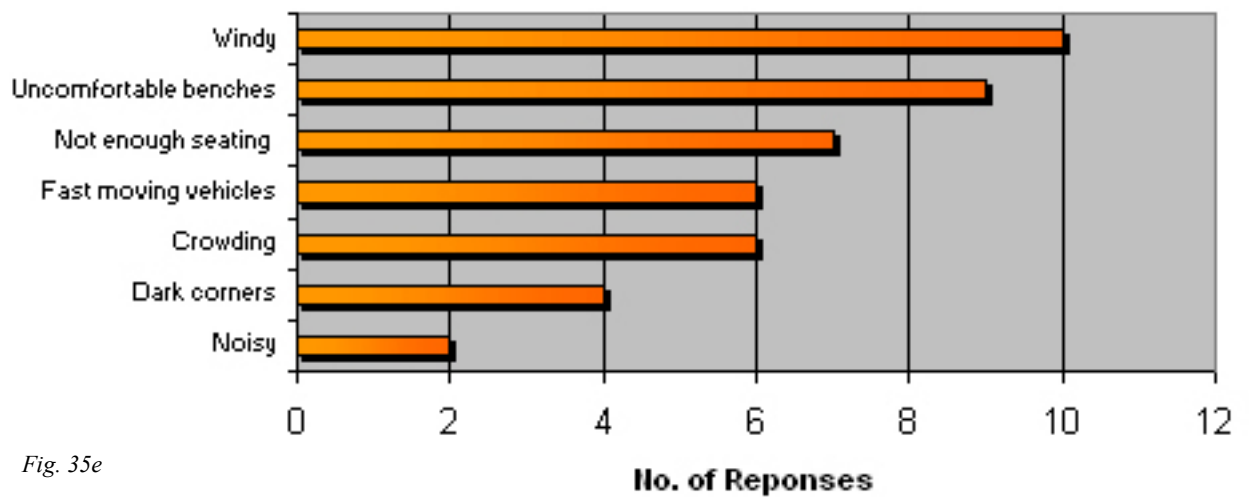


Fig. 35e

What changes would you want to see?

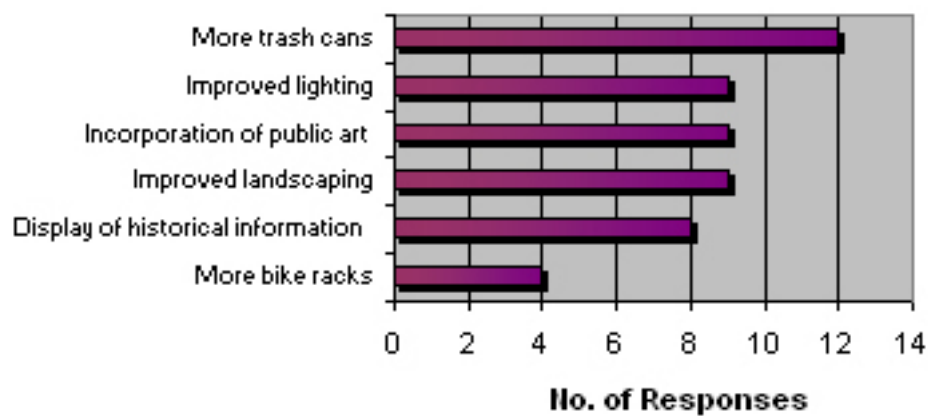


Fig. 35f

Survey No. 2 Design Ideas Survey

I created a poster board with different options of activities for the Upper Plaza space. Some of the ideas were taken from the written responses from question 7 of the first survey. The ideas include public art and murals, food and drink kiosk, an outdoor stage, and vendor and booths. I surveyed the users in the plaza as well as the workers in the surrounding stores on a Sunday afternoon from 1:10 p.m. to around 2:25 p.m. I asked the respondents to place a sticker on any of the ideas that they liked. It was not very difficult to sell these ideas to the community because there was general support and excitement for the beautification of the plaza space. Among the 15 respondents, the outdoor stage was the most popular selection, followed by public art as the second favorite. The food and coffee kiosk was the third choice, and vendors and sales booths had the least votes. The outdoor stage got the most overall approval. Surrounding businesses liked the idea of bringing more people into the area to help the local merchants. Public art was also a popular selection as a way to give the plaza space a face-lift. There was mixed feelings towards the sales booths, and food and drink vendors. There are already café stores and convenience stores nearby so adding these activities may compete with the local businesses. One of the store workers stated that he did not like the idea of having a coffee kiosk because he wanted to support the local cafe.

GLEN PARK BART STATION COMMUNITY SURVEY

WHAT ACTIVITIES WOULD YOU LIKE
TO SEE IN THIS SPACE?



Public Art



Sales Booths



Coffee and Food
Vendors



Outdoor Stage



Photo Credits:
http://www.pps.org/civic_centers/info/how_to/31_things
http://www.fortlewis.edu/shared/content/master_plan/future_plans/user-804_campus_framework//outdoor%20amphitheater%20800w.jpg

CASE STUDY: GLEN PARK

Summary

Lower Plaza

Successful Features

Warm and sunny spots with wind protection and shading

Plazas space is well defined

Activities around the neighborhood give opportunities for lingering

Unsuccessful Features

Clutter from duplication of news stands

Poor landscaping, cold surfaces, and blank walls

Crowded spaces because of narrow sidewalks

Lack of seating near bus shelter

Upper Plazas

Successful Features

Clear sight lines

Seating with backing

Wide pedestrian space

Unsuccessful Features

Noise from Interstate-280

Lack of protection from the elements

Lockers that intrude in spaces

No variation of color

Unsafe pedestrian crossing

Hidden spaces and entrapment areas

Poor landscaping, cold surfaces, and blank concrete walls that encourage graffiti

CONCLUSION

Starting this project, my goal was to come up with set of guidelines for creating safe and comfortable transit waiting spaces. I hoped to identify ways to improve the experience of transit users to encourage use of public transportation. Through this experience, I learned that it is important to understand the specific needs of the community and users because each plaza is set in an unique neighborhood with differing needs. The steps of coming up with guidelines such as observations, surveys and community engagements are as important as the guidelines themselves (Canter, 1977). Below are some aspects that I think are important to consider in the design of transit plazas. My opinions are based off of personal observations and research from a selection of design and psychology books and manuals.

GUIDELINES

Places to Sit



Seating is probably the most important thing to have in any plaza space. One of the biggest problem that I saw in all three plaza spaces was the lack of seating where users wait for the MUNI lines and at car pickup and drop-off areas. If there is adequate pedestrian waiting space, more seating should be incorporated to make the wait more comfortable. Plazas with high volume of users can benefit from more sitting and leaning opportunities. If pedestrian

CONCLUSION

space is limited, alternatives such as low seating walls, planter boxes and rails may be good options as informal seating (EcoCity Cleveland, 2004). As seen in the Glen Park Lower Plaza, users were resourceful by using the narrow space in between a low wall for seating. It is important that seating is not placed too close to paths of high pedestrian traffic. Users need interpersonal distance when they are either sitting or occupying some space, so there needs to be some distance away others already there (Shaftoe, pg.52).

In plaza A at Balboa Park, a row of benches were placed directly in front of the space where passengers got on and off the bus. At around 10 feet wide, the sidewalk was already narrow. Adding the benches in this space caused more crowding and resulted in a lack of interpersonal distance between users. The Transit Waiting Environment manual recommends that seating should be placed least 2 feet from walkways so that legs do not protrude into pedestrian traffic (EcoCity Cleveland, 2004). While this may be the minimal distance to prevent physical conflicts between users, there needs to be more room between people sitting and people walking through in order to make the space more comfortable. Take a similar space such as the Upper Plaza of Glen Park plaza for example. There are benches placed along high pedestrian traffic paths, but since there is adequate pedestrian space (22ft) in the sidewalk there is less conflict of crowding.

In both Glen Park Plaza and Balboa Park Plaza, there were bike racks, large bicycle lockers, and tall light post placed in front of seating areas. Rather than improving the utility of the space, these site amenities acted as barriers, that not only hid the benches, but also made the seating area a less inviting space to go into. Less obtrusive objects such as planter boxes and small trees may help to define the space with cluttering.



CONCLUSION

BART plazas with a good design have different arrangements of seating opportunities from private seating to more social group seating. Seating that is exposed from all sides is not preferred, so backless benches should be avoided in centers of the plaza space (Shaftoe, pg.53) People also prefer seating options where they can observe others rather than being observed. As seen at 16th Street Plaza, private individual seating options was used less because it was too exposed to the public eye.

One design feature that is often overlooked is shelter from the elements such as sun, cold wind, and rain. On one of my visits to Glen Park Plaza, it was windy and raining in San Francisco. I noticed that there were hardly any people using the plazas spaces, let alone sitting on the wet cold benches. Users crowded under the bus shelters but not all of them could fit under the small area. In fact, all three of the transit plazas I studied have the problem of inadequate shelters and protection from the wind and rain. These spaces could also benefit from the updating of bus shelters that can accommodate the higher number of users.



Fig. 36 New bus and street car shelters in Toronto

Safe Crossings

When I was conducting research on Balboa Park plaza, I came across a statement recorded from a community meeting, where a user said that safety issues were traffic

CONCLUSION

concerns and not crime. This comes as no surprise to me after visiting the site. One of the most dangerous areas of the plaza is a crosswalk that is located next to the freeway entry and exit ramp. With such fast vehicles driving through the site, it quickly becomes apparent that the vehicles dominate the space. Many of the pedestrian injuries around transit plazas occur when pedestrians cross the streets. In Glen Park Plaza, there were several occasions where people were crossing Bosworth street in a mid-block, where there is no existing crosswalk, in an attempt to take a shorter route from the BART parking lot to the station. Accidents rate can be lowered by ensuring that there are marked crosswalks and lighted crosswalks at night (Ewing, pg.8). According to Transit Waiting Environments, crosswalks should preferably be constructed with paving of distinctive color and texture (EcoCity Cleveland, 2004).

It is inevitable that transit plazas are shared by pedestrians and vehicles, but there are ways to improve the safety of pedestrians. The waiting spaces should not be designed as just landing platforms, but as spaces that are room-like. This will make the streets more pedestrian friendly because drivers respond to the enclosed space by slowing down (EcoCity Cleveland, 2004).

Eyes on the Street and Visibility

Areas of transit plazas that are frequently unused are areas that are more secluded and hidden. Knowing that there are people around adds to the feeling of safety of a site. One of the reasons why so many people linger around 16th Street Plaza may be because there is plenty of informal surveillance from nearby stores. Transit Waiting Environment recommends that all buildings that are facing pedestrian routes should include ground floor activities to increase the eyes on the street(EcoCity Cleveland, 2004). Since people are drawn to activities on the street level, plazas should not be placed in raised decks or sunken spaces (Shaftoe,2008). As William H. Whyte states, “If people do not see a space, they will

CONCLUSION

not use it.” Adequate lighting is important because users want to be aware and in charge of their surroundings. Sidewalks and pathways should be well lit, to provide a sense of security for people traveling and using the space at night. (EcoCity Cleveland, 2004). Bus shelters should be located to allow clear views of buses, pedestrians and the adjacent developments to increase the amount of informal surveillance of the area (EcoCity Cleveland, 2004).

Colorful Landscaping

16th Street Plaza is successful at using landscaping to frame the entry points and incorporating different planting materials to add color to the site. Trees and shrubs can improve comfort of users by providing shade, shielding from strong winds, and providing visual interest from the movement of branches and leaves. Often overlooked elements in the design of BART plazas is the use of ground covers, vines and trellises, flower beds, and hanging baskets to add visual interest along pedestrian paths (EcoCity Cleveland, 2004). Trees can also improve the feeling of safety for plazas users. As discussed earlier, when trees are planted between the plaza space and the street, it can provide a physical and psychological barrier between the fast moving cars and the pedestrians (Ewing, pg.13). One must be careful when designing the landscaping for transit plaza because it needs to be well maintained. Overgrown plants can unintentionally lead to safety concerns because they may block the visibility of pedestrians (EcoCity Cleveland, 2004).

Public Art and Community Space

Plaza spaces can serve as gateways into communities; as passengers enter the plaza space, they can get a sense of the character of the community based on what they see. The visibly obvious problem in both Glen Park Plaza and Balboa Park Plaza is the dead spaces created by the drab blank concrete walls. To enliven these dull spaces, interesting

CONCLUSION

architectural details, surface textures, and a splash of color should be incorporated into blank walls (Ewing, pg.15). Public art can work miracles in creating more inviting atmosphere by adding visual interest that captures pedestrian attention. Take Jack Mackie’s “Dance Steps on Broadway” in Seattle for example. The artist had bronze shoe prints set into the sidewalk in a way that allowed the users to learn the sequence of ballroom dancing. The public art piece is so successful that transit riders in Seattle often miss their buses because they enjoy using the art piece (EcoCity Cleveland, 2004). Public art can be murals, sculptures, or even something as simple as patterns and designs on bike racks, benches and trash cans. Murals on walls can showcase the history and cultural identity of the community, and deter unwanted graffiti. Designing space to incorporate local activities such as festivals and farmer’s markets can help to support the neighborhood. Through incorporation of public art, BART transit plazas can be transformed into gathering spaces that reflect the uniqueness of the neighborhood and enliven community dynamics.



Dance Steps on Broadway
(EcoCity Cleveland)



Glen Park Upper Plaza

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<http://www.sanfranciscodays.com/glen-park/> Fig. 21, 22

San Francisco Planning Department Fig. 9, 10, 11, 20, 28

The 16th and Mission Review Fig. 7

ThinkToronto, Streetscape Elements. Fig. 36

< <http://spacing.ca/thinktonto/competition-categories/categories-streetscape-elements/> >

Transit Unlimited Fig. 2

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