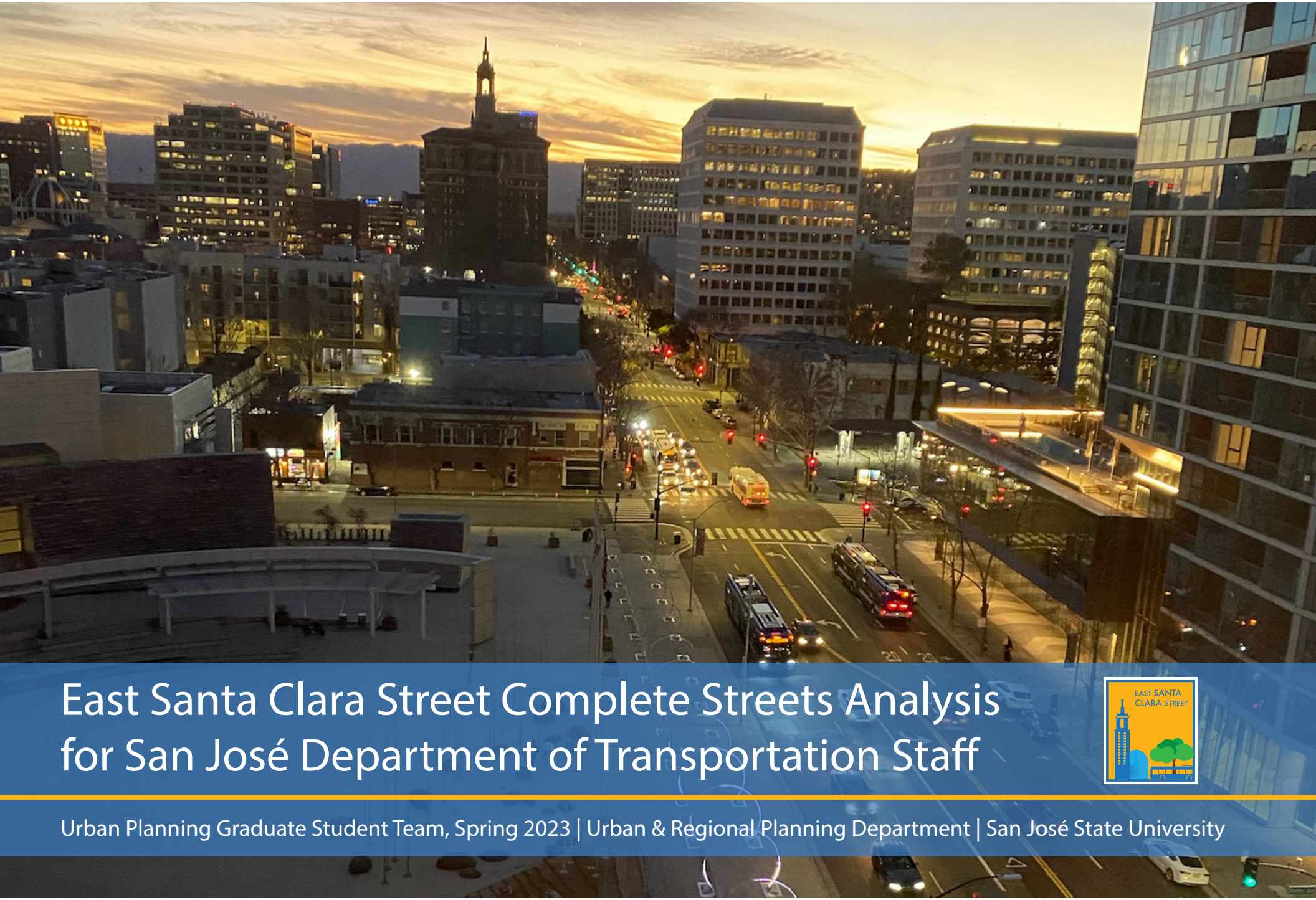

East Santa Clara Street Complete Streets Analysis for San José Department of Transportation Staff

Urban Planning Graduate Student Team, Spring 2023 | Urban & Regional Planning Department | San José State University

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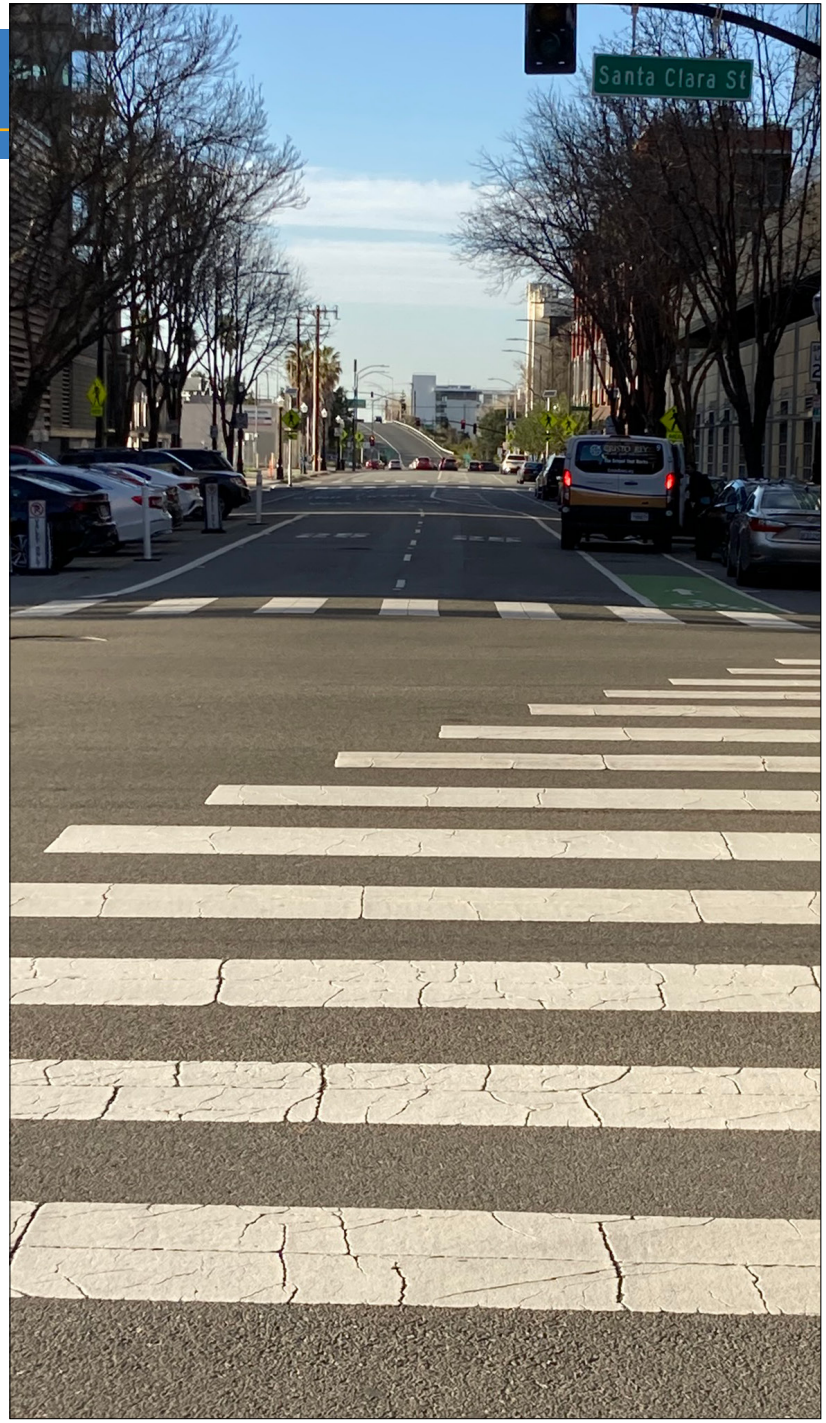
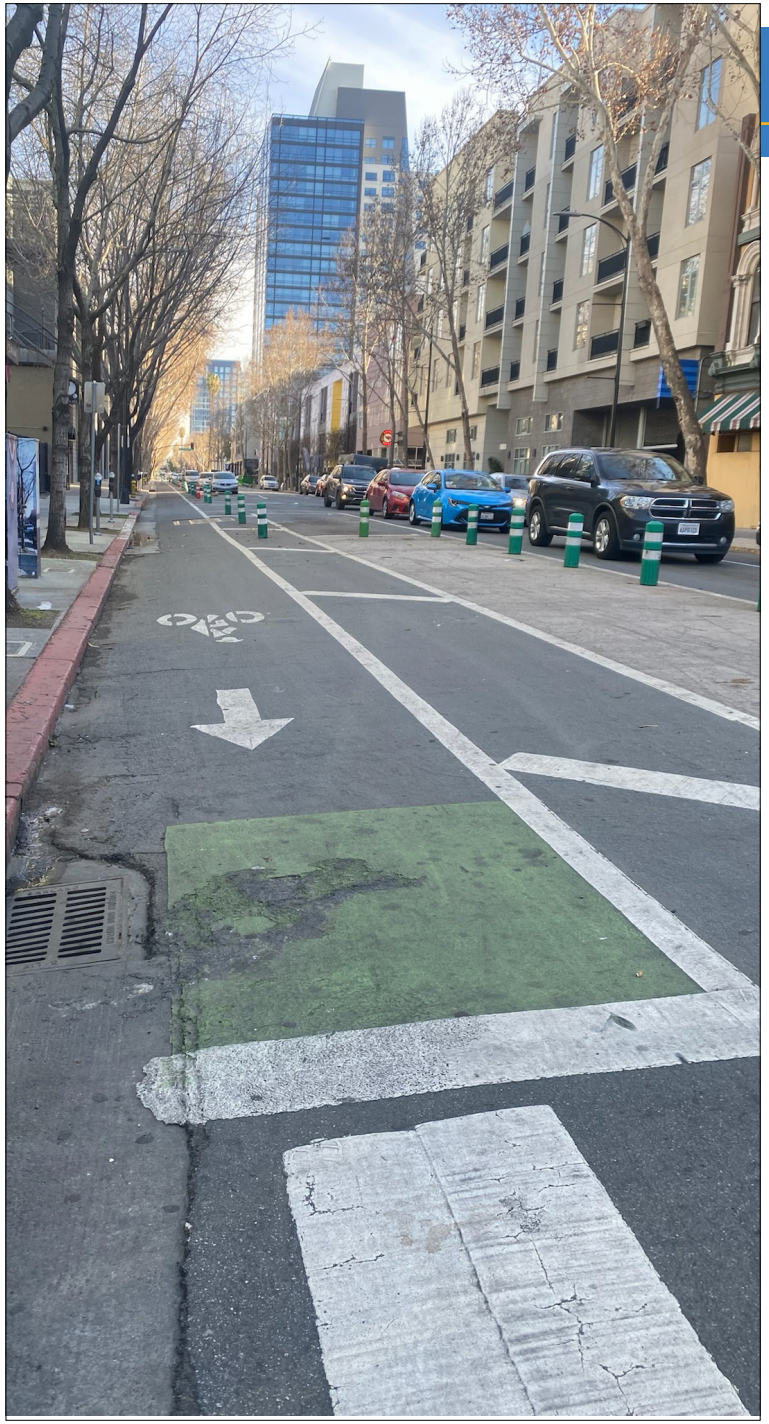
Guest Speakers:
Adam Burger, Valley Transportation Authority
Erika Pinto, SPUR
Gillian Naegele, Guadalupe River Park Conservancy
James Rojas, Place It! Organization
[Check Canvas Links - Speaker Notes], Recovery Cafe

URBP 256 - Sustainable Transportation Planning - Spring 2023 Class



URBP 295, Spring 2023 Class Photo

URBP 295, Spring 2023 Class: *Back Row (from left): Professor Rick Kos, AICP, Kristen White, Hadi Javani Tabrizi, Jaryd Gallant, Phillip Wright, Yuchen Sun, Llisel Ayon, Joey Alameda, Kyle Laveroni, Janani Thiagarajan, Pratik Thapa, Evan Franklin. Front row (from left): Alex Ponik, Ethan Van Steenburgh, Lena Eyen, Minh Ha, John Lang. Not pictured: Adam Hall, Maureen Grzan-Pieracci.*



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Acronym Table

ADA - Americans with Disabilities Act
AoPP - Areas of Persistent Poverty
ATP - Active Transportation Program
BART - Bay Area Rapid Transit
BBP - Better Bike Plan
BSVII - BART to Silicon Valley Phase 2
Caltrans - California Department of Transportation
CHSR - California High-Speed Rail
CHSRA - California High-Speed Rail Authority
CMA - Congestion Management Agency
CTC - California Transportation Commission
DISC - Diridon Integrated Station Concept
DOT - U.S. Department of Transportation
DSAP - Diridon Station Area Plan
DTP - Downtown Transportation Plan
HDC - Historically Disadvantaged Communities
HSR - High-Speed Rail
LRT - Light-Rail Transit
MPO - Metropolitan Planning Organization
MTC - Metropolitan Transportation Commission
MTIP - Multimodal Transportation Improvement Plan
OBAG - One Bay Area Grant
PDA - Priority Development Areas
RRFB - Rectangular Rapid-Flashing Beacons
ROW - Right-of-Way
RTPA - Regional Transportation Planning Agency
SJSU - San José State University
TIMS - Transportation Injury Mapping System
VTA - Santa Clara Valley Transportation Authority

Executive Summary

Introduction

Santa Clara Street has a very long and rich history as a thoroughfare that runs through Downtown San José from East to West. This street, over 100 years old, is the marquee street and focus of a capstone project being conducted by San José State Urban Planning Class 295 (the team) on behalf of the City of San José. The purpose of this report is to analyze East and West Santa Clara Street from Diridon Station to Eleventh Street. The analysis focuses on the readiness of the study area to transform into a Complete Street.

The findings and recommendations from this report should be used together with a companion study being conducted by San José State Urban Planning Class 256 which is analyzing the same corridor with a priority focus on what happens between the curbs (on street).

Background for Analysis

Today is the time to reimage East and West Santa Clara Street (Santa Clara Street Corridor) between Diridon and Eleventh Street as a Grand Boulevard. The team has analyzed the nature of the 20 blocks of the Corridor over the last four months. To accomplish this, we divided the study into three segments:

Figure 1 - E Santa Clara St Corridor. *Three main sections of street audit: Diridon Station to Market St, Market St to Sixth St, and Sixth St to Eleventh St.*

- **Diridon Station to Market Street:** This portion of West Santa Clara Street includes the proposed Downtown West Development, Diridon Station, SAP Center and the San Pedro Urban Market.
- **Market Street to Sixth Street:** This portion of East Santa Clara Street includes a future BART Station, numerous historical buildings, and the north- and southbound VTA light rail lines.
- **Sixth Street to Eleventh Street:** This portion of East Santa Clara Street has not gone through many transformations and remains lower density and predominantly residential and commercial.

The timing of this research report follows on the heels of the City of San José's recent adoptions of the Downtown Transportation Plan and Complete Streets Design Standards and Guidelines.

This report is organized into two distinct phases. Phase I provides the context of the corridor including past policies, the community engagement survey, details on the development potential, walkability findings, safety, and accessibility. Phase II of the report outlines the findings from an urban design audit that was conducted for all three segments of the corridor. The audit findings have resulted in short-, medium- and long-term recommendations.

Phase I: Existing Conditions & Community Engagement

Existing Conditions

The corridor provides access to prominent regional amenities, including medical facilities, shopping centers, cultural sites, dining, nightlife, and recreational areas. The surrounding half-mile East Santa Clara Street study area comprises the section of the corridor from Diridon Station to Eleventh Street, which connects important areas, including Diridon Station, Guadalupe River Park, Downtown businesses, City Hall, San Pedro Square, San José State University (SJSU), Horace Mann Elementary School, and Saint James Park.

The Santa Clara Street corridor is the most heavily traveled east-west arterial in Downtown San José and the only city street connecting SR-87 and US-101. SR-87 transects the study area, with Diridon Station and SAP Center to the west and Downtown San José to the east. The Santa Clara Street corridor

is Santa Clara County's busiest transit corridor and is well connected with the local bus, light-rail transit (LRT), and regional rail services.

Most of the study area is characterized by high population densities, with some block groups containing densities above 89,000 people per square mile. Downtown and SJSU have higher daytime population densities than general population densities, indicating an influx of people during the day.

An analysis of accessibility along Santa Clara Street revealed the corridor to be challenging to navigate for persons with disabilities. Most intersections along the corridor do not have dual curb cuts, which forces an unsafe entry into intersections for people who use a wheelchair or mobility assistance device. Persons with visual disabilities have increased danger on the corridor due to loud street signs that sway in high winds and a lack of auditory beacons at crosswalks, except around City Hall. Sidewalk obstructions are frequent, particularly rental e-scooters and sleeping unhoused individuals' tents and belongings. High street crowns that leave a crosswalk elevated in the center of an intersection are ubiquitous in the corridor and can be difficult for mobility devices to traverse.

Pedestrians often feel unsafe at intersections due to Santa Clara Street's high amount of automobile traffic and busy intersections. A ten-year analysis (2013-2022) of pedestrian collisions reveals Second Street (13 pedestrian collisions) and Fourth Street (10 pedestrian collisions) intersections are some of the most dangerous intersections in the City. Most intersections along the Santa Clara Street corridor in the study area were the locations of five or more pedestrian collisions in the same time period.

Plans and Policies Context

The Team identified and reviewed more than 70 relevant documents related to the Santa Clara Street corridor completed within the last 10-15 years. The review focused on key plans and policies that impact a future Complete Streets project on Santa Clara Street. The most relevant documents reviewed were produced by the following organizations:

- City of San José
- Valley Transit Authority (VTA)
- Metropolitan Transportation Commission (MTC)
- SPUR

Community Engagement

Community engagement was conducted over several weeks to better understand what residents and users of East Santa Clara Street wanted to see from any change. The team collected responses from 103 residents. Most interviewees cited San José as their home, while the primary transportation relected a mix of modes: a relatively equal number of respondents used transit, walked, or used an automobile, while very few used bicycles. People cited Downtown as feeling unsafe, especially at night. They also tended to avoid Saint James Park and the areas around the Grocery Outlet between Sixth Street and Seventh Street. People noted they enjoy the atmospheres around San Pedro Square and San José State University. Similar numbers of people cited First Street as both a place to avoid and a reason to visit Downtown San José.

Respondents were generally ambivalent or supportive of the Complete Street design shown to them. Respondents cited the tree canopy, protected bike lanes, and colorful environment as positives. On the other hand, some respondents viewed the road diet, lack of outdoor seating, and street parking as negatives. In general, engagement efforts revealed that the community wants to improve safety, cleanliness, and vibrancy along the corridor.

Phase 2: Urban Design Audit & Recommendations

Urban Design Audit

Using an audit tool developed by the Active Living Research Program of the Robert Wood Johnson Foundation, team members completed walk audits of the three segments within the corridor: Diridon Station to Market Street, Market Street to Sixth Street, and Sixth Street to Eleventh Street.

Methodology of the Urban Design Audit Tool

The audit tool helps quantify the experience an individual may have traveling through the corridor based upon five measures. The measures can then be assigned numerical values that represent the level to which the street is a welcoming environment for both active travel as well as leisure experiences within a pedestrian environment. The measures are as follows:

- **Imageability**- Imageability is the quality of a place that makes it distinct, recognizable, and memorable. A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression.
- **Enclosure**- Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements. Spaces where the height of vertical elements is proportionally related to the width of the space between them have a room-like quality.

- **Human Scale**- Human scale refers to the size, texture, and articulation of physical elements that match the size and proportions of humans and, equally important, correspond to the speed at which humans walk. Building details, pavement texture, street trees, and street furniture are all physical elements contributing to human scale.
- **Transparency**- Transparency refers to the degree to which people can see or perceive what lies beyond the edge of a street or other public space. Physical elements that influence transparency include walls, windows, doors, fences, landscaping, and openings into midblock spaces.
- **Complexity**- Complexity refers to the visual richness of a place. The complexity of a place depends on the variety of the physical environment, specifically the numbers and kinds of buildings, architectural diversity and ornamentation, landscape elements, street furniture, signage, and human activity.

The audit tool provides a numeric score for each of the five measures. The scores are primarily for comparative purposes and do not have a maximum or minimum value. To provide context for the scores in the following section, the team also conducted walk audits on two specific blocks that were highlighted during the community engagement as either a desirable place with a pleasant pedestrian experience or a place that is generally avoided. The desirable block was identified as San Pedro Street, between West Santa Clara Street and West Saint John Street (near San Pedro Square). The avoided block was identified as the block of East Santa Clara Street between Sixth Street and Seventh Street (the Grocery Outlet block).

	Study Segments			Control Group	
Audit Measures	Diridon Station to Market Street	Market Street to 6th Street	6th Street to 11th Street	San Pedro Street Between Santa Clara Street and West Saint John Street	6th Street to 17th Street - Grocery Outlet Block
				(High Urban Design)	(Low Urban Design)
Imageability	4.8	4.7	3.3	21.6	2.3
Enclosure	2.8	2.2	2.6	3.4	2.8
Human scale	2.1	3.7	4	12.7	2.2
Transparency	3.4	3.2	2.7	3.6	1.8
Complexity	6	6.3	5.1	21	3.7

Figure 2 - Street Audit Score Summary.

Summary Findings from Audit Tool

The use of the audit tool allows for a numeric comparison across blocks within a segment and the broader corridor.

There are three audit tool measures that warrant the greatest level of improvement: imageability, human scale, and complexity. The recommendations in this report align with many Complete Streets goals established by the City of San Jose and are included in Table 1 that begins on the following page.

Conclusion

San José is one of the oldest cities within Northern California and has evolved over a long period of time. Its growth was fueled in the 1950s and 1960s through the annexation of land. Not surprisingly, given the City's sprawl, much of the infrastructure was designed for the convenience of moving vehicles, not people. Downtown San José continues its evolution, intending to provide multimodal opportunities throughout the City, specifically Downtown. While private redevelopment and infill will take their natural course, the City needs policies and programs in place to support improvements to accessibility and walkability throughout the Downtown area.

EXECUTIVE SUMMARY

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rational	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Diridon Station to Market Street	Improve the uniformity within the Right of Way (ROW) between Almaden Blvd and Almaden Avenue.		Improve consistency for vehicles and pedestrians who are accessing Almaden Blvd and Almaden Avenue, as both the street and sidewalk standards don't align with other areas of the Santa Clara Street Corridor.	Long term
Diridon Station to Market Street **(applies also corridor-wide)**	Work with Santa Clara VTA to ensure both consistency and uniformity of VTA Bus Shelters which provide adequate seating, sun relief and functional wayfinding.		By providing appropriate street furniture for users of the VTA transit system, a better pedestrian and human scale design is achieved	Short term
Diridon Station to Market Street **(applies also corridor-wide)**	Consider using bulb outs as a way to develop protected intersections for improved pedestrian and bicycle crossings.		Improve pedestrian and bicycle safety and further achieve vision zero goals by implementing more bulb outs or curb extensions. Additional benefits provided include greater visibility of pedestrians and cyclists, and extending the sidewalk also allows more active uses for patio space or public space.	Medium Term
Diridon Station to Market Street **(applies also corridor-wide)**	Evaluate and consider prioritizing pedestrian movement in intersections instead of vehicles with an appropriate traffic study.		Current pedestrian signaling prioritizes the movement of vehicles. By coordinating and prioritizing crossing signals towards pedestrians, Downtown would become a more welcoming environment to walk.	Short term
Diridon Station to Market Street	Work with Sharks Sports and Entertainment to identify other interim or active uses for surface parking lots to reduce heat island effects and encourage greater mode shift for events at the SAP center.		To both improve the walkability and enclosure of the surrounding area as well as reduce heat island effects of underutilized parking, explore other uses of the land to support vibrancy of the area.	Medium Term
Diridon Station to Market Street	Implement appropriate bike infrastructure along West Santa Clara Street for improved bike ability and access to the Central Downtown.		Improve the infrastructure to support bicycling on Santa Clara Street and provide greater access to other transportation solutions operating within the Downtown.	Short term
Diridon Station to Market Street	Activate the space underneath Highway 87 with a "Small Business Incubator" or public plaza/park.		The space underneath Highway 87 represents a significant barrier between two ends of the corridor. The space is also a generally unpleasant space for pedestrians. The space could be activated with small pop-up businesses (similar to what is already at the San Pedro Street Garage) or even a public plaza or park.	Long term
Market Street to 6th Street **(applies also corridor-wide)**	Streamline permitting process and lower associated fees for outdoor dining along the Santa Clara Street corridor.		Activation of sidewalks within the Santa Clara Street Corridor could be improved by streamlining the permitting process, with lower fees to incentivize existing and new businesses to safely activate the public right of way with outdoor dining.	Short term

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rational	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Market Street to 6th Street **(applies also corridor-wide)**	Review design standards and Title 23 of the sign code to create more clarity on the use of awnings, banners and signs.		City should explore best practices from other cities to improve Title 23 and other design standards that apply to signage and banners. Additionally, the City could improve enforcement of current adopted standards to improve imageability within the segment.	Medium Term
Market Street to 6th Street **(applies also corridor-wide)**	Accelerate identifying and securing additional funding opportunities to implement the new Community Forest Plan.		The city should prioritize identifying additional funding opportunities to support replacing numerous palm trees throughout Downtown with high-canopy trees consistent with the Community Forest Management Plan. More canopy trees throughout the corridor will improve enclosure and imageability.	Long term
Market Street to 6th Street **(applies also corridor-wide)**	Implement consistent vehicle and pedestrian focused lighting.		Lighting along the street has been prioritized for vehicles, and lighting for pedestrians is often obscured by tree canopy or lack of directional light. Light posts with both vehicular and pedestrian lights on dual arms are available. Additionally, with the implementation of new lightning pole hardware, additional pedestrian focused wayfinding can be implemented.	Medium Term
Market Street to 6th Street **(applies also corridor-wide)**	Audit each intersection for consistency with providing Americans with Disabilities Act (ADA) compliant curb cuts and remove sidewalk deficiencies including uplifted vaults, sidewalks, and bricks. Implement construction improvements based on findings.		In addition to providing more consistency with the treatment of the pedestrian right of way, ensuring ADA access throughout the corridor will both improve the human scale of the corridor but the imaginability	Long term
6th Street to 11th Street **(applies also corridor-wide)**	Adopt a design standard limiting both the tinting/shading/glazing first floor windows and percentage dedicated to display (no more than 25 percent of the window can be used for display).		While first floor windows may be present along the corridor, the shading/tinting/glazing of windows detracts from the pedestrian experience. Only a certain percentage of sidewalk windows should be allowed to be shaded/tinted. In addition, no more than 25 percent of the window should be dedicated to display, creating greater transparency into the building.	Short term
6th Street to 11th Street	Complete the crosswalk at East Santa Clara Street and Eighth Street.		Adding a crosswalk across East Santa Clara Street at Eighth Street would improve pedestrian accessibility across the Corridor. Curb extensions and Rectangular Rapid-Flashing Beacons (RRFB) could make for safe crossing.	Short term
6th Street to 11th Street **(applies also corridor-wide)**	Incentivize through funds or streamlined City review processes more public art and murals.		Public art is notably lacking between Sixth Street and Eleventh Street. More public art would improve complexity and imageability. The City could encourage the opportunity by offering grants for murals through the Office of Economic Development-Cultural Affairs.	Short term
6th Street to 11th Street **(applies also corridor-wide)**	Grind pavement on East Santa Clara Street to reduce the street crown.		Within the study segment of Sixth Street and Eleventh street as well as the Santa Clara Street Corridor there is accentuated street crown resulting in vehicular traffic being elevated above pedestrians. Grinding down the crown would result in a more comfortable pedestrian experience as well as less noise.	Long term
6th Street to 11th Street **(applies also corridor-wide)**	Adopt design standards that should provide zero setback from property line along the Santa Clara Street Corridor		Buildings along the corridor, especially between Sixth and Eleventh, are significantly set back from the sidewalk. Eliminating setbacks would improve enclosure and transparency	Medium Term

Lens Addressed


Imageability


Enclosure


Human Scale


Transparency


Complexity

Introduction

Santa Clara Street has a long and rich history as a thoroughfare that runs East to West through Downtown San José. Through the years, the street has housed many notable landmarks, including the Bank of Italy (now known as Bank of America), the College of Notre Dame, the Electrical Light Tower, and Farmer's Union. Santa Clara Street was once a gathering place for weekend car cruising, up until this was outlawed, a ban that was repealed in 2022. The street has also been used for the Turkey Trot and Rock n Roll Half Marathon and countless marches and demonstrations. It is the most active public transit corridor in the whole Santa Clara Valley Transit Authority (VTA) system.

The combined East and West Santa Clara Street is the only road that traverses from the east side of San José (starting as Alum Rock), through Downtown, heading west to the City of Santa Clara via The Alameda. It is one of the most important streets in the entire City of San José. As such, it is the focus of a capstone project being conducted by San José State Urban Planning Class 295, on behalf of the City of San José. The purpose of this report is to analyze East and West Santa Clara Street from Diridon Station to Eleventh Street. The analysis focuses on the feasibility of converting Santa Clara Street into a Complete Street, with a focus on curb management.

According to the American Planning Association, a Complete Street "serve[s] everyone – pedestrians, bicyclists, transit riders, and drivers – and they take into account the needs of people with disabilities, older people, and children." In order to realize the vision for a Complete Street for Santa Clara Street between Diridon Station and Eleventh Street,

Figure 3 - San Pedro Square. *A popular dining and entertainment destination for Downtown.*

the San José State Urban Planning Class 295 (the team) undertook a rigorous process of analysis, interviews, audits, and survey collection to develop a set of recommendations outlined at the end of this report.

The findings and recommendation from this report should be used together with a companion study being conducted by San José State Urban Planning Class 256, which is analyzing the same corridor with a priority focus on what happens between the curbs (on street).

Background

In 2023, Downtown San José is experiencing significant shifts in its vibrancy and activity (high vacancy rates, business closures, etc.). Compounding these shifts are significant projects and new infrastructure investment planned within the Downtown core, including the construction of two BART stations and Google's Downtown West Development project. This creates a prime opportunity to reimagine East and West Santa Clara Street (Santa Clara Street Corridor) between Diridon and Eleventh Street as a Grand Boulevard. The team has analyzed the nature of the 20 blocks of the Corridor over the last four months. The team has broken down the study area into three equal segments:

- Diridon to Market Street - This portion of West Santa Clara Street includes the proposed Google Downtown West Development, Diridon Station (which is projected to receive a future BART station and a future California High Speed Rail station), SAP Center, and the San Pedro Urban Market.
- Market Street to Sixth Street - This portion of East Santa Clara Street includes a future BART station, numerous historical buildings, and the Green and Blue light rail lines.
- Sixth Street to Eleventh Street - This portion of East Santa Clara Street has had few transformations over the years, and is lower density than the rest of the corridor, with largely one or two story building heights.

The timing of this report follows the City of San José's recent adoption of the Downtown Transportation Plan and Complete Streets Design Standards and Guidelines. The report is organized into two distinct phases. Phase I provides the context of the corridor, including past policies, community engagement, development potential, walkability findings, safety, and accessibility. Phase II of the report outlines the findings from an urban design audit that was conducted for all three segments of the corridor. The audit findings have resulted in short, medium, and long term recommendations. The scope of the project does not include identifying costs associated with implementation of said recommendations.

1.1 Site Context and Existing Conditions

1.1.1 Site Context and Existing Conditions

The Santa Clara Street corridor is a main thoroughfare in San José that connects to local and regional transportation networks, including US-101, SR-87, I-680, I-880, and Diridon Station. The corridor provides access to prominent regional amenities, including medical facilities, shopping centers, cultural sites, dining, nightlife, and recreational areas. The surrounding half-mile Santa Clara Street study area comprises the section of the corridor from Diridon Station to Eleventh Street, which connects important areas, including Diridon Station, Guadalupe River Park, Downtown businesses, City Hall, San Pedro Square, San José State University (SJSU), Horace Mann Elementary School, and Saint James Park.

1.1.2 Land Use

The Study Area is predominantly designated as Residential, Commercial, Downtown, Public/Quasi-Public, and Mixed land uses, per the 2040 General Plan Map. The land uses primarily support offices, retail, high-density residences, and public institutions, and mixed uses are characterized by relatively low-density residences (2-50 units) and commercial uses (restaurants, shops, etc.). Residential uses on the eastern and western portions of the Study Area are mainly single-family homes, whereas the downtown core is composed of skyscrapers and mid-rise buildings. At certain locations, the eastern portion of the Study Area is devoid of built form to make way for parking and other industrial uses.

1.1.3 Transportation

The Santa Clara Street corridor is the most highly traveled east-west arterial in Downtown San José and the only city street connecting SR-87 and US-101 (see Figure __). SR-87 transects the study area, with Diridon Station and SAP Center to the west and Downtown San José to the east.

The Santa Clara Street corridor is Santa Clara County's busiest transit corridor and is well connected with the local bus, light-rail transit (LRT), and regional rail services. Transit is a popular mode of travel for Downtown visitors and residents because of both its connectivity to other public transit services and its proximity to transit stations and hubs, including current and future Bay Area Rapid Transit (BART) stations and Diridon Station.[2]

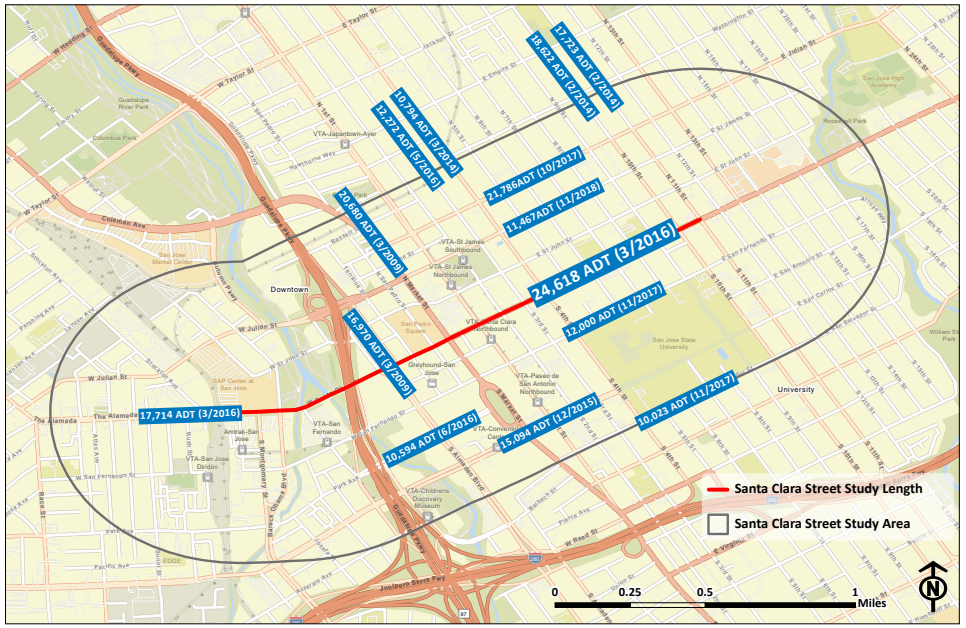


Figure 4 - Average Daily Traffic. *The streets in the study area with an Average Daily Traffic (ADT) count above 10,000 vehicles. The largest recorded ADT count for the Santa Clara Street corridor is 24,618 vehicles, recorded on March 2016. (Source: City of San José, GIS Open Data, Average Daily Traffic)*

Though the study area has well-developed bicycle infrastructure, the Santa Clara Street corridor lacks bicycle lanes, except for an unprotected bicycle lane between Diridon Station and Almaden Boulevard. In addition to the on-street bicycle network, two north-south trail networks intersect the study area. The Guadalupe River Trail links Downtown San José to Alviso, and once trail gaps are eliminated, to South San José. Los Gatos Creek Trail will connect to the Santa Clara Street corridor once the final reach through the Diridon Station area is complete.

1.1.4 Culture

The study area contains multiple historic districts. Two are located along or near the Corridor between Fourth and First Streets: the Downtown Commercial and Saint James Square Historic Districts. The historic buildings within these districts provide unique architectural and cultural value for the area. The study area is also home to two business districts—the Alameda and East Santa Clara Street Business Districts—and two parks—Saint James and Guadalupe River Parks.

1.1.5 Demographics

There are approximately 31,500 residents in the study area (Esri, Community Analysts, 2022 Population). Most of the study area is characterized by high population densities, with some block groups containing densities above 89,000 people per square mile.[3] Downtown and SJSU have higher daytime population densities than general population densities, indicating an influx of people during the day.[4] The large daytime populations result from the centralized office, education, and commercial activities that attract workers and students from the greater region. In addition, there are evening dining and entertainment activities at San Pedro Square and nearby nightclubs and bars.

The average diversity index of the study area is 86, which indicates a high mix of racial and ethnic groups.[5] Although the surrounding study area is a wealthy neighborhood with a median income over $100,000, it is primarily occupied by renters (61 percent).[6]

Phase 1 Six Context Maps

TRANSPORTATION | LAND USE | CULTURE

BUILDING HEIGHTS (ft) | POPULATION DENSITY | DAYTIME POPULATION DENSITY

*All maps are at a 1/2 mile radius, unless noted otherwise.

Figure 5 - Six Context Maps. *Context maps of the 0.5-mile study area around Santa Clara Street, between Diridon Station and Eleventh Street. (Source: SJSU, 2023)*

1.1.6 Safety

1.1.6.1 Crime

A crime analysis identified five crime hot spots and two additional violent crime hot spots along the Santa Clara Street corridor (See Figure 7). The following table showcases the hot spots identified between October 2022 and March 2023.

Total Crime (number of incidents)	Violent Crime (number of incidents)
City Hall (91) Diridon Station (61) Third Street (56) Market Street (48) Tenth Street (48)	City Hall (25) Diridon Station (11) Second Street (9) Tenth Street (8) Barack Obama Blvd (6)

These locations are usually near bars or where alcohol is sold. The exceptions, such as City Hall, are likely due to the increased daytime foot traffic, leading to more frequent reporting. Poor pedestrian-scale lighting is another factor in crime rates and the perceived lack of safety in the study area. The pedestrian-scale lighting along the corridor is substandard (see Figure 6), and the design of most

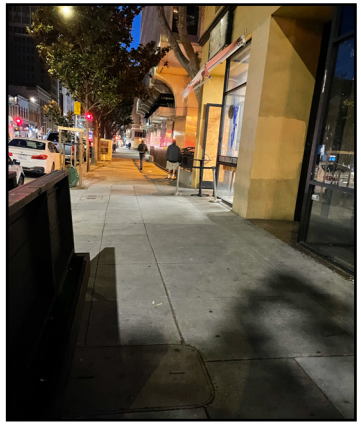


Figure 6 - Santa Clara St & Third St. *The canopy covers the street lamps and the sidewalk is illuminated mainly from store front's lights, leaving it dark when the store is closed. (Source: SJSU, 2023)*

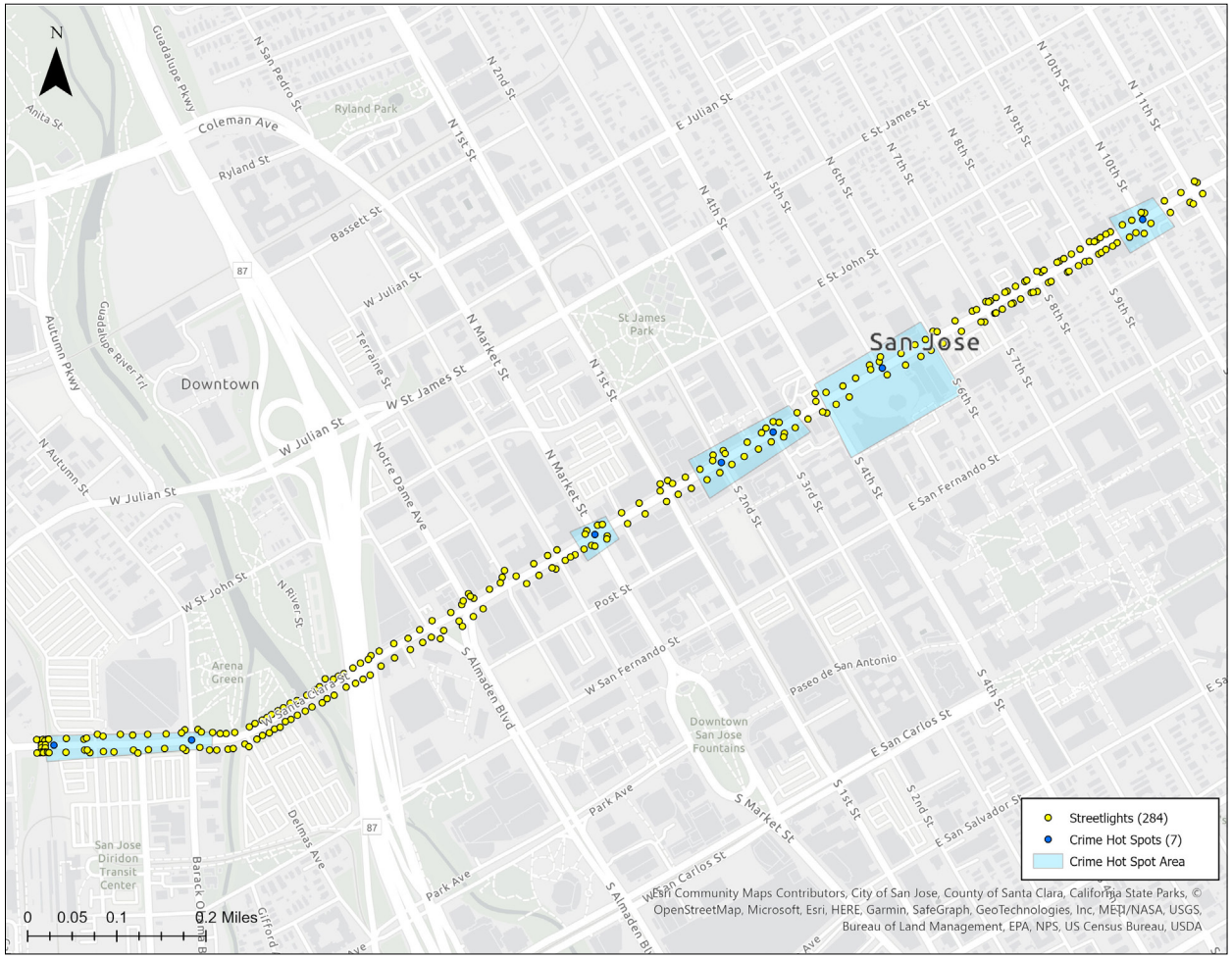


Figure 7 - Safety Map*. Crime hotspots along the Santa Clara Street corridor.*

1.1.6.2 Accessibility

An analysis of accessibility along Santa Clara Street revealed the corridor to be challenging to navigate for persons with disabilities. Most intersections along the corridor do not have dual curb cuts, which forces an unsafe entry into intersections for people who use a wheelchair or mobility assistance device (see Figure 8). Persons with visual disabilities have increased danger on the corridor due to loud street signs that sway in high winds and a lack of auditory beacons at crosswalks, except around City Hall. Sidewalk obstructions are frequent, particularly rental e-scooters and sleeping unhoused individuals' tents and belongings. High street crowns that leave a crosswalk elevated in the center of an intersection are common in the corridor and can be difficult for mobility devices to traverse. Finally, persons with hearing disabilities report few or non-functional visual display boards within Santa Clara Valley Transportation Authority (VTA) buses.

Figure 8 - Santa Clara St & San Pedro St. *Dual curb cut at San Pedro Square. Persons will mobility disabilities do not have a direct pathway into either crosswalk. (Source: SJSU, 2023)*

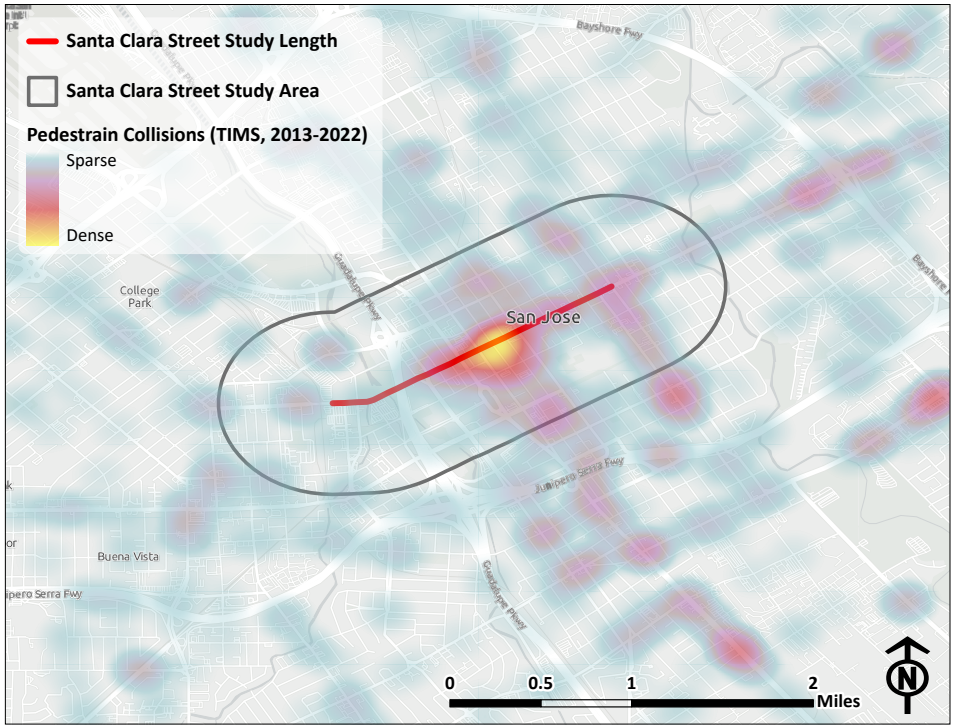


Figure 9 - Heat Map Layout. *Santa Clara Street is one of the most dangerous streets for pedestrians and bicyclists in San José. The intersection at Second and Fourth Streets experience the most active transportation accidents. (Source: TIMS, 2023)*

1.1.6.3 Collisions and Pedestrian Priority

Pedestrians often feel unsafe at intersections due to Santa Clara Street's high amount of automobile traffic and busy intersections. A ten-year analysis (2013-2022) of pedestrian collisions reveals Second Street (13 pedestrian collisions) and Fourth Street (10 pedestrian collisions) intersections are some of the most dangerous intersections in the City. Most intersections along the Santa Clara Street corridor in the study area have five or more pedestrian collisions in the same time period.

1.2 Plans and Policies Context

Multiple jurisdictions have established a policy and planning context for Complete Streets and transit priority improvements along the Santa Clara Street corridor. All future projects along the corridor should align with or complement the existing policies and plans.

1.2.1 City of San José

Policy Role: As the jurisdiction that owns the right-of-way (ROW) along the Santa Clara Street corridor, the City is the ultimate authority on all planning, design, and construction activities that will occur on the corridor. In addition, the City is the local land use authority that dictates land use policy, zoning ordinances, and all local street, building, and urban design standards.

1.2.1.1 Envision San José 2040 (2011)

Envision San José is the City's General Plan.[7] It establishes a Complete Street

network typology for the City, assigning Santa Clara Street as a Grand Boulevard. Grand Boulevards prioritize transit over other modes to support high-frequency transit services that connect the City's neighborhoods and nearby cities.

1.2.1.2 Downtown Transportation Plan (2022)

The Downtown Transportation Plan (DTP) is a 20-year strategy for planning and implementing over 50 transportation projects, programs, and policies in the Downtown San José area.[8] The DTP advances Envision San José's vision of a city-wide Complete Street Network and recommends transformations to help the Santa Clara Street corridor become a Grand Boulevard. Enhancing the corridor is one of five "Big Moves" in Downtown San José. The DTP recommends a future comprehensive study of the corridor to find opportunities to allocate dedicated transit/ public service lanes, improve pedestrian safety and comfort, and create an attractive destination for residents and visitors. The DTP exhibits three different design concepts for what a future Santa Clara Street could look like.

1.2.1.3 Complete Streets Design Guidelines and Standards (2018)

The Complete Street Design Guidelines and Standards direct City staff, engineers, and contractors to adequately implement Complete Street design elements on City streets, sidewalks, and bikeways.[9] Future street improvements along Santa Clara Street must follow the Complete Street Design Guidelines and Standards.

1.2.1.4 En Movimiento (2020)

Figure 10 - Conceptual Designs. *Three conceptual designs for future public service lanes on Santa Clara Street. (Source: DTP, 2022)*

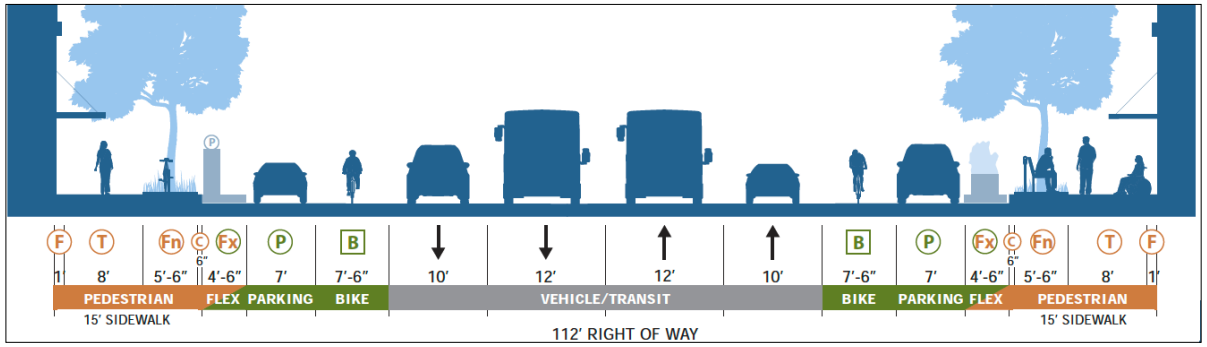


Figure 11 - Grand Boulevard with Dedicated Transit Lane. *Potential cross-section of a Grand Boulevard. (Source: Complete Streets Design Guidelines and Standards, 2018)*

En Movimiento, East San José's Multimodal Transportation Improvement Plan (MTIP), prioritizes a list of transportation projects to improve access and mobility across East San José.[10] En Movimiento identifies the need to implement a future public service lane between Seventeenth and Thirty-Fourth Streets along the Santa Clara Street/Alum Rock Avenue corridor. Any future projects along the Downtown portion of Santa Clara Street will need to seamlessly connect with the public service lane in East San José.

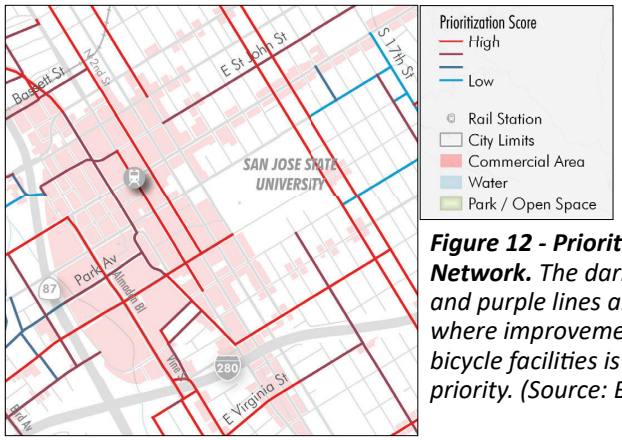


Figure 12 - Prioritized Bike Network. *The dark red and purple lines are streets where improvement to bicycle facilities is a high priority. (Source: BBP, 2020)*

1.2.1.5 Better Bike Plan (2020)

To make bicycling more attractive and safer for casual riders in San José, the Better Bike Plan (BBP) identifies and prioritizes projects to improve and expand the bikeway network throughout the City.[11] The BBP recommends the bicycle lane on Santa Clara Street, between Diridon Station and Almaden Blvd, transition into a protected bicycle lane.

1.2.1.6 Diridon Station Area Plan (2021)

The Diridon Station Area Plan (DSAP) provides a policy framework for transforming the Diridon Station Area into a dense, mixed-use, vibrant, multimodal activity center.[12] The DSAP accounts for the future Downtown West development and the transformation of Diridon Station to support future high-speed rail (HSR) service. The DSAP identifies future station access and circulation routes to improve connectivity between Diridon Station and transit services along Santa Clara Street. Recommendations for Santa Clara Street include a northern Diridon Station entrance, BART subway entrance, Los Gatos Creek trail crossing, protected bicycle lane, public art installations, and expanded public spaces. The DSAP declares pedestrian movement as the priority mode for the station area.

1.2.1.7 Downtown San José Design Guidelines (2022)

The Downtown San José Design Guidelines are the minimum design standards for new developments.[13] Design topics specified in the Design Guidelines include but are not limited to site access, building entrances, ground floor treatments, pedestrian lighting, signage, public spaces, and building facades.

1.2.1.8 Transit First Policy and Toolkit (2022)

To support faster and more reliable transit services throughout the City, the Transit First Policy and Toolkit provides guidance to City staff to adequately plan for and implement transit priority elements along Grand Boulevards like Santa Clara Street.[14]

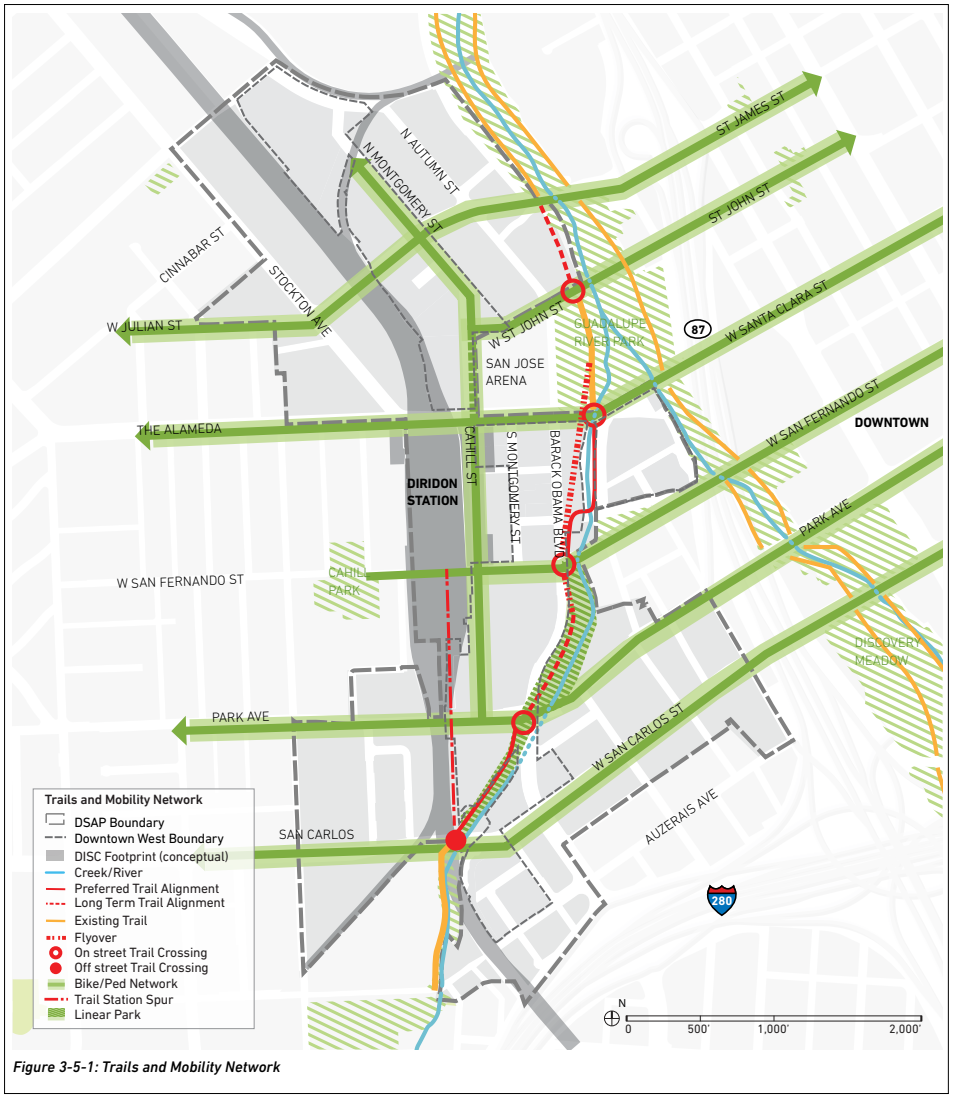


Figure 3-5-1: Trails and Mobility Network

Figure 13 - Trails and Mobility Network. *Mobility and trail network designated in the DSAP. Los Gatos Creek trail is planned to link with Santa Clara Street. (Source: DSAP, 2021)*

1.2.2 Santa Clara Valley Transportation Authority (VTA)

Policy Role: As the County's public transit operator, VTA is responsible for the transit services along Santa Clara Street and any transit facilities and equipment used by VTA. VTA is also the County's Congestion Management Agency (CMA).

VTA has multiple plans and policies that promote transit ridership, improve transit operations, and expand access sheds to their Downtown services:

- The Strategic Capital Investment Plan (2020) identifies major capital projects to invest in over the next 20 years.[15]
- The Pedestrian Access to Transit Plan (2017) recommends 165 capital improvement projects to improve pedestrian access and remove first-last mile barriers.[16] VTA will update this plan in the near future.
- The Station Access Policy (2018) establishes VTA's access priorities to guide planning and investment decisions regarding station access for all modes.[17]
- The Downtown San José BART Station Area Playbook (2020) is a planning framework for transforming the future Downtown BART Station into a multimodal, accessible, livable, and economically vibrant transit-oriented community.[18]

1.2.3 Metropolitan Transportation Commission (MTC)

Policy Role: As the Metropolitan Planning Organization (MPO) and Regional Transportation Planning Agency (RTPA), MTC is responsible for developing regional policies that guide the allocation of state and federal funds. Examples of policies relevant to a Complete Streets project:

The Transit-Oriented Communities Policy (2002, currently being updated) provides additional funding opportunities to projects in transit-rich Priority Development Areas (PDA) and Equity Priority Communities like Downtown San José.[19]

The Active Transportation Program (ATP, Ongoing)[20] and One Bay Area Grant (OBAG, ongoing)[21] allocate state and federal funds for various transportation projects, including Complete Street and transit-supportive projects.

1.2.4 Federal and State Policies

Finally, state agencies such as the California Department of Transportation (Caltrans) and the California Transportation Commission (CTC) and multiple federal agencies within the U.S. Department of Transportation (DOT) collectively offer dozens of funding opportunities. In addition, funds are often prioritized for projects in Historically Disadvantaged Communities (HDC) and Areas of Persistent Poverty (AoPP), which exist in and around Downtown San José.

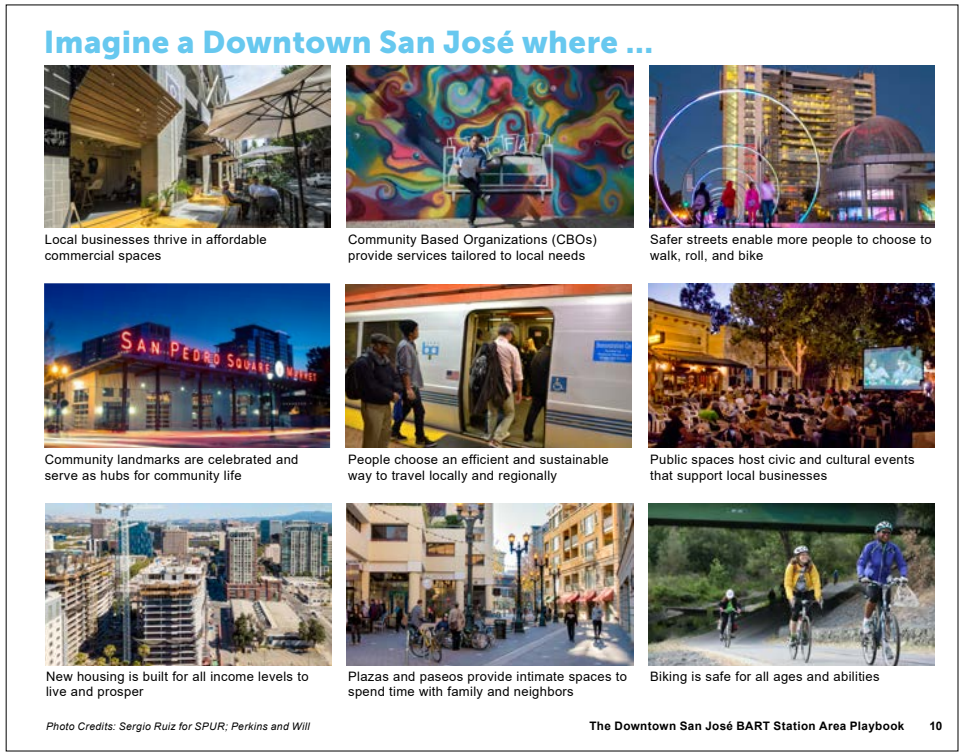


Figure 14 - "Imagine a Downtown San José where" graphic. *The BART Station Area Playbook presents strategies and actions to help create a thriving transit-supportive community around the future Downtown BART Station (Source: Downtown San José BART Station Area Playbook, 2020)*

1.3 Planned Projects and Developments

1.3.1 Public Projects

1.3.1.1 Regional and Inter-Regional Rail Projects

The Diridon Integrated Station Concept (DISC) Plan is a joint plan between the City, VTA, Caltrain, and the California High-Speed Rail Authority (CHSRA). The DISC is a unified vision for combining transportation and land use components into a single station project in preparation for three major regional and inter-regional rail services to Diridon Station:[22]

The Caltrain Electrification project will electrify the Caltrain corridor from San Francisco to San José, replace Caltrain's rolling stock with modern designs, and increase service up to seven Caltrain trains per peak hour per direction.[23]

The BART to Silicon Valley Phase 2 (BSVII) project will extend the regional rail service six miles from the Berryessa Transit Center into Downtown San José and will end in the City of Santa Clara. By 2040, the extension is estimated to carry 54,000 passengers per day.[24]

Diridon Station will also serve as part of the first phase of the California High-Speed Rail (CHSR) system, connecting San José to the Central Valley and Southern California.[25]

1.3.1.2 Local Transit Projects

Improving transit operations along Santa Clara Street is one of the "Big Moves" in the DTP. The DTP identifies conceptual designs for future public service lanes on Santa Clara Street. Designated public service lanes would significantly improve bus speed and reliability, as buses would no longer have to wait behind traffic. The DTP also recommends an improved transit wayfinding system in the Downtown area. These transit improvements have the potential to enhance transit access and bolster ridership in the Downtown area.

> *What are Public Service Lanes?*
>
> Public service lanes are reserved for public transportation, emergency vehicles, or other designated services. They are typically marked with colored pavement treatments and roadway surface markings. Along congested streets, public service lanes provide a clear and safe pathway for transit vehicles, reducing service delays and improving on-time reliability.

Another transit "Big Move" in the DTP is the realignment of the north-south LRT service on First and Second Street. A future LRT realignment through Downtown would have major implications for transit priority operations on Santa Clara Street.

1.3.1.3 Pedestrian/Trail Projects

The DTP identifies the need to develop pedestrian spaces that are universally accessible, safe, and low-stress, all while creating a unique sense of space to attract visitors. The City has designated a walking network of Main Streets and Paseos to make these pedestrian spaces a reality. Main Streets are walking routes with pedestrian-priority features and slow vehicle speeds. The following Main Streets improvement projects are planned in the Santa Clara Street study area:

- San Pedro Street Priority Improvements

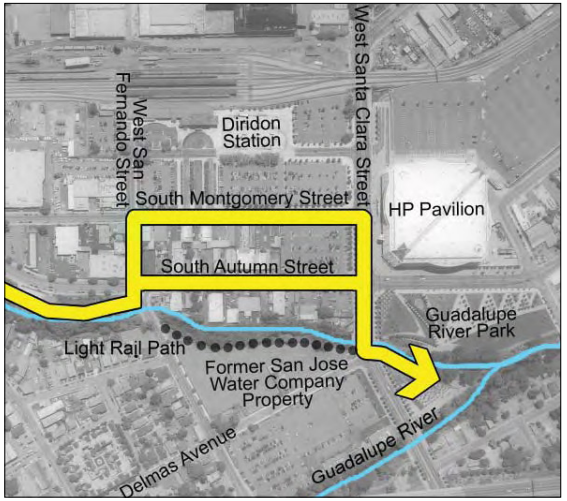


Figure 15 - Los Gatos Creek - Reach 5 project area. *(Source: Los Gatos Creek Master Plan, 2008)*

- Post Street Pedestrian Priority Improvements
- Montgomery Street Pedestrian Priority Improvement

Paseos are streets that are closed off to traffic to give pedestrians and bicyclists free movement to travel stress-free. The following Paseos improvement projects are planned in the study area:

- San Pedro Street Paseo
- Post Street Paseo
- Delmas Avenue Paseo
- Second Street-Saint James Park Paseo

The DTP also calls for new pedestrian-scale light-emitting diode (LED) sources and a standardized wayfinding system to guide pedestrians to their destinations.

In addition to the improved walking network recommended in the DTP, two major trail projects intersect the study area.

- Reach 5 of the Los Gatos Creek Master Plan includes the section of the trail planned between Auzerais Avenue and Santa Clara Street. It is the last remaining unconstructed segment of the Los Gatos Creek Trail.
- The Guadalupe River Trail currently links with Santa Clara Street but is interrupted after crossing under I-280. The City recently adopted a Master Plan to connect the Downtown portion of Guadalupe Trail to South San José.[26]

1.3.1.4 Parks Projects

North of Santa Clara Street, the revitalization of Saint James Park is a $63.9 million effort to transform the park into a safe, fun, and desired public space that reflects the history of the park and surrounding neighborhood. Construction is expected to start in late 2024 or early 2025.[27]

The Guadalupe River Park is San José's largest urban park and traverses 2.6 miles alongside the Guadalupe River through Downtown and Santa Clara Street. The City, Guadalupe River Park Conservancy, SPUR, and other public and private partners are exploring strategies to transform the park to make it more attractive and enjoyable for the community while serving the needs of the unhoused currently living there.[28]

In addition, three new parks are planned in Downtown San José: Pellier Park, North San Pedro Park, and Bassett Park.[29]

1.3.1.5 Bicycle/Micromobility Infrastructure

The BBP recommends improvements to the City's bicycle network, including a protected bicycle lane along Santa Clara Street and The Alameda.30 Within the study area, the protected bicycle lane will stretch from Diridon Station to Almaden Boulevard. Other recommendations in the BBP include expanded micromobility and bicycle sharing

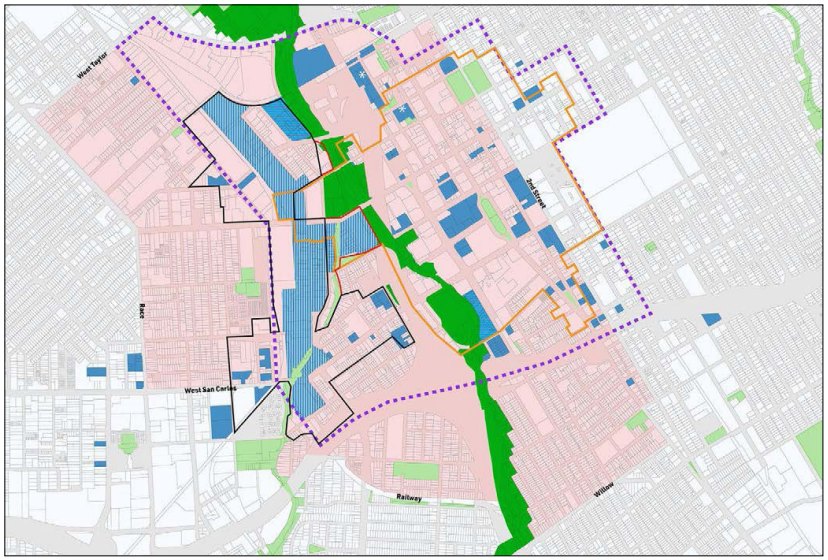


Figure 16 - Guadalupe River Park Map. *Guadalupe River Park relative to the Downtown area. (Source: Guadalupe River Park: A Shared Future in Downtown San José, 2021)*

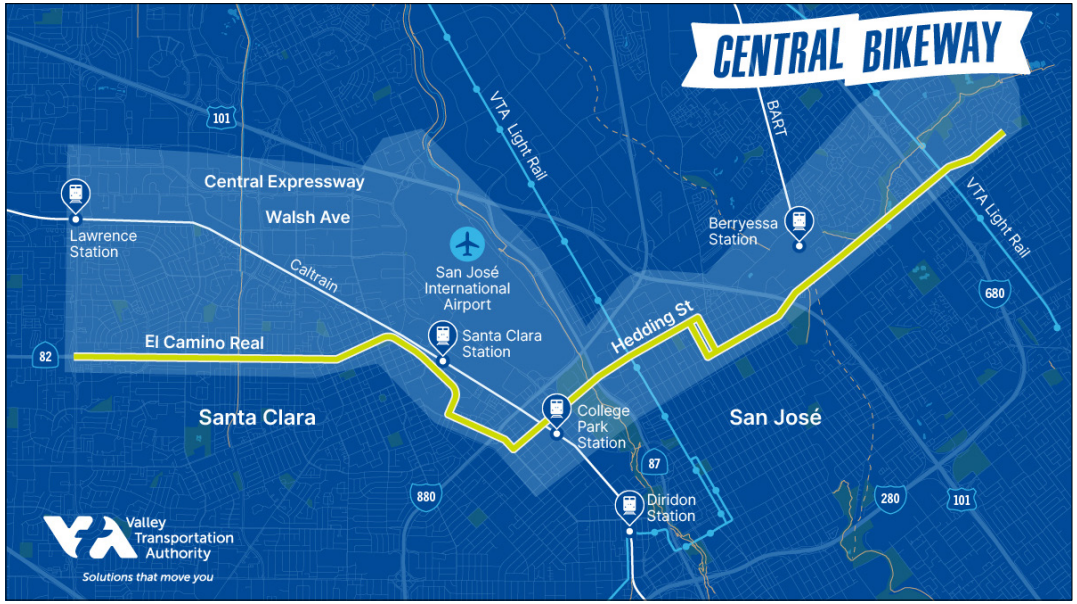


Figure 17 - Central Bikeway. *The proposed Central Bikeway alignment. (Source: Central Bikeway Study, 2022)*

hubs, increased access to short- and long-term bicycle parking facilities, more bicycle parking in transit vehicles, and a better wayfinding system for bicyclists.

The City and VTA are also planning a new east-west bicycle superhighway between the City of Santa Clara and North San José, which will go through the Downtown area.[31] The Central Bikeway will provide an uninterrupted and safe bicycle path connecting Downtown San José's northern section to local and regional transit resources, including Caltrain, VTA Light Rail, and the Berryessa BART Station.

1.3.1.6 Parking

There are 108,500 parking spaces in Downtown San José. The DTP recognizes two strategies for parking management in Downtown:

- Demand-based pricing policy to allocate public parking.
- Incentivizing Downtown developments to rightsize, unbundle, and/or share parking for efficient use of spaces.[32]

1.3.2 Private Projects

1.3.2.1 Pipeline Development Projects

Within a block of the Santa Clara Street corridor, there are 13 proposed major development projects proceeding through the review process as of April 2023.[33] These include:

- Five housing projects
- One hotel
- Two office buildings
- Five mixed-use projects

1.3.2.2 Downtown West Development

In May 2021, the City approved Google's Downtown West Mixed-Use Plan (Downtown West). The project proposed by Google takes up approximately 80 acres of the 262-acre area in the DSAP. Downtown West is approved for up to 7.3 million gross square feet of office space, 4,000 new units of housing, 500,000 gross square feet of active use space, 100,000 gross square feet of event space and hotel use, and 15 acres of parks and open space.[34]

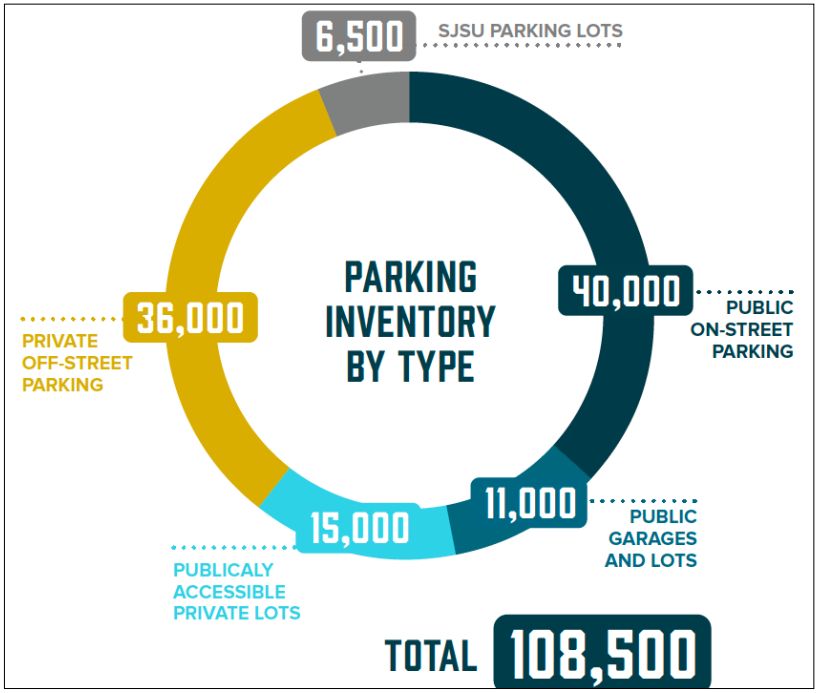


Figure 18 - Parking. *Parking inventory in Downtown San José. (Source: DTP, 2022)*

1.4 Community Engagement

Community engagement was conducted over several weeks to better understand what residents and users of Santa Clara Street wanted to see from any change. The team decided to avoid a public meeting, favoring methods to engage where street users are. Members of the research team performed engagement efforts in pairs to expand our understanding of community needs. The team decided to avoid a survey, which can limit the breadth of responses from residents. Instead, the team opted to create conversation topics to help facilitate discussions with residents. Topics were chosen to gauge what the public wanted to see with any change and determine the popularity of a Complete Streets design.

The team selected four conversation subjects and used a worksheet to document discussions with participants. The conversation started with broad questions to build rapport with the respondent, and the following question became more specific and led to more in-depth responses. In order, the questions were:

- Do you live in San José? If yes, what neighborhood? If not, where do you live?
- How did you get here today? Is that typically how you get here?
- What are your feelings about Downtown?
- What are some places that you like going to?
- What are some places that you avoid?
- (Providing a printed version of a Complete Street from San José's Complete Street Guideline document) What are your impressions of this street design? Could you see this street design meeting your needs for Santa Clara Street and Downtown?

The team collected responses from 103 residents. Most interviewees cited San José as their home. The primary mode of transportation to arrive Downtown was mixed. A relatively equal number of respondents used transit or walked, slightly more people drove, and very few bicycled (see Figure __). However, the number of bicyclists recorded was lower because team members were on foot and did not want to cause collisions by stepping in front of bicyclists.

Figure 19 - Community Engagement Map. *The team performed community engagement at eight locations along the Santa Clara Street corridor to capture a representative sample of Downtown residents and visitors. Team members roamed a few blocks in each direction.*

On the subject of existing conditions, people cited Downtown as feeling unsafe, especially at night. They also tended to avoid Saint James Park and the areas around the Grocery Outlet between Sixth and Seventh Streets. People noted they enjoy the atmospheres around San Pedro Square and San José State University. Similar numbers of people cited First Street as both a place to avoid and a reason to visit Downtown San José. First Street is an area known for bars and nightclubs, and we can see a clear split in whether or not people want to be in that sort of environment.

Respondents were generally apathetic or supportive of the Complete Street design shown to them. Respondents cited the tree canopy, protected bike lanes, and colorful aesthetic as positives. On the other hand, some respondents viewed the road diet, lack of outdoor seating, and street parking as negatives. In general, engagement efforts revealed that the community wants to improve safety, cleanliness, and vibrancy along the corridor. These community ideals help to frame the team's recommendations in Phase II - Urban Design Audit and Recommendations.

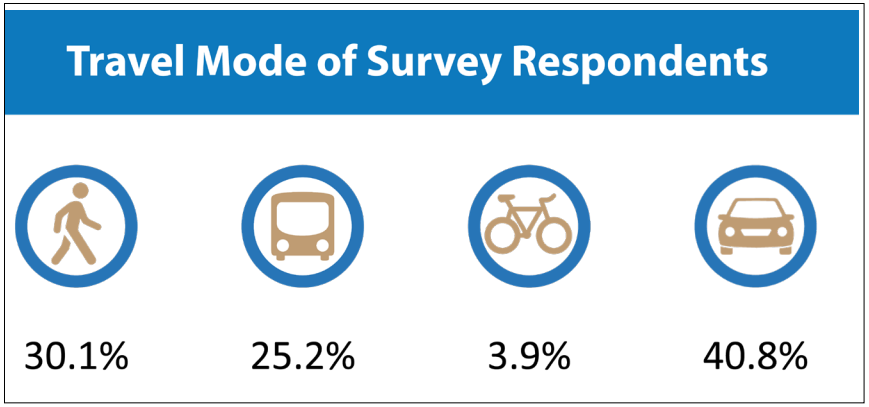


Figure 20 - Travel Mode Percentages. *The breakdown of respondents' mode choice for how they normally travel into Downtown San José.*

Figure 21 - Community engagement. *Members of the 295 class engage San Jose community members on what they envision for a complete street.*

The first phase of this report provided background and context to the Santa Clara Street study area. The second phase of this report focuses on both the pedestrian experience and urban design qualities throughout the three segments of the Santa Clara Street corridor. Using an audit tool developed by the Active Living Research Program of the Robert Wood Johnson Foundation, entitled "Measuring Urban Design Qualities: An Illustrated Field Manual" (audit tool), team members completed walk audits of three segments within the corridor.[35] These are Diridon Station to Market Street, Market Street to Sixth Street, and Sixth Street to Eleventh Street. The results were then combined to develop a set of recommendations for the City of San José and its partners to implement. Recommendations from the audit tool support the goal of developing a Complete Street within the study area for both East and West Santa Clara Street.

2.1 - Define Each Urban Design Lens & Methodology of the Urban Design Audit Tool

The audit tool helps better quantify the experience an individual may have when traveling through the corridor, based upon five measures. The measures can then be assigned numerical values that represent the level to which the street is a welcoming environment for both active travel and leisure experiences within the pedestrian environment. The tool also highlights opportunities for improvement.

The measures are as follows.

Imageability - Imageability is the quality of a place that makes it distinct, recognizable, and memorable. A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression.[36]

Enclosure - Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements. Spaces where the height of vertical elements is proportional related to the width of the space between them have a room-like quality.[37]

Human Scale - Human scale refers to the size, texture, and articulation of physical elements that match the size and proportions of humans and, equally importantly, correspond to the speed at which humans walk. Building details, pavement texture, street trees, and street furniture are all physical elements contributing to human scale.[38]

Transparency - Transparency refers to the degree to which people can see or perceive what lies beyond the edge of a street or other public space. Physical elements that influence transparency include walls, windows, doors, fences, landscaping, and openings into midblock spaces.[39]

Complexity - Complexity refers to the visual richness of a place. The complexity of a place depends on the variety of the physical environment, specifically the numbers and kinds of buildings, architectural diversity and ornamentation, landscape elements, street furniture, signage, and human activity.[40]

The audit tool provides a numerical score for each of the five measures. The scores are primarily for comparative purposes, and do not have a maximum or minimum score. To provide context for the scores in the following section, the team also conducted walk audits on two specific blocks that were highlighted during the community engagement as either a desirable place with a pleasant pedestrian experience or a place that is generally avoided. The desirable block was San Pedro Street between West Saint John Street and West Santa Clara Street (near San Pedro Square). The avoided block was East Santa Clara Street between Sixth and Seventh Street (the Grocery Outlet block).

Table XX summarizes the findings of the two walk audits, comparing scores for what the community considers a desirable block and a block that needs improvement. The audit scores of these two blocks provide a scale for both the potential low end and high end of scores based on the community engagement work.

	Control Group	
Audit Measures	San Pedro Street Between Santa Clara Street and West Saint John Street	6th Street to 17th Street - Grocery Outlet Block
	(High Urban Design)	(Low Urban Design)
Imageability	21.6	2.3
Enclosure	3.4	2.8
Human scale	12.7	2.2
Transparency	3.6	1.8
Complexity	21	3.7

***Table 2** - Downtown Benchmarks for High and Low Urban Design.*

2.2 - Results of the Urban Design Audit Tool by Study Area Segments within the Corridor

Diridon Station to Market Street Design Audit Findings

	Study Segments	Control Group	
Audit Measures	Diridon Station to Market Street	San Pedro Street Between Santa Clara Street and West Saint John Street	6th Street to 17th Street - Grocery Outlet Block
		(High Urban Design)	(Low Urban Design)
Imageability	4.8	21.6	2.3
Enclosure	2.8	3.4	2.8
Human scale	2.1	12.7	2.2
Transparency	3.4	3.6	1.8
Complexity	6	21	3.7

***Table 3** - Diridon Station to Market Street Audit Findings compared to Benchmarks*

The segment between Market Street and Diridon Station takes on two distinct urban design aesthetics, with the clear demarcation occurring at Highway 87 and West Santa Clara Street. From Market Street to the Northbound off ramp of Highway 87, a dense urban environment is experienced. Proceeding along West Santa Clara Street to Diridon Station, the environment is one of vast parking lots. A large entertainment venue (SAP Center) serves as the gateway to the largest intermodal transit station in the Bay Area (Diridon Station).

The imageability score for the Market Street and Diridon Station segment was the largest amongst all three segments at 4.8. Buildings with unique identifiers (architectural accents) and plazas and parks from Market to the Guadalupe River Parkway pull the average score up for this segment. The SAP Center, while a unique identifier, does not make up for the lack of other developments; the average score is lower. The smaller segment from Barack Obama to Diridon Station has a low of 2.4 bringing down the average imageability score to a 4.8.

The enclosure measure, which is focused on not having long sight lines and views of sky, fares well in the segment between San Pedro Street to Almaden Avenue because of the building alignment to the sidewalk and good tree canopy. The remaining block segments do not have buildings adjacent to the sidewalk, which diminishes scores, leading to an average of 2.8.

A lack of street furniture (planters, bike racks, trash cans) and minimal active uses causes a low human scale score, so the Market Street to Diridon Station segment has an average score 2.0, the lowest amongst the three segments of the Santa Clara Study Corridor.

The transparency score for Market Street to Diridon Station was moderate at 3.4. The Market Street to Almaden Blvd portion has the most street level windows, along with active uses within the segment. As the street moves west beyond Almaden Blvd there are less window treatments and active uses, which pulls the average down for the street segment.

The complexity measure focuses on accent colors, places, and activations, in which the Market Street to Diridon Station performs well at 6.0. The score was predominantly a result of various public art installations that are present consistently throughout the segment.

The Market Street to Diridon Station segment does lack Human Scale and Transparency given the large surface parking lots within the segment. The complexity measure of this segment of the Corridor is strong because public art is more prevalent and accessible, not inside alleys, behind trees, or as a wrap on a piece of infrastructure.

Market Street to Sixth Street Design Audit Findings

	Study Segments	Control Group	
Audit Measures	Market Street to 6th Street	San Pedro Street Between Santa Clara Street and West Saint John Street	6th Street to 17th Street - Grocery Outlet Block
		(High Urban Design)	(Low Urban Design)
Imageability	4.7	21.6	2.3
Enclosure	2.2	3.4	2.8
Human scale	3.7	12.7	2.2
Transparency	3.2	3.6	1.8
Complexity	6.3	21	3.7

Table 4 *- Market Street to Sixth Street Audit Findings compared to Benchmarks*

Overall, the section of East Santa Clara Street from Market Street to Sixth Street is a people-friendly street that supports urban life in Downtown San José. It is characterized by high density buildings, historic areas, diverse economic activities, and urban design features that promote walkability.

The average imageability score for the entire Sixth Street to Market Street segment was higher at 4.7 than the Sixth to Eleventh Street segment at 3.3 (See Figure XX). Outdoor seating areas, lighting, and signage predominantly occurs between Third and Fourth Street, buildings with unique identifiers (architectural accents) and much higher pedestrian counts helped improve the score. The lack of courtyards, plazas, and parks through Third to Fifth Street dampens the overall imageability score.

The enclosure measure for the Market Street to Sixth Street segment was lower at 2.2 than Sixth to Eleventh Street segment at 2.6. Market Street to First Street and Fourth Street to Sixth Street have very low enclosure scores, because of breaks in street walls due to the presence of parking lots and driveways, limited tree canopy, parking lots and a civic plaza. The segments of First Street to Third Street support higher enclosure scores because of consistent building heights and tree canopy on both sides of the street.

High human scale measures include having street furniture (planters, bike racks, trash cans, etc.) and smaller buildings. For the Market Street to Sixth Street segment, the average score was 3.7. In the Market Street to Fourth Street segment, there are consistent street furniture elements throughout. Between Fourth and Fifth Street the score is low because of minimal bike racks, trash cans, and benches. Throughout the segment, there is an inconsistency across all the blocks about the frequency of street level windows.

Figure 22 *- E. Santa Clara Street showing high level of transparency with active storefronts.*

The transparency score for the segment of Market Street to Sixth Street was a modest 3.2. First Street through Fourth Street has a much higher score because of the higher proportion of street level windows and active uses (activity going on inside buildings and active frontages). Market Street to First Street and Fourth Street to Sixth Street have fewer street level windows and building footprints within these blocks and are more frequently set back from the sidewalk, reducing the transparency of the area.

Complexity as a measure focuses specifically on the typology of the building and is relatively high at 6.3, far exceeding that of the neighboring segment of Sixth Street to Eleventh Street at 5.1. The higher score was a result of buildings having varying colors, the presences of outdoor dining, and public art installations. Public art had a particularly significant impact in increasing the overall complexity score between First Street and Second Street.

The segment from Market Street to Sixth Street scored well with complexity, imageability, and human scale. However, the segment could improve in the areas of enclosure, transparency and human scale, with more street furniture and activation of spaces, especially from Fourth to Sixth Street and from First Street to Market Street.

Sixth Street to Eleventh Street Design Audit Findings

	Study Segments	Control Group	
Audit Measures	6th Street to 11th Street	San Pedro Street Between Santa Clara Street and West Saint John Street	6th Street to 17th Street - Grocery Outlet Block
		(High Urban Design)	(Low Urban Design)
Imageability	3.3	21.6	2.3
Enclosure	2.6	3.4	2.8
Human scale	4	12.7	2.2
Transparency	2.7	3.6	1.8
Complexity	5.1	21	3.7

Table 5 *- Sixth Street to Eleventh Street Audit Findings compared to Benchmarks*

The Sixth Street to Eleventh Street segment is unique relative to the rest of the Santa Clara Street Corridor, characterized by low-rise commercial buildings occupied by small businesses and surface parking lots. Major features of the segment include the Grocery Outlet block fronted by a very large surface parking lot, the Our Lady of La Vang Parish, and several historic buildings. The team conducted audits block-by-block, with a score for each of the five categories assigned to each of the five blocks. An average score for the entire segment was also calculated to summarize the entire length of Sixth to Eleventh Street. The remainder of this section will summarize findings from the audit tool based on scores from the five measures and highlight notable blocks within the segment that contribute to the segment's average score.

The average imageability score for the entire Sixth Street to Eleventh Street segment was low at 3.3 (See Figure XX). Aspects of the segment that improved the score were outdoor dining, unique building identifiers (such as signs), historic buildings, and uniquely shaped buildings (i.e., non-rectangular). However, a lack of courtyards, plazas, parks, and the high noise level throughout the segment overall detracted from the imageability score. Specifically, the Eighth to Ninth Street block scored highest for imageability, due to the large number of different buildings with unique signage and non-rectangular buildings. The Sixth Street to Seventh Street block scored lowest with a 2.3, attributable to the lack of historic buildings, no presence of outdoor dining, very little variety in buildings or signage, and high noise level on the block.

The average enclosure score for the Sixth Street to Eleventh Street segment was poor at 2.6. While small planters and street furniture along the stretch of the segment improved the score, ultimately, the low building heights, lack of street trees on some blocks, and the absence of windows on the street level were significant detractors. The Ninth Street to Tenth Street block had the highest enclosure score at 3.7, due to the large number of mature street trees present and building facades that form a street wall on the sidewalk. The Eighth Street to Ninth Street block scored lowest for enclosure at 1.4, due to a lack of street trees and little building frontage on the sidewalk. There are several driveways and parking lots on the south side of the street that disrupt the street wall, and the Our Lady of La Vang Parish on the northside sets back from the sidewalk.

The average human scale score for the street segment was moderate at 4.0. Street furniture, low building heights, and street level windows contribute to a human scale street. The Seventh Street to Eighth Street block scored highest for human scale at 5.5, due to the mature street trees, windows along the street, and large number of human scale items on the sidewalk (planters, parking meters, bicycle racks, etc.) Figure 23. By contrast, the Sixth Street to Seventh block scored poorly for human scale at 2.2. Despite having mature trees, the Sixth Street to Seventh Street block has no windows at the street level and very little human scaled items on the sidewalk.

Figure 23 *- E. Santa Clara Street and 7th Street highlighting human scale elements including bike share, parking meters, trash cans.)*

The average transparency score for the street segment was moderate at 2.7. The average score was lowered by a lack of active uses fronting the sidewalk on many blocks, gaps in

street walls, and a lack of transparent windows on the street. The Seventh Street to Eighth Street block scored highest, with a fair number of street-level active uses and transparent windows. However, the large parking lot and some closed businesses detracted from the score. The Sixth Street to Seventh Street block scored exceptionally poorly at 1.8 with very little street wall present and absolutely no active uses fronting the sidewalk. The south side of the street houses a large Grocery Outlet parking lot dividing pedestrians from active uses. On the north side of the street there are no windows at Horace Mann Elementary School, creating an isolating effect.

The Sixth Street to Eleventh Street segment scored best on complexity with a score of 5.1, although this is still low compared to the San Pedro Street block. The higher score was due to the presence of many different buildings throughout the segment with unique colors and designs. However, a lack of public art or outdoor dining did detract from the complexity score. The Ninth Street to Tenth Street segment scored exceptionally well for complexity with a score of 6.2. This is due to the many different colors of buildings and signage present on the block. The Sixth to Seventh Street block scored lowest at 3.7, due to a lack of colorful buildings and no outdoor dining or public art. Despite this, the many pedestrians present on this block did amplify the complexity score.

Overall, the segment scored well on imageability, human scale, and in particular complexity. The significant number of small businesses occupying small buildings with unique color palettes contributes to a complex and interesting environment. The segment scored poorly on enclosure and transparency, however. These could be improved with more mature street trees, more active and transparent building frontages, and the addition of a park, courtyard, or plaza along the street segment.

Summary Findings from Audit Tool

The use of the audit tool allows for a numeric comparison across blocks within a segment and the broader corridor. San Pedro Street was frequently noted within the community engagement feedback as a place people seek out in Downtown San José. The application of the audit tool to the street shows high numbers for imageability, human scale and complexity. All of these elements contribute to the walkability and sense of place that exists at San Pedro Street. East Santa Clara Street between Sixth Street and Seventh Street was identified as a less pedestrian friendly urban environment in this community engagement feedback, and the audit tool findings support similar conclusions.

	Study Segments			Control Group	
Audit Measures	Diridon Station to Market Street	Market Street to 6th Street	6th Street to 11th Street	San Pedro Street Between Santa Clara Street and West Saint John Street (High Urban Design)	6th Street to 17th Street - Grocery Outlet Block (Low Urban Design)
Imageability	4.8	4.7	3.3	21.6	2.3
Enclosure	2.8	2.2	2.6	3.4	2.8
Human scale	2.1	3.7	4	12.7	2.2
Transparency	3.4	3.2	2.7	3.6	1.8
Complexity	6	6.3	5.1	21	3.7

***Table 6** - Summary of each Corridor segment benchmarked by high and low urban design.*

Throughout the study corridor, there are different foundational elements that the audit tool findings recognize. There are three areas across all three segments that could be improved upon to shift each segment to a higher urban design by adding more pedestrian amenities and features, improving overall access of the sidewalk leading toward an improved Complete Street). The three measure areas are imaginability, human scale, and complexity (See Table). To improve upon the three measure areas, the team has issued recommendations in Section 2.3, to align both with the goal of Complete Streets, and with the goal of improving the urban design and walkability and access of the study area.

2.3 - Recommendations

Based upon the Audit tool process, the team has made both short and long term recommendations that would improve the walkability from a pedestrian experience within the corridor (see Table 7).

Table 7 (1/7)

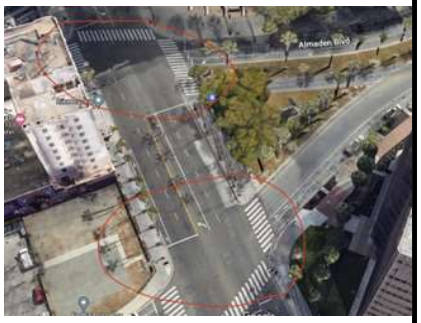
Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Diridon Station to Market Street	Improve the uniformity within the Right of Way (ROW) between Almaden Blvd and Almaden Avenue.		Improve consistency for vehicles and pedestrians who are accessing Almaden Blvd and Almaden Avenue, as both the street and sidewalk standards don't align with other areas of the Santa Clara Street Corridor.		Long term
Diridon Station to Market Street (applies also corridor-wide)	Work with Santa Clara VTA to ensure both consistency and uniformity of VTA Bus Shelters which provide adequate seating, sun relief and functional wayfinding.		By providing appropriate street furniture for users of the VTA transit system, a better pedestrian and human scale design is achieved		Short term
Diridon Station to Market Street (applies also corridor-wide)	Consider using bulb outs as a way to develop protected intersections for improved pedestrian and bicycle crossings.		Improve pedestrian and bicycle safety and further achieve vision zero goals by implementing more bulb outs or curb extensions. Additional benefits provided include greater visibility of pedestrians and cyclists, and extending the sidewalk also allows more active uses for patio space or public space.		Medium Term

Table 7 (2/7)

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Diridon Station to Market Street (applies also corridor-wide)	City install voice crossing alerts to aid visually impaired pedestrians.		By adding voice crossing alerts visually impaired pedestrians will improve the effectiveness of moving through the corridor safety.		Short Term
Diridon Station to Market Street (applies also corridor-wide)	Securing street signs to minimize auditory issues by signs swaying in high wind events.		Securing street signs from swaying during high wind events will reduce repetitive noises that can impact disabled individuals. High pitched squeaking sounds from street signs swaying can cause cognitive issues for disabled individuals thus securing signs lowers impact.		Short Term
Diridon Station to Market Street (applies also corridor-wide)	Evaluate and consider prioritizing pedestrian movement in intersections instead of vehicles with an appropriate traffic study.		Current pedestrian signaling prioritizes the movement of vehicles. By coordinating and prioritizing crossing signals towards pedestrians, Downtown would become a more welcoming environment to walk.		Short term

Table 7 (3/7)

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Diridon Station to Market Street	Work with Sharks Sports and Entertainment to identify other interim or active uses for surface parking lots to reduce heat island effects and encourage greater mode shift for events at the SAP center.		To both improve the walkability and enclosure of the surrounding area as well as reduce heat island effects of underutilized parking, explore other uses of the land to support vibrancy of the area.		Medium Term
Diridon Station to Market Street	Implement appropriate bike infrastructure along West Santa Clara Street for improved bike ability and access to the Central Downtown.		Improve the infrastructure to support bicycling on Santa Clara Street and provide greater access to other transportation solutions operating within the Downtown.		Short term
Diridon Station to Market Street	Activate the space underneath Highway 87 with a “Small Business Incubator” or public plaza/park.		The space underneath Highway 87 represents a significant barrier between two ends of the corridor. The space is also a generally unpleasant space for pedestrians. The space could be activated with small pop-up businesses (similar to what is already at the San Pedro Street Garage) or even a public plaza or park.		Long term

Table 7 (4/7)

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Market Street to 6th Street (applies also corridor-wide)	Streamline permitting process and lower associated fees for outdoor dining along the Santa Clara Street corridor.		Activation of sidewalks within the Santa Clara Street Corridor could be improved by streamlining the permitting process, with lower fees to incentivize existing and new businesses to safely activate the public right of way with outdoor dining.		Short term
Market Street to 6th Street (applies also corridor-wide)	Review design standards and Title 23 of the sign code to create more clarity on the use of awnings, banners and signs.		City should explore best practices from other cities to improve Title 23 and other design standards that apply to signage and banners. Additionally, the City could improve enforcement of current adopted standards to improve imageability within the segment.		Medium Term
Market Street to 6th Street (applies also corridor-wide)	Accelerate identifying and securing additional funding opportunities to implement the new Community Forest Plan.		The city should prioritize identifying additional funding opportunities to support replacing numerous palm trees throughout Downtown with high-canopy trees consistent with the Community Forest Management Plan. More canopy trees throughout the corridor will improve enclosure and imageability.		Long term

Table 7 (5/7)

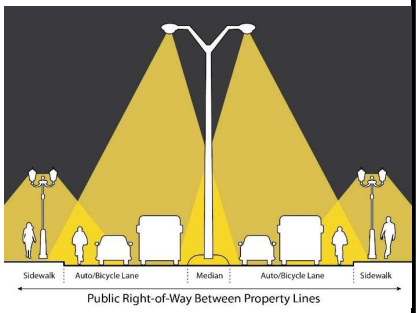
Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
Market Street to 6th Street (applies also corridor-wide)	Implement consistent vehicle and pedestrian focused lighting. City should provide consistent maintenance of tree canopy to ensure light penetration to street level.		Lighting along the street has been prioritized for vehicles, and lighting for pedestrians is often obscured by tree canopy or lack of directional light. Light posts with both vehicular and pedestrian lights on dual arms are available. Additionally, with the implementation of new lightning pole hardware, additional pedestrian focused wayfinding can be implemented.		Medium Term
Market Street to 6th Street (applies also corridor-wide)	Audit each intersection for consistency with providing Americans with Disabilities Act (ADA) compliant curb cuts and remove sidewalk deficiencies including uplifted vaults, sidewalks, and bricks. Implement construction improvements based on findings.		In addition to providing more consistency with the treatment of the pedestrian right of way, ensuring ADA access throughout the corridor will both improve the human scale of the corridor but the imaginability		Long term
6th Street to 11th Street (applies also corridor-wide)	Adopt a design standard limiting both the tinting/shading/glazing first floor windows and percentage dedicated to display (no more than 25 percent of the window can be used for display).		While first floor windows may be present along the corridor, the shading/tinting/glazing of windows detracts from the pedestrian experience. Only a certain percentage of sidewalk windows should be allowed to be shaded/tinted. In addition, no more than 25 percent of the window should be dedicated to display, creating greater transparency into the building.		Short term

Table 7 (6/7)

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
6th Street to 11th Street	Complete the crosswalk at East Santa Clara Street and Eighth Street.		Adding a crosswalk across East Santa Clara Street at Eighth Street would improve pedestrian accessibility across the Corridor. Curb extensions and Rectangular Rapid-Flashing Beacons (RRFB) could make for safe crossing.		Short term
6th Street to 11th Street (applies also corridor-wide)	Incentivize through funds or streamlined City review processes more public art and murals.		Public art is notably lacking between Sixth Street and Eleventh Street. More public art would improve complexity and imageability. The City could encourage the opportunity by offering grants for murals through the Office of Economic Development-Cultural Affairs.		Short term
6th Street to 11th Street (applies also corridor-wide)	Grind pavement on East Santa Clara Street to reduce the street crown.		Within the study segment of Sixth Street and Eleventh street as well as the Santa Clara Street Corridor there is accentuated street crown resulting in vehicular traffic being elevated above pedestrians. Grinding down the crown would result in a more comfortable pedestrian experience as well as less noise.		Long term

Table 7 (7/7)

Segment	Recommendation	Lens Addressed	Impact / Outcome / Rationale	Examples	Implementation Timeframe short (1-2 years) medium (2-5 years) long (5+ years)
6th Street to 11th Street (applies also corridor-wide)	Adopt design standards that should provide zero setback from property line along the Santa Clara Street Corridor	 	Buildings along the corridor, especially between Sixth and Eleventh, are significantly set back from the sidewalk. Eliminating setbacks would improve enclosure and transparency		Medium Term

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APPENDIX

Location:_____ Date:_____ Time:_____

1. **Do you live in San Jose? If yes, what neighborhood? If not, where do you live?**

2. **How did you get here today? Is that normally how you get here?**

3. **What are your feelings about Downtown?**

    1. **What are some places that you like going to?**

    2. **What are some places that you avoid?**

4. ***(Providing a printed version of a complete street from San Jose's Complete Street Guideline document)*** **What are your impressions of this street design? Could you see this street design meeting your needs for E. Santa Clara Street, and downtown as a whole?**

measuring urban design qualities

an illustrated field manual

prepared for the
Active Living Research Program
of the
Robert Wood Johnson Foundation

Table of Contents

prepared by:
Otto Clemente and Reid Ewing
University of Maryland, National Center for Smart Growth
Susan Handy
University of California, Davis
Ross Brownson
Saint Louis University

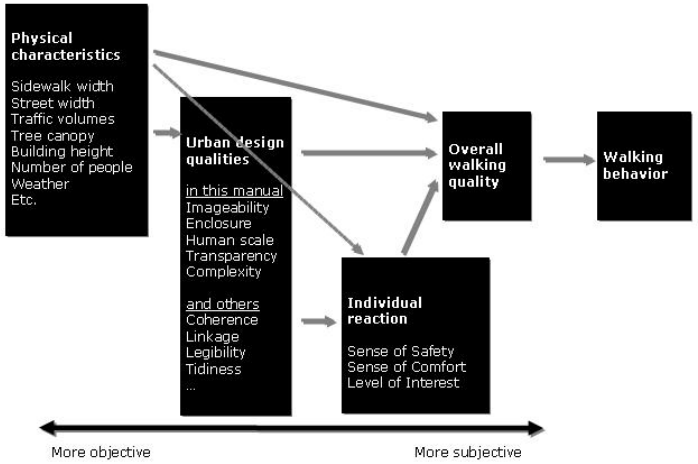
Getting Started

The purpose of this manual

This manual is the product of nearly a year and a half of research on urban design qualities related to walkability. It builds on a growing body of evidence that links the built environment to active living.

The measures used in previous studies to characterize the built environment have been mostly general qualities such as neighborhood density and street connectivity. What do these measures tell us about what it is like to walk down a street? Not much, that's why this manual is important.

Urban designers point to subtler qualities that may influence choices about active travel and active leisure time. These are sometimes referred to as urban design qualities. Urban designers presume that these qualities are important for active street life, but have little empirical evidence to back the claim. Until urban design qualities can be measured, and the propensity to walk can be related empirically to these measures, this presumption will remain untested.



The built environment and walking behavior

This manual will provide a qualitative introduction to several key urban design qualities from the urban design literature, and then will provide guidance on how to objectively measure each quality for a typical street. The urban design qualities operationalized in this manual are:

- imageability
- enclosure
- human scale
- transparency
- complexity

This by no means is an exhaustive list of urban design qualities potentially related to walkability. We considered many other qualities referenced in the literature. We tried, unsuccessfully, to operationalize others.

Based on this research, the urban design qualities measured in this manual appear to have significant relationships to walkability and great potential to be measured objectively and reliably. For more information about urban design qualities and the research program that enabled us to measure them, you are referred to the final report for the Active Living Research project "Identifying and Measuring Urban Design Qualities Related to Walkability."

What are urban design qualities and why are they important?

How can urban design qualities influence your decision to walk? The figure on this page outlines the relationship between the built environment and walking behavior and illustrates where urban design qualities fall within the relationship. Urban design qualities depend on physical features but are distinct from them. They reflect the general way in which people **perceive** and interact with the environment.

These urban design qualities are different from qualities such as sense of comfort, sense of safety, and level of interest that reflect how an individual reacts to a place—how they assess the conditions there, given their own preferences and perspectives. Perceptions are just that, perceptions. They may produce different reactions in different people.

Physical features can be measured objectively. Perceptions may be assessed with a degree of objectivity by outside observers (though not with the objectivity of physical features). Reactions are purely subjective.

All of these factors—physical features, urban design qualities, and individual reactions—influence how an individual feels about the environment as a place to walk. By measuring these intervening variables, we can better understand the way physical features of the built environment affect walking behavior.

How to use the manual

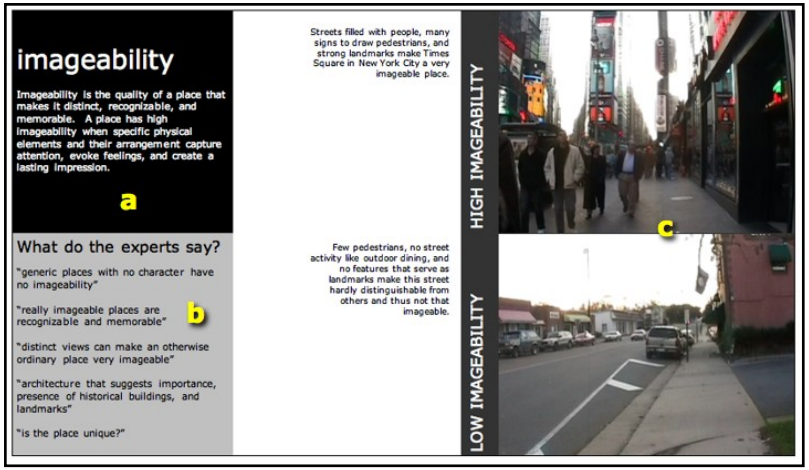
Each urban design quality in the manual is presented with a set of instructions. All of the instructions follow the same format.

First page: get to know the urban design quality

The first page of instructions introduces you to the urban design quality.
(a) Urban design quality definition: A short and concise definition of the urban design quality is provided. This definition is based on the urban design literature and was refined with the help of an expert panel of urban designers and top professionals from related fields.
(b) Expert panel comments: Our research on urban design qualities included extensive interviews with and surveys of the expert panel. Find out what they had to say about each quality here.
(c) Photographic examples: Two contrasting photos are shown to illustrate extreme examples of each urban design quality, as judged by the expert panel. Short descriptions are also provided pointing out the features that make each scene either high or low with respect to the quality.

Next pages: measure the urban design quality

Measuring urban design qualities involves visiting streets and being able to identify and count certain street features. You will also need to make educated estimates of other features. The pages following the introduction will outline with detailed illustrations each measurement you need to make to arrive at a value of the urban design quality.
(d) Steps and notes: The left panel for each measurement provides the ordered steps that must be followed to make the measurement. Notes are also provided to clarify steps and explain illustrations.
(e) Illustrations: Illustrations will help familiarize you with the concepts presented in the steps.



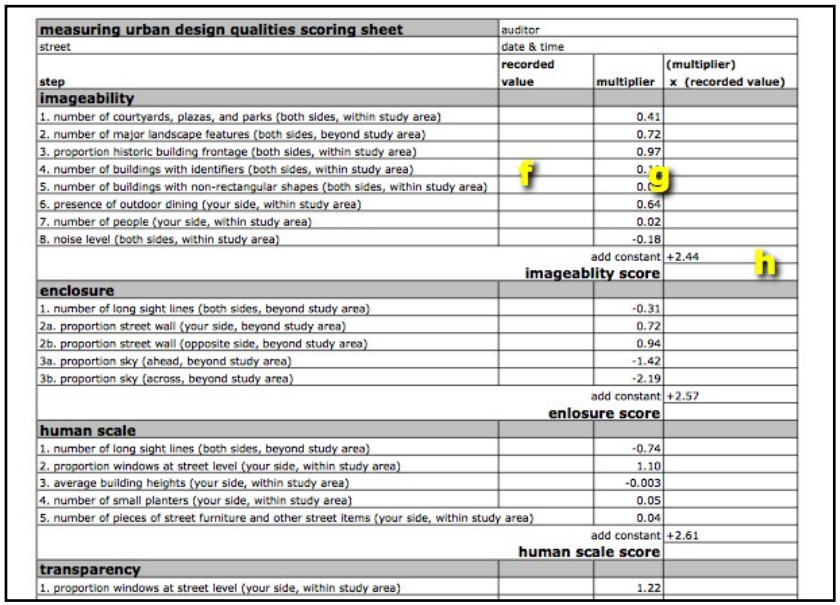
In the back of the manual: score the urban design quality

Our research resulted in statistical models relating ratings of urban design qualities by the expert panel to our measurements of physical features. The scoring sheet at the end of the manual provides an easy way for you to summarize your field measurements and compute urban design quality scores.

(f) record measurements here: The scoring sheet lists each of the physical features you measured in the field. Record your estimates here.

(g) apply multiplier to estimates: After recording your measurements, you will need to multiply each measurement by its corresponding multiplier and then add up the results.

(h) add the constant and compute the score: The final step in computing scores will require you to add a constant unique to each urban design quality. The constants and multipliers come from statistical models we estimated in our research, and place urban design qualities on the same 1 to 5 scales used in our surveys of the expert panel.



measuring urban design qualities scoring sheet	auditor		
street	date & time		
step	recorded value	multiplier	(multiplier) x (recorded value)
imageability			
1. number of courtyards, plazas, and parks (both sides, within study area)		0.41	
2. number of major landscape features (both sides, beyond study area)		0.72	
3. proportion historic building frontage (both sides, within study area)		0.97	
4. number of buildings with identifiers (both sides, within study area)		0.1	
5. number of buildings with non-rectangular shapes (both sides, within study area)		0.6	
6. presence of outdoor dining (your side, within study area)		0.64	
7. number of people (your side, within study area)		0.02	
8. noise level (both sides, within study area)		-0.18	
		add constant	+2.44
		imageablity score	
enclosure			
1. number of long sight lines (both sides, beyond study area)		-0.31	
2a. proportion street wall (your side, beyond study area)		0.72	
2b. proportion street wall (opposite side, beyond study area)		0.94	
3a. proportion sky (ahead, beyond study area)		-1.42	
3b. proportion sky (across, beyond study area)		-2.19	
		add constant	+2.57
		enlosure score	
human scale			
1. number of long sight lines (both sides, beyond study area)		-0.74	
2. proportion windows at street level (your side, within study area)		1.10	
3. average building heights (your side, within study area)		-0.003	
4. number of small planters (your side, within study area)		0.05	
5. number of pieces of street furniture and other street items (your side, within study area)		0.04	
		add constant	+2.61
		human scale score	
transparency			
1. proportion windows at street level (your side, within study area)		1.22	

Before you go out measuring...

Before you go out to your favorite street and begin counting windows and doors, keep the following helpful hints in mind.

Things to bring along

This field manual will provide you with all necessary guidance to measure urban design qualities, so make sure to **bring the manual with you** when you go out. You may find the following additional items useful too.

Make copies of the scoring sheet to take out in the field. A **clipboard** will probably also be useful to keep scoring sheets together and to give you a writing surface. **Chalk** can also be useful for marking the bounds of your study area.

What is your study area?

Urban design qualities are observed at a human scale. They are measured over the length of an average city block or a portion of a block you might find in the suburbs. Although you can apply this manual to almost any street, our methodology has been tested and refined on urban streets, and therefore works best on urban streets that have at least some commercial uses. A street with soaring skyscrapers in downtown works with this manual and so does a street going through a small village center with a coffee shop and drug store.

After you pick the street you want to assess, you then need to establish the boundaries of the study area. Typically **your study area will be one block in length**. In some cases, if you are assessing **a long block**, walk about **120 paces**. This is about 300 feet or the size of a small city block. In these cases, where you will not walk the entire block, marking off 120 paces with a piece of chalk will help. Remember, you will be walking the study area several times to make measurements.

Knowing what to count

Some urban design qualities are related primarily to what is in your immediate surroundings while other urban design qualities depend more on the entire environment you can see. Consequently, for some measurements, you will be instructed to count elements only on the same side of the street, and for others, you will count on both sides of the street. Sometimes you will be instructed to count only elements that are physically located within the study area, and sometimes

elements that you can see from the study area.

Pay close attention to the specific instructions for each element. Instructions and scoring sheets will indicate which sides of the street you should measure **(your side or both sides)** and also whether you should consider objects beyond the space you walked **(within study area or beyond study area).** Consider "within your study area" to be anything within the area you walked or anything that is no more than **50 feet** ahead of the area you walked. Consider "beyond your study area" to be anything that is no more than **500 feet** from the area you walked.

But I don't know what or how to measure!

The purpose of this manual is to make measuring urban design qualities a simple task. The illustrations throughout will help you to make rough measurements, which is all that is needed. Our research has shown that simple observations like the ones you will be making are sufficient to make valid and reliable assessments of urban design qualities. Do not become frustrated if you fail to count an object or cannot measure the exact dimensions of a feature. Just make sure your estimates seem **reasonable and consistent with the other measurements you make!**

imageability

Imageability is the quality of a place that makes it distinct, recognizable, and memorable. A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression.

What do the experts say?

"generic places with no character have no imageability"

"really imageable places are recognizable and memorable"

"distinct views can make an otherwise ordinary place very imageable"

"architecture that suggests importance, presence of historical buildings, and landmarks" are imageable

ask yourself "is the place unique?"

HIGH IMAGEABILITY

Streets filled with people, many signs, and strong landmarks make Times Square in New York City a very imageable place.

LOW IMAGEABILITY

Few pedestrians, no street activity like outdoor dining, and no features that serve as landmarks make this street hardly distinguishable from others and thus not imageable.

measuring imageability

1. number of courtyards, plazas, and parks both sides, within study area

1. count courtyards, plazas, and parks

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps), starting at the end of the block that puts buildings on your right.

Step 2
As you walk, note the presence of courtyards, parks, or plazas on either side of the street that are accessible to you.

Step 3
Record the number of courtyards, plazas, or parks that you encountered within the study area.

Note: Be sure to count instances of parks and not the individual elements of a park. One large park occupying a whole block with many elements will still count as one instance of a park.

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show examples of courtyards, plazas, or parks.

(a) plaza between two buildings with public art across the street

(b) courtyard with tables and seating

(c) plaza with flagpoles in the foreground and public art in the distance

(d) small park across the street with benches

(a)

(b)

(c)

(d)

measuring imageability

2. number of major landscape features both sides, beyond study area

2. count major landscape features

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk note if there are any prominent landscape views such as bodies of water, or man-made features that incorporate the surrounding natural environment.
Note: A major landscape feature serves as a natural landmark. Therefore, when counting, consider whether the view is prominent and/or well known, such that it could be used as a reference point for orientation or for providing directions to visitors.
Step 3
Record the number of distinct landscape features you encountered within the study area.

Note:
Figures **(a)** and **(b)** show examples of what can be considered major landscape features on the street, and **(c)** shows an example of what cannot. Use the figures to familiarize yourself with the scope of features that may count as major landscape features.

(a)

(b)

(c)

(a) marina - YES
A marina is a man-made feature that incorporates a natural landscape feature (water) and therefore would count as a major landscape feature.
(b) harbor - YES
The harbor shown although mostly developed still incorporates the natural environment and would count as a major landscape feature.
(c) skyline - NO
A view of a city skyline may be quite prominent. However since it does not incorporate natural elements, it would not count as a major landscape feature.

measuring imageability

3. proportion historic building frontage both sides, within study area

3. estimate proportion historic buildings

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note the approximate age of buildings fronting along both sides of the street.
Step 3
For the portion of the street with buildings fronting the sidewalk, estimate the proportion that is fronted by historic buildings—on both sides of the street. Record your estimate as a decimal. Use increments of tenths (.10).

Note:
Architecture that can be determined to have originated before World War II will be considered historic.

Figures **(a)**, **(b)**, **(c)**, and **(d)** show a progression of views down both sides of one street.

(a) and **(c):** The right side of the street is entirely made up of modern glass and concrete structures.
(b) and **(d):** The left side of the street is entirely occupied with older buildings made of brick and stone.

This street has approximately **50%** of its building frontage, on the two sides, occupied by historic structures.

(a)

(b)

(c)

(d)

measuring imageability

4. number of buildings with identifiers both sides, within study area

4. count buildings with identifiers

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note buildings whose uses can be identified by building features.
Note:
For example, a church can be identified by a steeple. Stores can be identified by signs that can be easily read.
Step 3
Record the number of buildings that have identifying features within the study area. If a single building appears to have several occupants at street level, only count the building as identifiable if a majority of the occupants can be determined by building features.

Note:
Figures **(a)**, **(b)**, and **(c)** show different examples of buildings with identifiers.

(a)

(b)

(c)

(a) large building with several occupants with identifiable uses
The building in this figure will count as one building with identifiers since it is one building with many uses that can be identified by business signs.

(b) three buildings with identifiers
The three buildings across the street are all identified by storefront signs that can be read.

(c) church steeple in distance
The steeple in the distance indicates the presence of a church therefore the church can count as a building with an identifier if it is within the study area.

measuring imageability

5. number of buildings with non-rectangular shapes both sides, within study area

5. count buildings with non-rectangular shapes

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note buildings on either side of the street whose shape is not a simple rectangular box. Count buildings that are within the study area or that make up more than 20% of your field of vision.
Note: Consider a non-rectangular building to be any building that, from any angle, is not a simple rectangle. A building with a basically rectangular shape but with a pitched roof or ornamental trim will be considered non-rectangular. Use the figures to familiarize yourself with the concept.
Step 3
Record the number of buildings that have non-rectangular shapes.

(a) 1 non-rectangular building
The building trim on the right-most building deviates enough from an otherwise rectangular shape to be considered non-rectangular.

(b) 2 non-rectangular buildings
The pitched roofs and chimneys make the two right-most buildings non-rectangular.

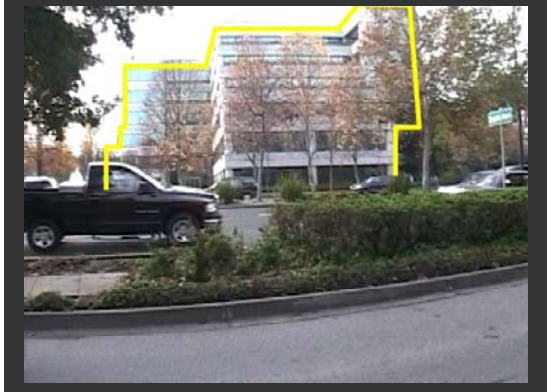
(c) 3 rectangular buildings
These modern skyscrapers all have simple rectangular shapes.

(d) 1 non-rectangular building
While the office building shown does not have any curved edges and is comprised of all right angles, it does not have a simple box shape.

(a)

(b)

(c)



(d)

measuring imageability

6. presence of outdoor dining your side, within study area

6. register outdoor dining

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street instances where outdoor dining is provided.
Note:
Consider a place as having outdoor dining even if there are no people currently utilizing it. However, if a place has outdoor dining but appears to be closed (folded chairs and umbrellas), do not consider it an instance of outdoor dining. The outdoor dining must appear to be open to be counted.
Step 3
Record the presence of outdoor dining—1 for yes, 0 for no.

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show examples of what can and cannot be considered outdoor dining.

(a) open outdoor dining with no patrons - YES
Although the tables are not being utilized, this place would be considered outdoor dining.
(b) closed outdoor dining - NO
The outdoor dining shown here has closed umbrellas and chairs on top of tables. This would not be considered outdoor dining.
(c) and (d) open outdoor dining with patrons - YES
These two places have outdoor dining with patrons. Count each even though one is partially enclosed.

(a)

(b)

(c)

(d)

measuring imageability

7. number of people: your side, within study area
8. noise level: both sides, within study area

7. count people

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street when you encounter walking, standing, or sitting pedestrians; do not include people sitting at outdoor eating areas.
Note: Count pedestrians that you pass and any pedestrian that is no more than 50 feet ahead of you.
Step 3
Record the number of walking, standing, or sitting pedestrians you encountered on one walk through the study area.
Step 4
Repeat steps 1-3 another 3 times recording the number of people each time.
Step 5
Compute the average number of people encountered from the four instances of walking the study area.

8. estimate noise level

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note the amount of noise made by traffic, pedestrians, and any other ambient sources.
Step 3
Rate the noise level using the following scale:

(1) very quiet
(2) quiet
(3) normal
(4) loud
(5) very loud

Step 4
Repeat steps 1-3 another 3 times making a noise level rating each time.
Step 5
Compute the average noise level from the four instances of walking the study area.

enclosure

Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements. Spaces where the height of vertical elements is proportionally related to the width of the space between them have a room-like quality.

What do the experts say?

"Different building heights and levels don't provide the same enclosure as continuous edges"

"old trees with large canopies can make otherwise low enclosed places more enclosed"

"is the space well defined?"

A continuous street wall on both sides of the street gives this scene high enclosure. The buildings and uniform street trees create a room-like effect by limiting long sight lines and views of open sky.

HIGH ENCLOSURE

This scene has low enclosure because the arrangement of buildings does not provide a well-defined street wall. The scene feels open, with the ability to see far into the distance with large amounts of open sky.

LOW ENCLOSURE

measuring enclosure

1. number of long sight lines both sides, beyond study area

1. count long sight lines

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
While walking, can you see far in front of you? Record a 1 if at any time during the walk you were able to see far in front.
Note:
Consider far ahead being approximately 1000 feet, or three short city blocks. Refer to the examples on the right to help you assess long sight lines.
Step 3
While walking, can you see far to your right? Record a 1 if at any time during the walk you were able to see far to your right. Do not count views down cross-streets when you are at either end of the block.
Step 4
While walking, can you see far to your left? Record a 1 if at any time during the walk you were able to see far to your left. Do not count views down cross-streets when you are at either end of the block.
Step 5
Record a 0 otherwise for steps 2-4.
Step 6
Sum your scores from the previous steps. You should have a value between 0 and 3.

(a)

(b)

(c)

(a) long sight line down street - 1
The lack of an enclosed environment where this shot was taken (low rise buildings, open plaza on right, wide avenue) allows you to see far ahead.

(b) sight lines blocked - 0
The regular spacing of mature street trees blocks your view of the block ahead.

(c) long sight line across street - 1
The ill-defined street wall across the street allows you to see buildings far into the distance.

measuring enclosure

2. proportion street wall
both sides, beyond study area

2. estimate proportion street wall

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).

Step 2
While walking, note where building facades or walls do and do not front along the sidewalk. Do this for the side of the street you are walking along as well as the opposite side of the street.

Note:
Consider the "street wall" as portions of the block that are occupied by continuous facades or walls adjacent to the sidewalk. If a façade or wall is set back from the sidewalk (by a lawn, parking lot, etc.) by less than 10 feet, then that façade or wall contributes to the street wall; if it is set back more than 10 feet, then it does not contribute to the street wall.

Step 3
Estimate the proportion of the length of the street on your side made up of street wall. Record as a decimal. Use increments of tenths (.10).

Step 4
Estimate the proportion of the block on the opposite side of the street made up of street wall. Record as a decimal. Use increments of tenths (.10).

Note:
Figures **(a)**, **(b)**, and **(c)** show a progression of views down one street. Use the figures to assist you in estimating the proportion street wall.

(a)

(b)

(c)

(a) no street wall
The parking lot on the right side of the street does not provide a defined edge to the street and therefore does not contribute to the street wall.

(b) transition to a street wall
As you walk farther down the street, the building ahead fronts along the sidewalk and provides a defined street edge.

(c) transition back to ill-defined edge
Past the building, the street wall again deteriorates into a parking lot.

The estimated street wall for the right side of this street would be **20%**. In other words, 20% of the street length has buildings fronting the sidewalk with setbacks of less than 10 feet.

measuring enclosure

3. proportion sky
both sides, beyond study area

3. estimate proportion sky

Step 1
Stand at beginning point of street to be assessed, with the buildings on your right. Be sure to stand beyond the sidewalk for the cross street. Look straight ahead parallel to the street.

Step 2
Estimate the proportion of your field of vision straight ahead that is sky. If provided, use the cardboard frame to define the field of vision. Record your estimate as a decimal. Use increments of twentieths (.05).

Step 3
Turn to your left 90 degrees so that you are now facing perpendicular to the street being assessed.

Step 4
Estimate the proportion of your field of vision across the street that is sky. If provided, use the cardboard frame to define the field of vision. Record your estimate as decimal. Use increments of twentieths (.05).

Note: The figures to the right will help you visualize different proportions of sky ahead and across the street.

(a) 10% sky ahead

(b) 20% sky across

(c) 30% sky ahead

(d) 40% sky across

(a)

(b)

(c)

(d)

human scale

Human scale refers to the size, texture, and articulation of physical elements that match the size and proportions of humans and, equally important, correspond to the speed at which humans walk. Building details, pavement texture, street trees, and street furniture are all physical elements contributing to human scale.

What do the experts say?

"presence of street furniture, protection from traffic; focus on street level;"

"sidewalk cafes on both sides of sidewalk increase human scale"

"presence of stores and activity that invite you in"

"presence of people plays a big role"

Continuous active uses at street level, restricted sight lines that create a room-like feeling, small buildings, a narrow street, and ample street furniture give this street human scale.

HIGH HUMAN SCALE

This street has no active uses or street furniture that would engage pedestrians. Long sight lines into the distance also contribute to this street having low human scale.

LOW HUMAN SCALE

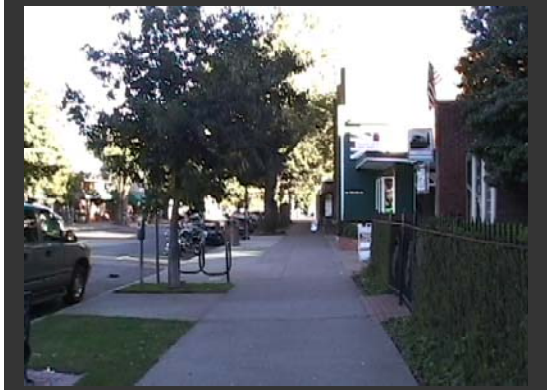
measuring human scale

1. number of long sight lines both sides, beyond study area

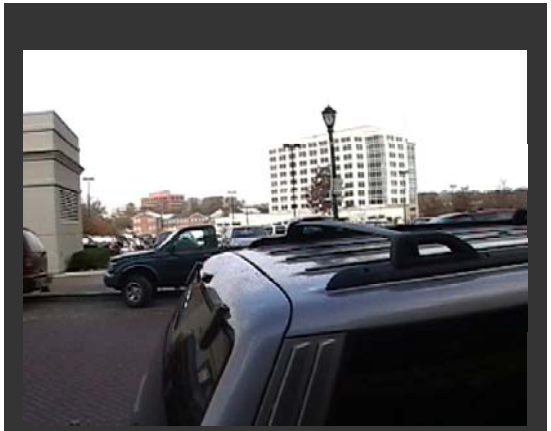
1. identify long sight lines

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
While walking, can you see far in front of you? Record a 1 if at any time during the walk you were able to see far in front.
Note:
Consider far ahead being approximately 1000 feet, or three short city blocks. Refer to the examples on the right to help you assess long sight lines.
Step 3
While walking, can you see far to your right? Record a 1 if at any time during the walk you were able to see far to your right. Do not count views down cross-streets when you are at either end of the block.
Step 4
While walking, can you see far to your left? Record a 1 if at any time during the walk you were able to see far to your left. Do not count views down cross-streets when you are at either end of the block.
Step 5
Record a 0 otherwise for steps 2-4.
Step 6
Sum your scores from the previous steps. You should have a value between 0 and 3.

(a)



(b)



(c)

(a) long sight line down street - 1
The lack of an enclosed environment where this shot was taken (low rise buildings, open plaza on right, wide avenue) allows you to see far ahead.

(b) sight lines blocked - 0
The regular spacing of mature street trees blocks your view of the block ahead.

(c) long sight line across street - 1
The ill-defined street wall across the street allows you to see buildings far into the distance.

measuring human scale

2. proportion windows at street level
your side, within study area

2. estimate proportion windows at street level

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street where buildings front along the sidewalk.
Step 3
Of those buildings that front along the sidewalk note where there are windows at street level.
Step 4
Estimate the proportion of the surface area of the first floor (street level) of buildings that front along the sidewalk made up of windows. Record as a decimal. Use increments of tenths (.10).

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show a progression of views down one street. Blue highlighted areas indicate where windows are present. Grey highlighted areas indicate portions of buildings that are not at street level.

Overall, this street has an estimated **70%** of street level building surface area made up of windows.

(a)

(b)

(c)

(d)

measuring human scale

3. average building height your side, within study area

3. estimate average building height

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note the height of buildings on your side of the street
Step 3
Estimate the average height of buildings in feet on your side of the street taking into account the proportion of street where buildings front the sidewalk.
Note: Assume one typical building story to be approximately 10 feet. When estimating the average building height for the length of the study area be sure to note not only building heights but also how much of the street the building occupies lengthwise.
Figures **(a), (b), (c),** and **(d)** show a progression of views down one street. Use the figures to assist you in estimating average building height.
(a) First floor retail occupies the bottom levels of the first two buildings. The first floors are approximately **10 feet**.
(b) Taller second stories are found on the first two buildings. These floors are about **15 feet**. The total height for the first two buildings is about **25 feet.**
(c) A **two story residential building w/ basement** occupies the remainder of the street on our side.
(d) A **closer view of the residential building** reveals that the two levels are partially above street level (approximately **4 feet**). The two residential floors are approximately **8 feet** each. The total height is approximately **20 feet.**
The average building height is approximately 24 feet.

(a)

(b)

(c)

(d)

measuring human scale

4. number of small planters your side, within study area

4. count small planters

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).

Step 2
As you walk, note on your side of the street any small planters.

Note:
Consider a small planter to be any potted arrangement of shrubs or flowers that is less than 10 square feet at the base. The planter should be a permanent fixture of the streetscape and not a potted plant that is easily taken indoors at the end of the day. Do not count in-ground planters or trees.

Step 3
Record the number of small planters encountered within the study area.

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show examples of what can and cannot be considered small planters.

(a) small flowerbed next to window
A small planter can be a part of the buildings so long as the flowerbed appears to be less than 10 square feet.

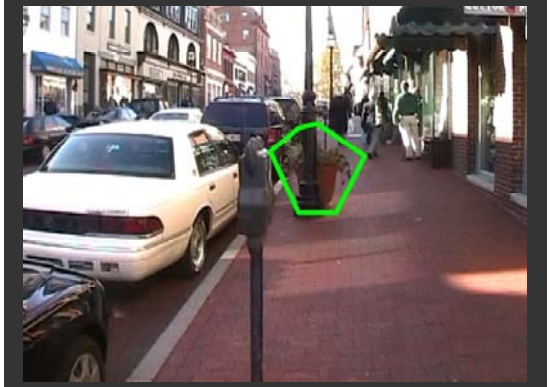
(b) two small planters by a large planting bed
The two small planters are large enough that they are permanent aspects of the streetscape. The planting bed in the background is too large to be considered.

(c) small planter behind a streetlight
This small planter appears just large enough that it is probably a permanent fixture of the streetscape.

(d) flower pots are too small
The pots along the storefront can be easily taken indoors anytime, therefore, they will not be considered small planters.

(a)

(b)



(c)

(d)

measuring human scale

5. number of pieces of street furniture and other street items your side, within study area

5. count street furniture and other street items

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street the presence of street furniture (benches, lamp posts, etc…) and other street items (newspaper boxes, parking meters, etc…).
Note:
Use the list and figures on this page to see what types of items will count. Do not count items at the corner that are also in the path of the sidewalk for the cross-street.
Step 3
Record the number of pieces of street furniture and other street items encountered within the study area.

Examples of items that can count as street furniture or other street items:

tables
chairs
benches
parking meters
trash cans
newspaper boxes
mail boxes
bike racks
bollards
hydrants
flags
banners
merchandise stands
street vendors
pedestrian-scale street lights
other street lights
ATM's
hanging plants
flower pots
umbrellas

(a)

(b)

(c)

Figures **(a)**, **(b),** and **(c)** show examples of what can be considered as street furniture and other street items.
(a) 14 street items
1-8: chairs
9-11: tables
12: balloons
13. grouping of small flowerpots that are too small to be counted as small planters.
14. trash can
(b) 7 street items
1: ATM
2: lantern attached to building
3: trash can
4: pedestrian scale street light
5-7: parking meters
(c) 4 street items
1: street banner
2: pedestrian scale street light
3: bench
4: antique lantern attached to building

transparency

Transparency refers to the degree to which people can see or perceive what lies beyond the edge of a street or other public space and, more specifically, the degree to which people can see or perceive human activity beyond the edge of a street or other public space. Physical elements that influence transparency include walls, windows, doors, fences, landscaping, and openings into midblock spaces.

What do the experts say?

"it's more than just glass but the sense of what's going on"

"can't have transparency if buildings are so far back from street edge"

"continuous exposure to uses that are clear and accessible"

A continuous street wall with active uses and many windows at street level make this scene very transparent.

HIGH TRANSPARENCY

Transparency is low in this scene since there are few windows at street level, much reflective glass and concrete, and no active building uses that are inviting to pedestrians.

LOW TRANSPARENCY

measuring transparency

1. proportion windows at street level your side, within study area

1. estimate proportion windows at street level

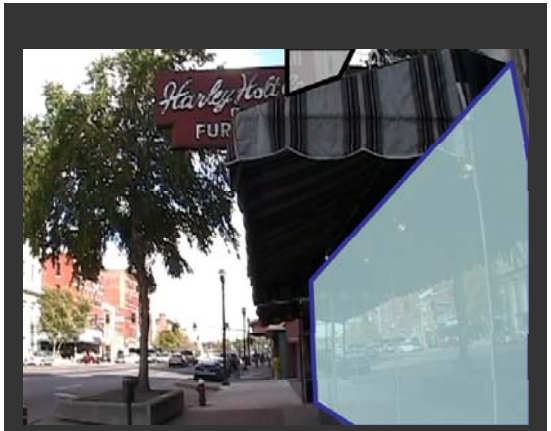
Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street where buildings front along the sidewalk.
Step 3
Of those buildings that front along the sidewalk note where there are windows at street level.
Step 4
Estimate the proportion of the surface area of the first floor (street level) of buildings that front along the sidewalk that is window. Record as a decimal. Use increments of tenths (.10).

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show a progression of views down one street. Blue highlighted areas indicate where windows are present. Grey highlighted areas indicate portions of buildings that are not at street level.

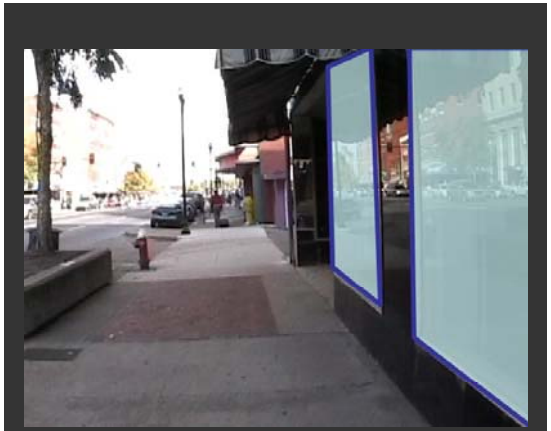
Overall, this street has an estimated **70%** of street level building surface area made up of windows.

(a)

(b)



(c)



(d)

measuring transparency

2. proportion street wall
your side, beyond study area

2. estimate proportion street wall

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).

Step 2
While walking, note where building facades or walls do and do not front along the sidewalk. Do this for the side of the street you are walking along.

Note:
Consider the "street wall" as portions of the block that are occupied by continuous facades or walls adjacent to the sidewalk. If a façade or wall is set back from the sidewalk (by a lawn, driveway, parking lot, etc.) by less than 10 feet, then that façade or wall contributes to the street wall; if it is set back more than 10 feet, then it does not contribute to the street wall.

Step 3
Estimate the proportion of the length of the street on your side made up of street wall. Record as a decimal. Use increments of tenths (.10).

Note:
Figures **(a)**, **(b)**, and **(c)** show a progression of views down one street. Use the figures to assist you in estimating street wall.

(a)

(b)

(c)

(a) no street wall
The parking lot on the right side of the street does not provide a defined edge to the street and therefore does not contribute to the street wall.

(b) transition to a street wall
As you walk farther down the street, the building ahead fronts along the sidewalk and provides a defined street edge.

(c) transition back to ill-defined edge
Past the building, the street wall again deteriorates into a parking lot.

The estimated street wall for the right side of this street would be **20**%. In other words, 20% of the street length has buildings fronting the sidewalk with setbacks of less than 10 feet.

measuring transparency

3. proportion active uses your side, within study area

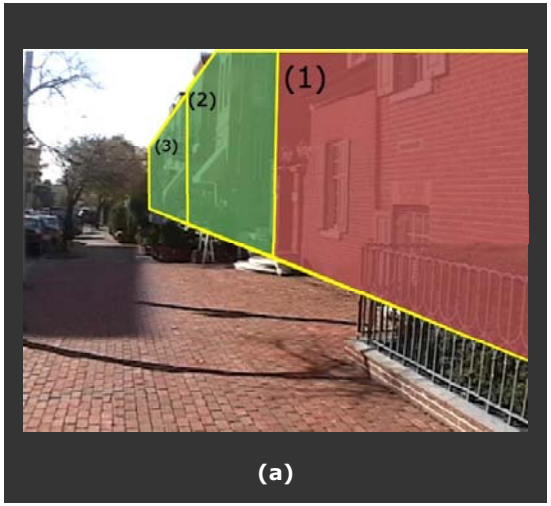
3. estimate proportion active uses

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street where buildings front along the sidewalk.
Step 3
Of those buildings that front along the sidewalk note which buildings have active uses on the ground floor.
Step 4
Estimate the proportion of the street with buildings fronting the sidewalk that have active uses. Record as a decimal. Use increments of tenths (.10).

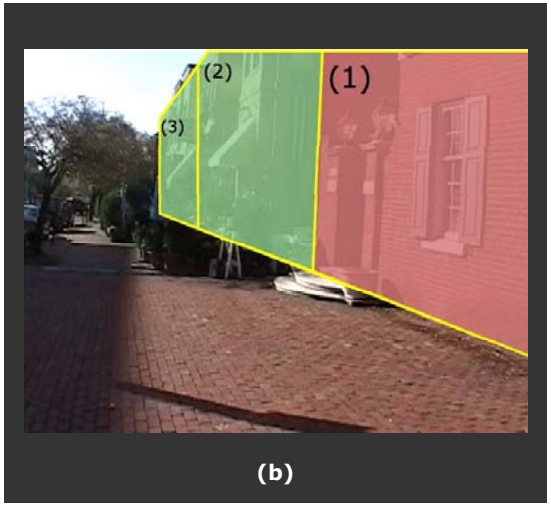
Note: Active uses are defined as shops, restaurants, public parks, and other uses that generate significant pedestrian traffic. Inactive uses include blank walls, parking lots, vacant lots, abandoned buildings, and offices with no foot traffic.
For residential uses, assume apartments and attached housing units (town homes, row homes, etc.) to be active.

Figures **(a), (b), (c),** and **(d)** show a progression views down one street. Green highlighted areas indicate active uses while red highlighted areas indicate inactive uses.
(1) inactive use – office with no apparent activity, **(2)** active use – restaurant with on street dining, **(3)** active use – street oriented retail.

This street has approximately **60%** of its street frontage devoted to active uses.

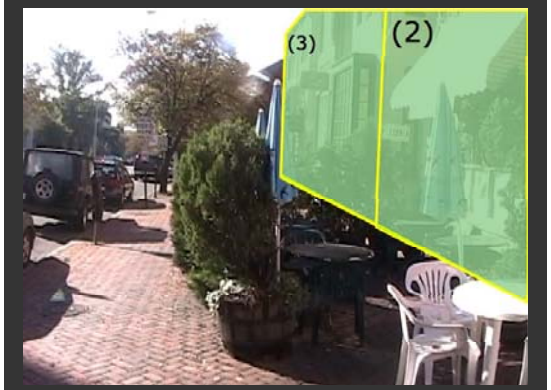


(a)



(b)

(c)



(d)

complexity

Complexity refers to the visual richness of a place. The complexity of a place depends on the variety of the physical environment, specifically the numbers and kinds of buildings, architectural diversity and ornamentation, landscape elements, street furniture, signage, and human activity.

What do the experts say?

"many people add to complexity"

"overly controlled design makes a place less complex; you lose complexity with predictability"

"a block with one building is less complex than a block made of several buildings"

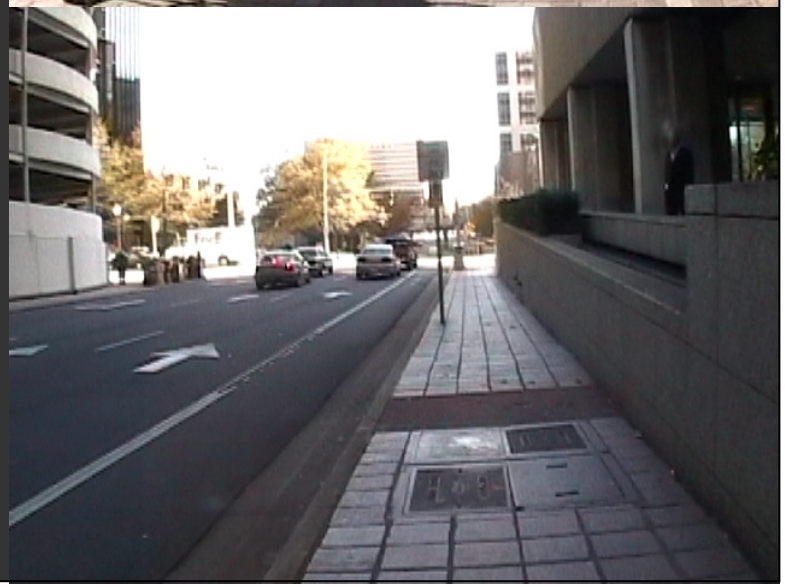
"also need complex activity - social complexity"

This street is visually complex with many different building and accent colors, places to dine on the street, and many pedestrians.

Few colors, few buildings, and a lack of pedestrians make this street scene very low in complexity

HIGH COMPLEXITY

LOW COMPLEXITY



measuring complexity

1. number of buildings both sides, beyond study area

1. count buildings

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps), starting at the end of the block that puts buildings on your right.

Step 2
While walking, count the number of buildings in the study area or that are in the distance but still prominent.

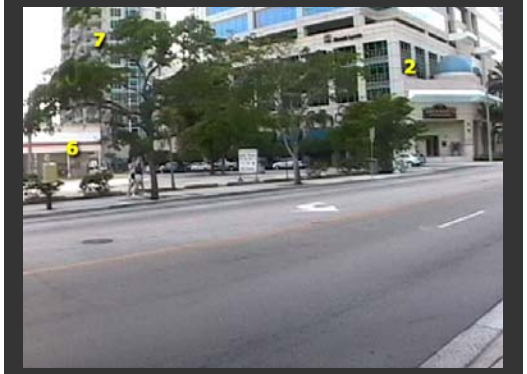
Note:
Count buildings that are either on the street within your study area or buildings that are outside the study area but occupy at least 20% of the height of your field of vision as you walk with the buildings on your right.

Figures **(a)**, **(b)**, **(c)**, **(d)**, and **(e)** show a progression of views down one street. Use the figures to help you determine which buildings are within your immediate area or are prominent enough to be counted.

(a)

(b)

(c)



(d)

(e)

measuring complexity

2. number of colors
both sides, beyond study area

2. count colors

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on both sides of the street the different colors present on buildings and other street items.
Step 3
Group the colors you observe into two types: basic building colors and accent colors.
Note:
Basic building colors are the primary colors of buildings that have been counted in the previous step.
Accent colors contrast with basic building colors and can be used on building trim, street furniture, awnings, and signs.
When counting colors, do not distinguish between several shades of the same color.
Try to count only basic colors.
Step 4
Record the number of unique basic building colors present on counted buildings.
Step 5
Record the number of unique accent colors present within the study area.
Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show street scenes with different numbers of accent and building colors.
(a) basic building colors: **2 (tan, red brick);** accent colors: **2 (red, green)**
(b) basic building colors: **1 (off-white)**; no accent colors
(c) basic building colors: **1 (orange)**; accent colors: **2 (tan, green)**
(d) basic building colors: **3 (brown, white, red brick)**; accent colors: **2 (green, brown)**

(a)

(b)

(c)

(d)

measuring complexity

3. presence of outdoor dining your side, within study area

3. record outdoor dining

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).

Step 2
As you walk, note on your side of the street instances where outdoor dining is provided.

Note:
Consider a place as having outdoor dining even if there are no people currently utilizing it. However, if a place has outdoor dining but appears to be closed (folded chairs and umbrellas), do not consider it an instance of outdoor dining. The outdoor dining must appear to be open to be counted.

Step 3
Record the presence of outdoor dining – 1 for yes, 0 for no.

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show examples of what can and cannot be considered outdoor dining.

(a) open outdoor dining with no patrons - YES
Although the tables are not being utilized, this place would be considered outdoor dining.

(b) closed outdoor dining - NO
The outdoor dining shown here has closed umbrellas and chairs on top of tables. This would not be considered outdoor dining.

(c) and (d) open outdoor dining with patrons - YES
These two places have outdoor dining with patrons. Count each even though one is partially enclosed.

(a)

(b)

(c)

(d)

measuring complexity

4. number of pieces of public art both sides, within study area

4. count public art

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on either side of the street pieces of public art.
Note:
Consider public art to be monuments, sculptures, murals, and any other artistic display that has free access.
Step 3
Record the number of distinct pieces of public art present within the study area.

Note:
Figures **(a)**, **(b)**, **(c)**, and **(d)** show examples of public art.

(a) sculpture fountain

(b) stone monument

(c) sculpted figure

(d) piece of modern art

(a)

(b)

(c)

(d)

measuring complexity

5. number of people your side, within study area

5. count walking pedestrians

Step 1
Walk entire length of study area (one block length or roughly 300 feet—120 steps).
Step 2
As you walk, note on your side of the street when you encounter walking pedestrians.
Note: Count pedestrians that you pass and any pedestrian that is no more than 50 feet ahead of you.
Step 3
Record the number of walking pedestrians you encountered on one walk through the study area.
Step 4
Repeat steps 1-3 another 3 times recording the number of people each time.
Step 5
Compute the average number of walking pedestrians encountered from the four instances of walking the study area.

measuring urban design qualities scoring sheet		auditor		
street	from	date & time		
step		**recorded value**	**multiplier**	**(multiplier) x (recorded value)**
imageability				
1. number of courtyards, plazas, and parks (both sides, within study area)			0.41	
2. number of major landscape features (both sides, beyond study area)			0.72	
3. proportion historic building frontage (both sides, within study area)			0.97	
4. number of buildings with identifiers (both sides, within study area)			0.11	
5. number of buildings with non-rectangular shapes (both sides, within study area)			0.08	
6. presence of outdoor dining (your side, within study area)			0.64	
7. number of people (your side, within study area)	Walk through 1			
	Walk through 2			
	Walk through 3			
	Walk through 4			
	Total			
	Total divided by 4		0.02	
8. noise level (both sides, within study area)	Walk through 1			
	Walk through 2			
	Walk through 3			
	Walk through 4			
	Total			
	Total divided by 4		-0.18	
			add constant	+2.44
			imageablity score	
enclosure				
1. number of long sight lines (both sides, beyond study area)			-0.31	
2a. proportion street wall (your side, within study area)			0.72	
2b. proportion street wall (opposite side, within study area)			0.94	
3a. proportion sky (ahead, beyond study area)			-1.42	
3b. proportion sky (across, beyond study area)			-2.19	
			add constant	+2.57
			enlosure score	
human scale				
1. number of long sight lines (both sides, beyond study area) *from above			-0.74	
2. proportion windows at street level (your side, within study area)			1.10	
3. average building height (your side, within study area)			-0.003	
4. number of small planters (your side, within study area)			0.05	
5. number of pieces of street furniture and other street items (your side, within study area)			0.04	
			add constant	+2.61
			human scale score	
transparency				
1. proportion windows at street level (your side, within study area)			1.22	
2. proportion street wall (your side, beyond study area) *from above			0.67	
3. proportion active uses (your side, within study area)			0.53	
			add constant	+1.71
			transparency score	
complexity				
1. number of buildings (both sides, beyond study area)			0.05	
2a. number of basic building colors (both sides, beyond study area)			0.23	
2b. number of basic accent colors (both sides, beyond study area)			0.12	
3. presence of outdoor dining (your side, within study area) *from above			0.42	
4. number of pieces of public art (both sdies, within study area)			0.29	
5. number of walking pedestrians (your side, within study area)	Walk through 1			
	Walk through 2			
	Walk through 3			
	Walk through 4			
	Total			
	Total divided by 4		0.03	
			add constant	+2.61
			complexity score	