

SAN PEDRO DRIVE STREETScape CONCEPT

BETWEEN CONSTITUTION AVENUE AND LOMAS BOULEVARD



THE UNIVERSITY OF NEW MEXICO COMMUNITY AND REGIONAL PLANNING STUDIO
SUMMER 2011

CRP 420/520
SUMMER 2011

PROJECT DEVELOPED BY:

Adrian Cortinas
Rachel Erickson
Steve Hawley
Erin Montoya
Jackson Morsey
Cameron Savoie
Shanna Schultz

PROFESSIONAL INSTRUCTION:

Francisco Uviña
Jordan O. James

ADDITIONAL SUPPORT:

Jason Gabel
Yvonne Grimes
Lisé Lamatia
Robert Lundin
Shelly Michalski
Talal Saint-Lôt



ABOUT THE UNM URBAN PLANNING STUDIO

This document was prepared by the 2011 UNM Urban Planning Studio, which consists of three graduate students and ten undergraduates in the School of Architecture & Planning. The studio is an intensive eight-week summer course providing students with the opportunity to tackle real-world planning challenges in the region, under the guidance of a UNM professor and local community members.

The course includes a strong focus on community involvement, in accordance with the standards of the School of Architecture & Planning. The purpose of the course is to develop a plan of action that includes social, economic, and environmental considerations and which would best suit the local community, history, and culture.

This year, the studio focused on two projects: a San Pedro streetscape project on behalf of the Fair Heights Neighborhood Association, and an improvement project at Exit 108 on the Laguna Reservation. Seven students worked on the San Pedro project and six on Laguna, although both groups collaborated together. The instructor and students are listed below.

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION AND GOALS.....	1
CHAPTER 2. EXISTING CONDITIONS.....	7
CHAPTER 3. RECOMMENDED ALTERNATIVE.....	13
CHAPTER 4. OTHER ALTERNATIVES EXAMINED.....	29
CHAPTER 5. FUTURE CONSIDERATIONS.....	37
GLOSSARY.....	45
BIBLIOGRAPHY.....	49



CHAPTER 1
INTRODUCTION AND GOALS

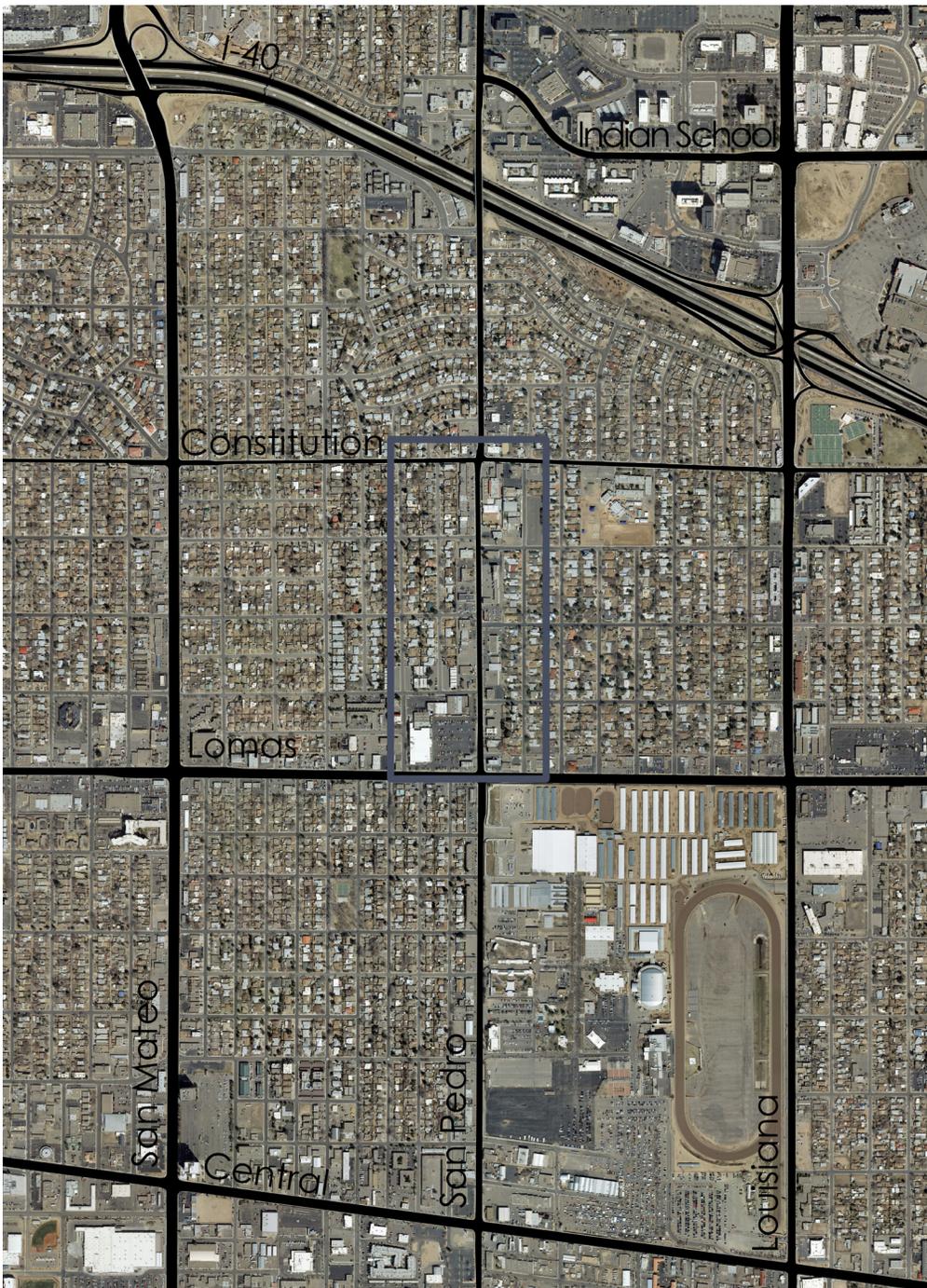


PROJECT DESCRIPTION

This document is part of an ongoing process to improve San Pedro Drive between Lomas Boulevard and Constitution Avenue, adjacent to the Fair Heights and Mark Twain neighborhoods. The emphasis of the proposal is on physical design improvements, rather than city policies or other factors such as transit service levels. The Fair Heights Neighborhood Association initiated this grassroots project in 2010, and in 2011 it received a grant from the Bernalillo County Neighborhood Outreach Grant Program to create a vision for the area. Part of the money went toward this document, which proposes a new, pedestrian-friendly streetscape alignment based on the expressed desires of local residents. These proposals are not binding, nor does the grant provide any funding for construction. Actual physical improvements would take years to implement and must be developed in conjunction with the City of Albuquerque.



Project Boundary: San Pedro Corridor from Lomas to Constitution



PLANNING PROCESS

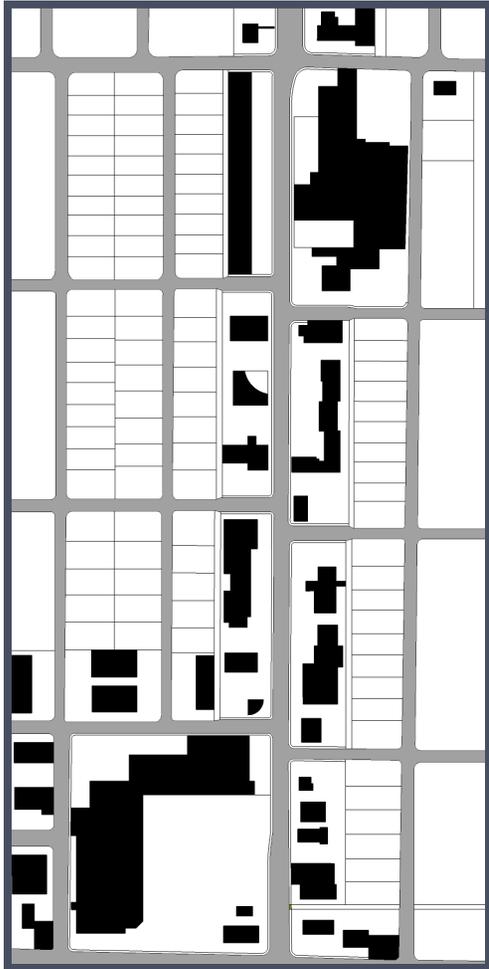
The Fair Heights Neighborhood Association initiated this planning process in 2010, and the formal visioning process began with a half-day community charrette on June 11, 2011 at Mark Twain Elementary School. The Fair Heights Neighborhood Association encouraged local residents, businesses, and property owners to attend the meeting through mailings and the neighborhood association newsletter, and local residents hosted three house meetings in the weeks before the charrette. About 40 people attended the charrette, including representatives of several government local officials and agencies. During the sessions, UNM students listened to the concerns and ideas expressed by local residents, and at the end of the meeting the students presented a summary to the participants.

Over the next two weeks, the Urban Planning Studio collected data, conducted site visits, and began to assemble possible design recommendations. Three formal alternatives, as well as two options for the redesign of the Constitution intersection, were finalized at the end of June. On July 2, the students presented the alternatives to local residents and business representatives at the Emotions in Motion Dance Studio. Approximately 20 people attended the meeting and provided feedback on the proposed alternatives.

After the meeting, the proposals were refined based on

community feedback and additional research. The three original alternatives all included a “road diet” that would shrink San Pedro from four lanes to two lanes with a turn lane. In response to business concerns expressed after the meeting, a fourth alternative was created and analyzed that would maintain San Pedro at four lanes and slightly shrink the lane widths. All four alternatives are presented in this document.

The final recommendations were presented to community members and business representatives on July 27, 2011 at the UNM School of Architecture & Planning.



Building Footprint along the San Pedro Corridor



PROJECT GOALS

The goals of this project were identified from comments during the charrette and refined based on the feedback at the July 2 presentation. Many participants expressed similar ideas and concerns, which were identified as particularly high priorities. The primary goals of this project include:

Making the corridor pedestrian-friendly.

There are no crosswalks in the half-mile between Constitution and Lomas, and pedestrians must cross four lanes of traffic coming from both directions, which is especially challenging for children, families, older residents, and those with disabilities.

Improving the Constitution intersection.

This intersection is an important school crossing zone for Mark Twain Elementary, and it is perceived to be especially dangerous due to its offset configuration, confusing drivers and endangering all road users.

Reducing traffic speeds.

Many local residents believe that traffic travels significantly above the 35 mile per hour speed limit, although data from the Mid-Region Council of Governments indicates an average speed of 31 miles per hour. Regardless, vehicle speeds above 30 miles per hour discourage and endanger pedestrians, and excessive speeds also reduce business visibility since drivers have less time to look at signs.

Improving business opportunities

Business owners expressed a number of concerns, including a need for additional landscaping and better business visibility. Many expressed concern that a lane reduction would harm businesses. The goal of this project is not to harm businesses, but to make San Pedro a more desirable commercial corridor with greater business opportunities.

Beautifying the corridor.

There is little landscaping along San Pedro, which reduces the visual interest along the street. The lack of street trees provides pedestrians with little protection from the intense high desert sun.

Improving bicycle access and safety

There are many bicyclists in the area, but most of them avoid riding on San Pedro due to the street design and traffic speeds. Instead, many bicyclists use the bike route on Alvarado Drive four blocks to the west.

Distinguishing the corridor from surrounding areas.

The Fair Heights and Mark Twain neighborhoods are unique, and this identity can be enhanced through “branding” or the development of signage standards along the corridor.

Improving parking areas.

Currently, there is excess parking along San Pedro. In spite of this excess, many parking spaces are specifically assigned to certain businesses, leading to the occasional “parking war” between local business owners when one business encroaches on another’s parking spaces.

Improving local alleyways.

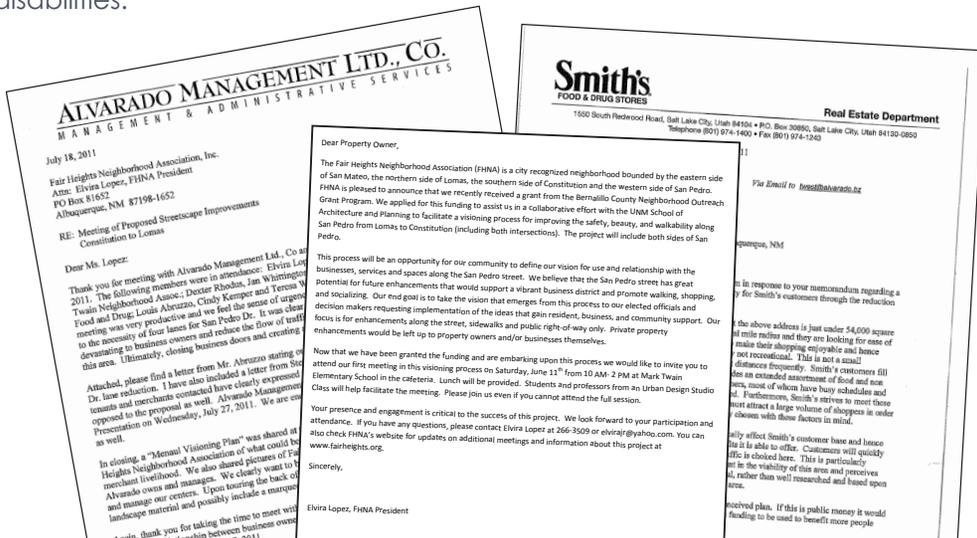
Both sides of San Pedro are lined with alleyways separating businesses from residential neighborhoods, but these alleys are seldom used, and some residents and business owners believe that they contribute to crime and disorderly behavior in the area.

Incorporating sustainable design.

Sustainable design reduces pollution and greenhouse gas levels, and can be incorporated at many different scales. At the scale of the study area, these possibilities include rain harvesting, solar power, and drought-tolerant landscaping, as well as increasing alternative modes of transportation.

Secondary goals.

Other secondary goals identified by the planning team include improving local transit service and reducing crime levels, but these goals fall largely outside the scope of the project. However, long-term improvements to the area resulting from the proposed streetscape changes could be beneficial to both of these goals.



Input was gathered from businesses and residents through a charrette on June 11, 2011, a mid-review meeting on July 2, 2011, and letters and emails from individuals.

CORRIDOR HISTORY

The Fair Heights neighborhood was annexed in 1925, and until 1949, it marked the official northern and eastern extents of the City of Albuquerque. While Albuquerque was founded in 1706, it remained a small town into the twentieth century. In the late 1800s, the downtown area began to boom after the arrival of the railroad. The city grew in a compact grid pattern, and many residents moved around on foot, on horseback, or by streetcar.

By the 1920s and 1930s, the automobile grew in popularity across the United States, and Albuquerque's

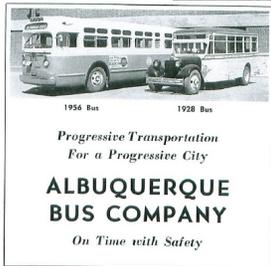
streetcar system was replaced by buses in 1928. In the aftermath of World War II, Albuquerque experienced a population surge at the same time that the personal automobile began to dominate urban streets. The size of the city more than tripled between 1946 and 1960, and areas to the north and east were quickly annexed. To cope with this growth, the city created a standardized development process in the 1950s, including permit fees, zoning ordinances, and construction standards.

The San Pedro study area was built out during the same decade, in the middle of the rapid transition from compact urban development to

car-centric suburban development. As a result, the area maintains a walkable grid pattern with a mixture of residences and businesses, unlike many later developments, but the adjacent roads are designed to prioritize fast and efficient automobile use. In 1956, President Eisenhower signed the Interstate Highway Act, leading to the construction of I-25 and nearby I-40 in the 1960s and further encouraging car usage. Due to the area's central location, it retains easy access to many of Albuquerque's activity centers, including Downtown, Uptown, Nob Hill, the New Mexico State Fairgrounds, and the University of New Mexico.

1930's

1920's



Politician Clyde Tingley advocated a government more active in planning the city.

Fair Heights area was Annexed by the City in 1925.

City implemented a building permit system.



Albuquerque from East Men—Courtesy Mrs. August Setz.

The Federal Housing Authority Established the National Housing Act of 1934.

Mortgage rates were about 8% and the life of a mortgage was 10 years.

The city was 11 square miles.

1940's



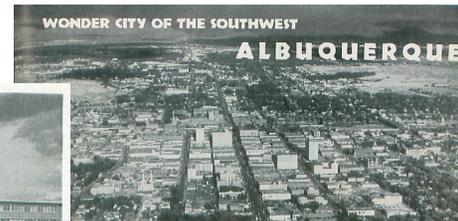
Sandia Corporation Administration Building.

Census information revealed 12,000 homes were constructed.

The value of housing ranged from \$7,500 to \$14,999.

Advisory Planning Board established to create development regulations.

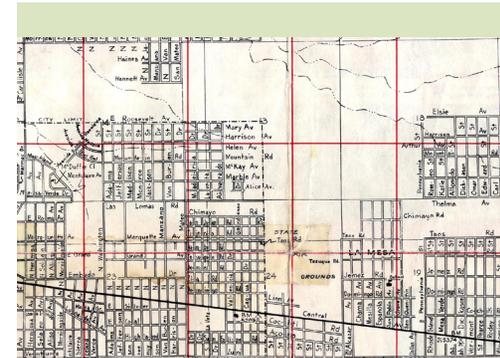
1950's



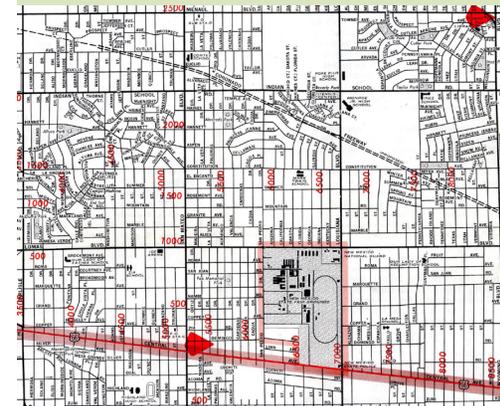
Albuquerque became metropolitan area with 100,000 residents.

Zoning Ordinances were established.

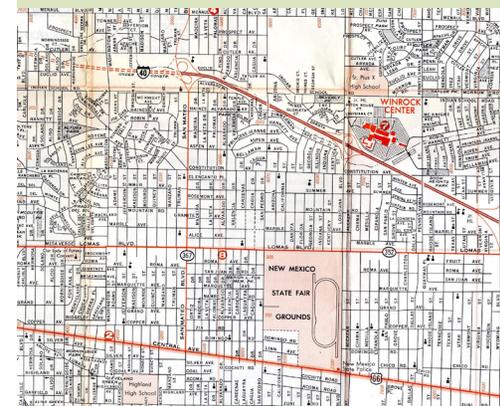
Annexation occurred North and East of the City limits.



1944 Map



1956 Map



1964 Map

ARCHITECTURAL IDENTITY

The San Pedro corridor evokes a mid-century modern style that is distinct from other neighborhoods in Albuquerque. This style is characterized by clean lines, revolutionary-for-the-time new uses of materials such as flagstone, brick, concrete, and large plate-glass windows to bring the outdoors into buildings. Many buildings along the corridor, including local landmarks such as Helen's Bakery, exhibit mid-century modern characteristics that should be cherished, restored, and replicated to form an identity for the neighborhood.



CHAPTER 2

EXISTING CONDITIONS



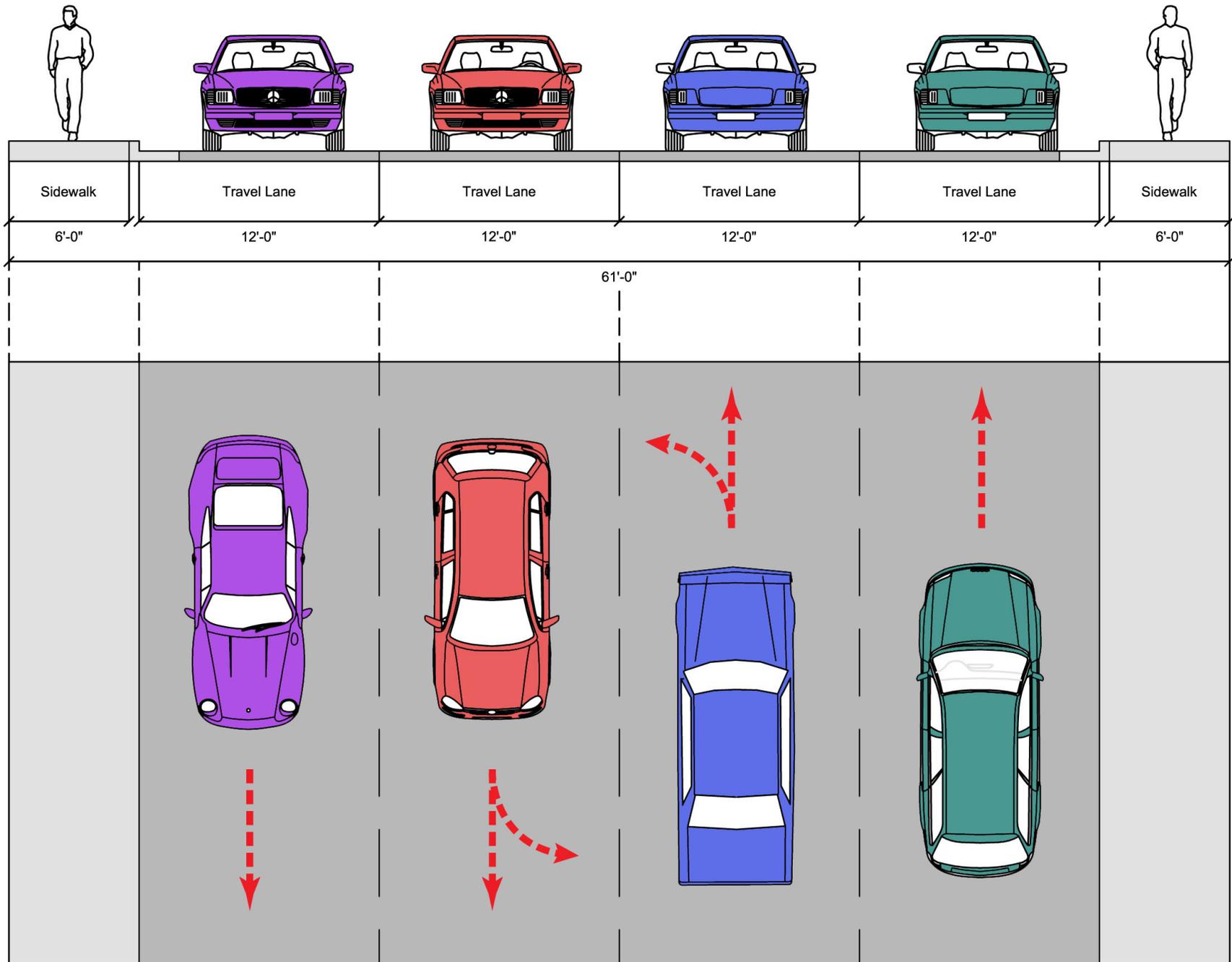


Figure 2.1: Existing San Pedro cross-section.

The San Pedro study area is a four-lane minor urban arterial designed to facilitate automobile movement. Despite its four-lane configuration, San Pedro is relatively narrow compared to other Albuquerque streets, with an approximate right-of-way of 60 feet. The right-of-way is measured from the far side of each sidewalk, and it includes the sidewalks, curbs, gutters, and travel lanes. The UNM Planning Studio measured the San Pedro cross-section south of Mountain Road, indicating an exact cross-section of 61 feet. By comparison, Central Avenue has an approximate right-of-way of 70 feet in Downtown Albuquerque and 100 feet in Nob Hill, which are frequently identified as the two most pedestrian-friendly areas of the city.

As measured, San Pedro has two six-foot sidewalks on each side of the road, six-inch curbs separating the sidewalks from the road, and two 12-foot travel lanes in each direction (Figure 2.1). The right-of-way increases to roughly 70 feet approaching Lomas and Constitution. The speed limit is 35 miles per hour, although local residents suggest that that traffic travels faster than the posted speed. With the exception of the Lomas intersection, there are no left turn lanes, so turning vehicles obstruct traffic and create the potential for rear-end collisions.

Both the Fair Heights and Mark Twain neighborhoods were built in a grid development pattern, providing maximum connectivity and ease of access for pedestrians, bicyclists, and drivers alike. The grids do not line up perfectly, and the cross-streets are

offset approximately 80 to 90 feet on either side of San Pedro.

Despite its narrow width and grid development pattern, the study area is relatively hostile to pedestrians. There are no crosswalks in the half mile between Constitution and Lomas, and several pedestrians were observed jaywalking during site visits. Pedestrians must cross four lanes—48 feet—of traffic coming from both directions, which can be especially difficult for children, families, older residents, and disabled individuals. There are no buffers to protect pedestrians from traffic, and there is little landscaping to provide aesthetic appeal or protection from the sun. There are also no bike lanes on San Pedro, and many local bicyclists ride on Alvarado Drive four blocks to the west, which ultimately connects to a bicycle bridge over I-40.

The intersection of San Pedro and Constitution is perceived to be especially dangerous for all road users. Due to the offset grid network, the northern segment of the intersection is approximately 30 feet east of the southern segment (Figure 2.2). This forces drivers to sharply adjust their courses through the intersection. Combined with the current four-lane configuration and the lack of a median, this sometimes creates confusion and uncertainty among drivers as to which lane to take when exiting the intersection.

Statistically, this intersection is actually slightly safer than the average Albuquerque intersection, with a crash rate of 1.14 crashes per million vehicles entering the intersection



Figure 2.2: Existing Constitution intersection alignment.

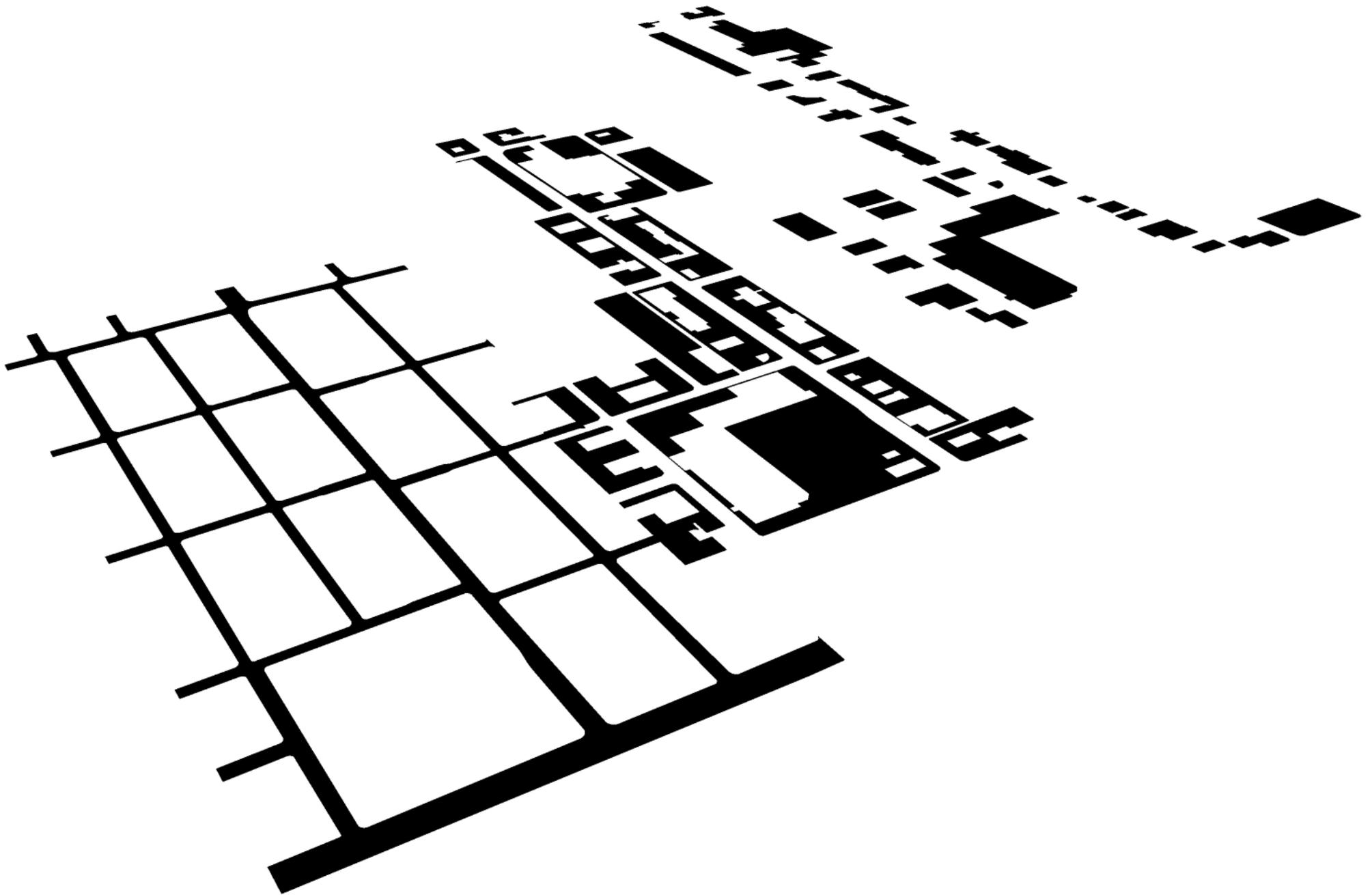


Figure 2.3: The street network (left) compared to the parking lot footprints (center) and the building footprints (right).

compared to the regional average of 1.27 crashes per million vehicles. This could be due to the confusion and uncertainty, which might force drivers to pay greater attention. There was one pedestrian-involved crash at the intersection between 2004 and 2009, and the intersection deserves special attention as a prominent crossing point for schoolchildren walking to and from Mark Twain Elementary School two blocks to the east.

With its current four-lane alignment, San Pedro has significant excess capacity, serving just 14,300 vehicles per day in 2010. According to the Federal Highway Administration, most two-lane streets with turn lanes can comfortably handle 20,000 vehicles per day with little or no congestion. In fact, a two-lane residential stretch of San Pedro between Candelaria and Comanche carries slightly more traffic than the study area, easily accommodating both a wider number and a wider variety of road users.

In addition, the study area is characterized by excessive surface parking, and many parking spaces are empty throughout the day. The parking footprints exceed the building footprints along the corridor, indicating that more space is used for storing cars than for business activity (Figure 2.3). Using the land for infill development instead of vacant parking spaces would increase local business opportunities and the number of jobs in the corridor. Both on and off the street, the San Pedro study area provides too much space for cars

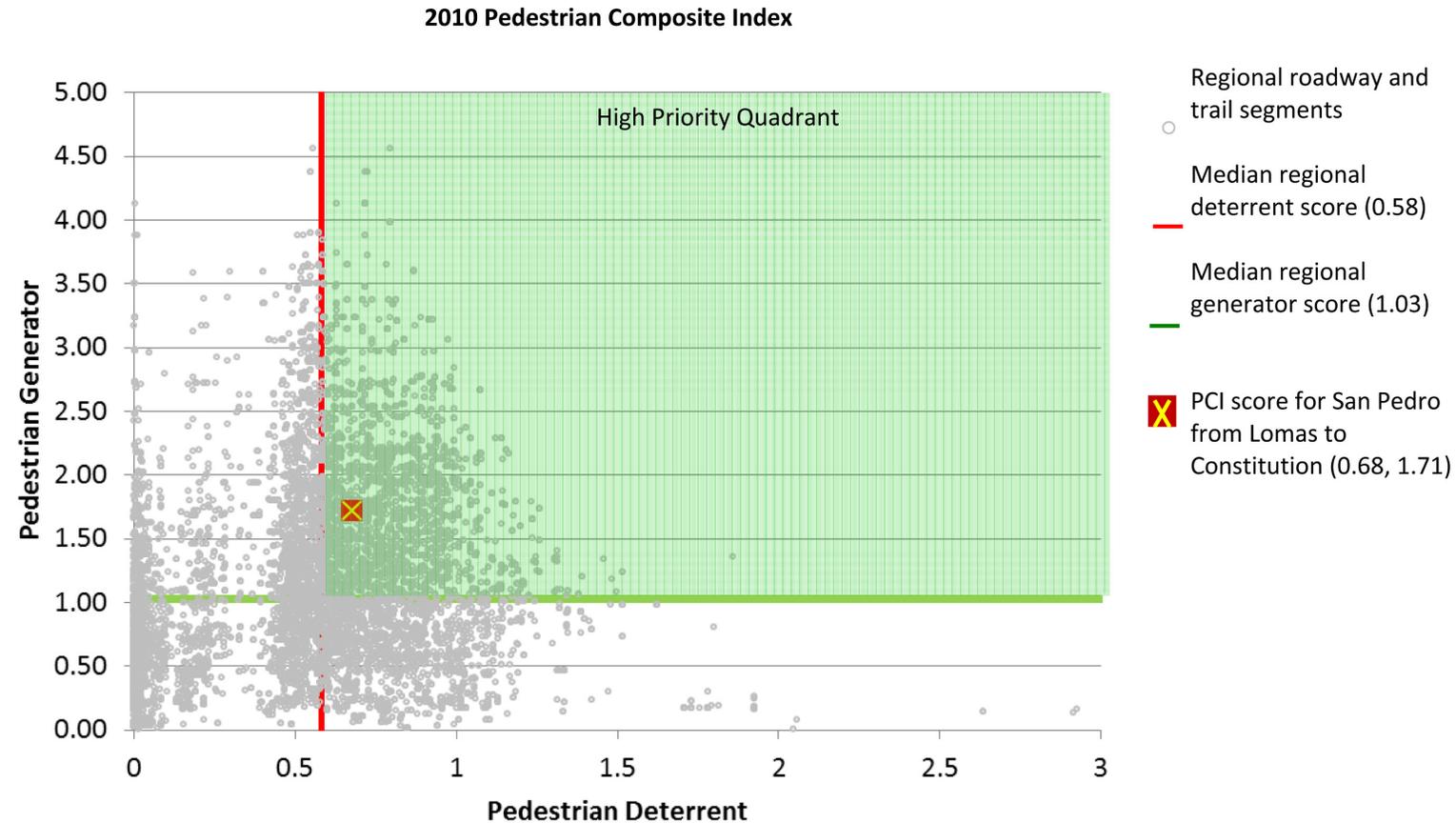


Figure 2.4: San Pedro Pedestrian Composite Index. Source: MRCOG.

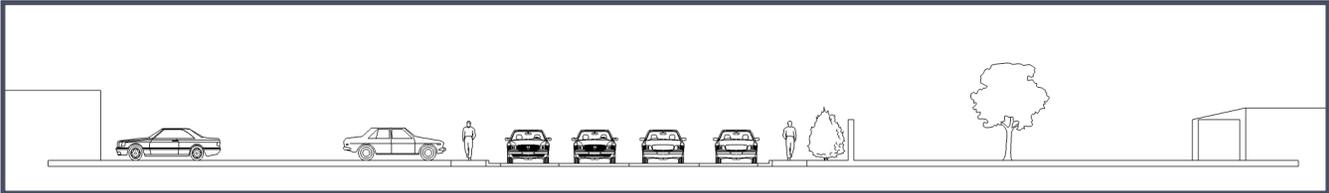
and too little space for other modes of transportation such as pedestrians and bicyclists.

The Mid-Region Council of Governments (MRCOG) identifies the study area as a “high priority” for pedestrian improvements due to its higher-than-average number of pedestrian generators and pedestrian

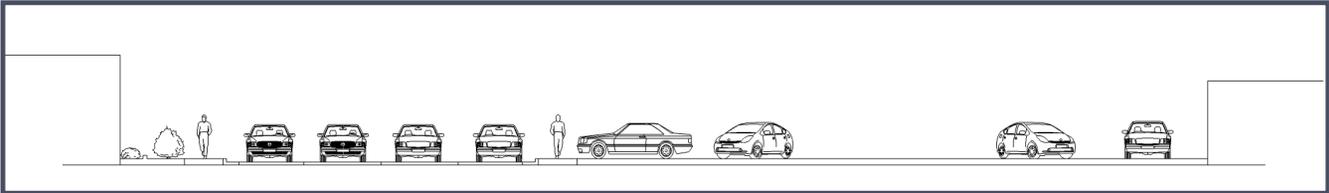
deterrents (Figure 2.4). To provide a large number of pedestrians, a street needs both a high number of generators and a low number of deterrents. The primary pedestrian generators in the area include the walkable grid network, the availability of local restaurants, coffee shops, and retail stores, the proximity to regular

bus stops on Lomas, the presence of Mark Twain Elementary School, and the number of people in the area who do not own cars. The main pedestrian deterrents as identified by this analysis are the traffic speed and the traffic volumes.

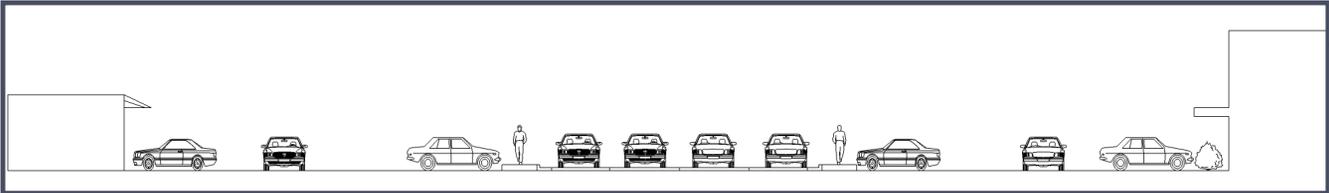
EXISTING SECTIONS



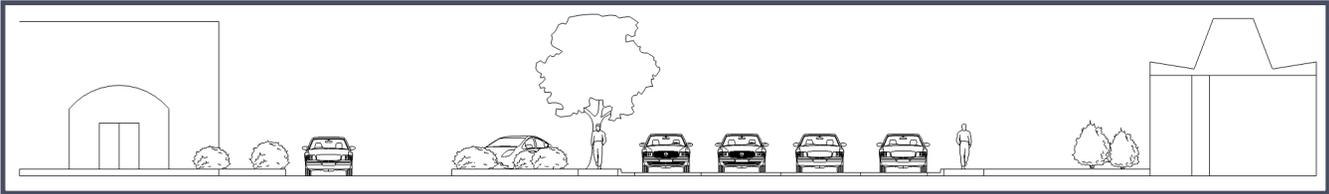
San Pedro Center (left) and Temple Baptist Church (right).



Rio Grande Credit Union (left) and mostly vacant office building (right).



Royal Prestige (left) and Autry Plaza (right).

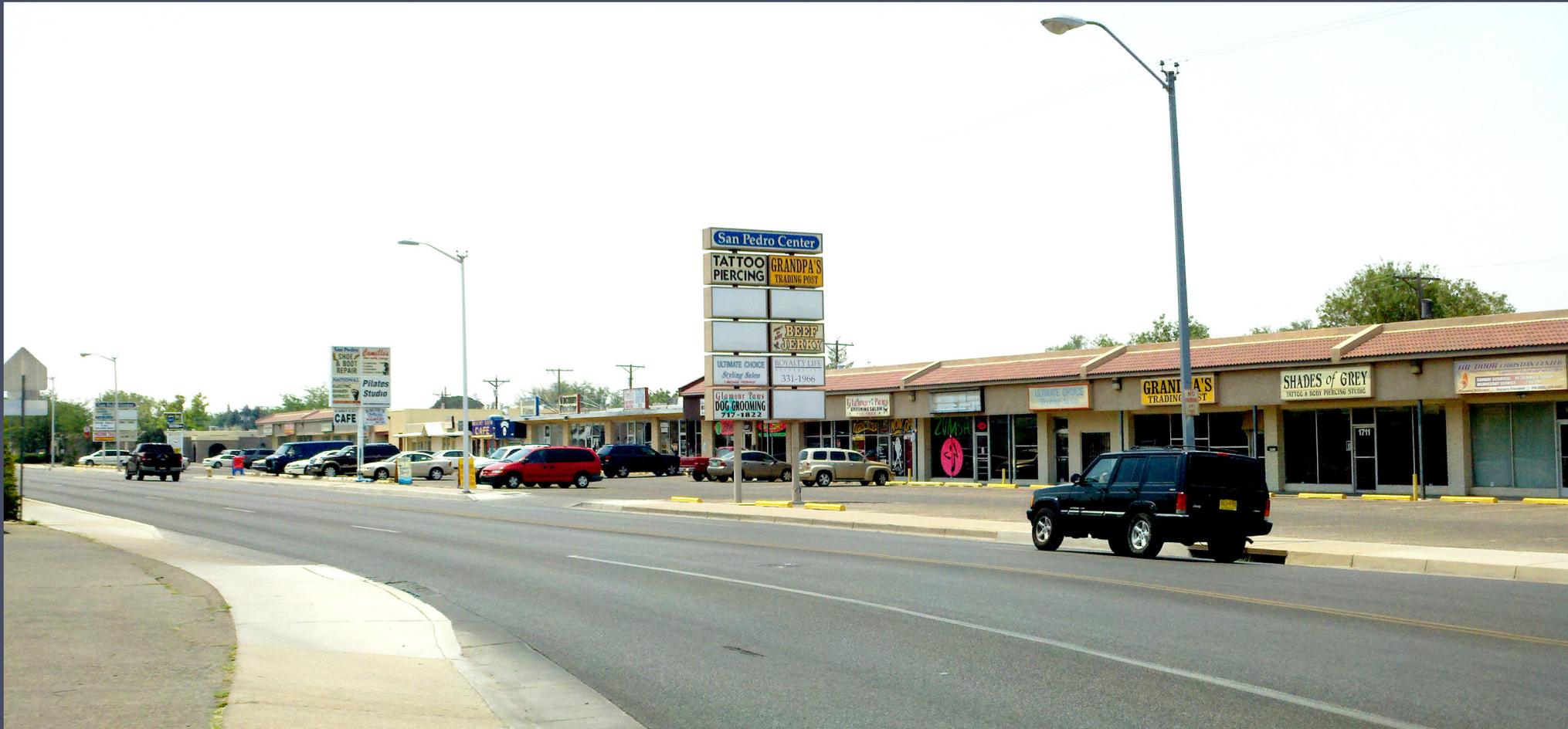


Hastings (left) and Ms & US Express("sombbrero" building) (right).



CHAPTER 3

RECOMMENDED ALTERNATIVE



OVERVIEW

LANE REDUCTION

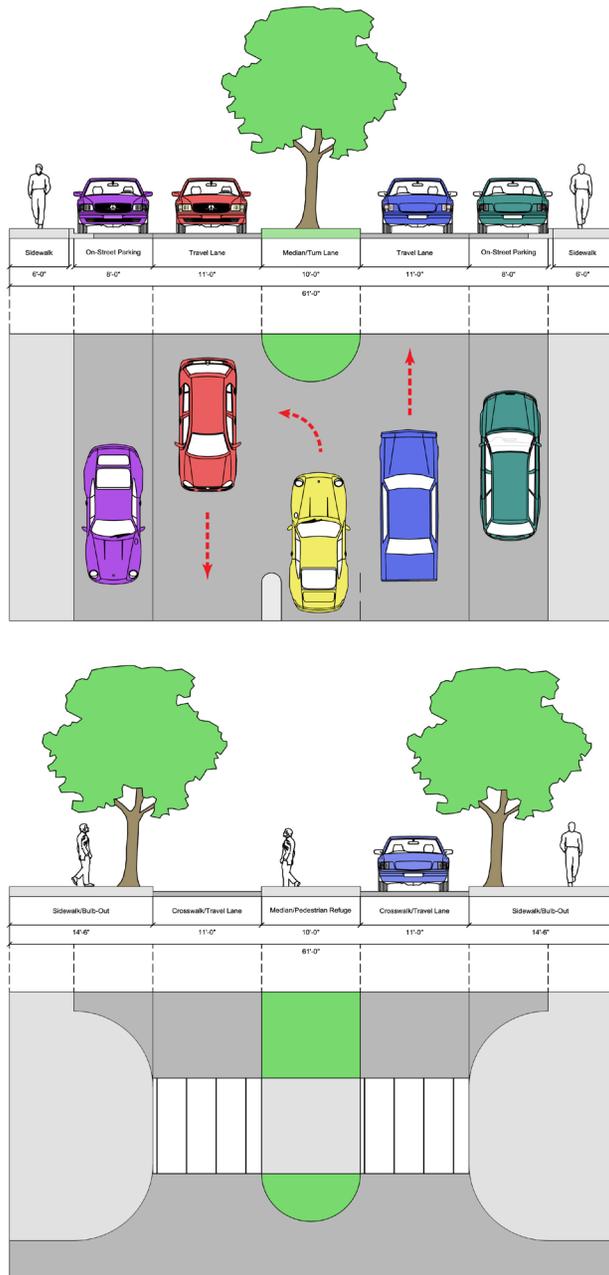


Figure 3.1: Cross-section of Recommended Alternative 1. The top figure indicates the normal alignment, and the bottom figure shows the alignment at pedestrian crossings.

Recommended Alternative 1 is a refined version of the recommended alternative presented on July 2, and it received the most favorable feedback of the three alternatives that were presented. A fourth alternative was created after the presentation to address additional business concerns, and it is discussed in Chapter 4.

Recommended Alignment 1 includes a lane reduction or "road diet," on-street parking, bulb-outs, pedestrian refuges, landscaped medians, and center turn lanes (Figure 3.1). This configuration is the most pedestrian-friendly of the alternatives, and it would create a street wholly unique within Albuquerque: a narrow, safe, walkable commercial corridor where pedestrians would only have to cross one lane of traffic at a time.

San Pedro's narrow right-of-way is both the street's greatest opportunity and biggest constraint, since it simultaneously creates the potential for a narrow, pedestrian-friendly corridor and limits the amount of street improvements that can be made, forcing trade-offs. Due to the narrow right-of-way, Recommended Alternative 1 does not allow enough room for bikes. Instead, bicycle traffic would be directed through nearby residential streets that are already in use as formal and informal bike routes. Over time, the alleys behind businesses could even be turned into bike routes or bike boulevards.

The key component of Alternative 1 is a "road diet" that would reduce the number of lanes from four to two, with a center turn lane. It would also reduce the speed limit from 35 miles per hour to 30 miles per hour and shrink the lane widths from 12 feet to 11 feet in an attempt to reduce traffic speeds. Reducing speeds is critical to pedestrian safety, since the chances that a pedestrian will die if struck by a car increase dramatically between 20 and 40 miles per hour (Figure 3.2).

The proposed lane sizes are consistent with standards in the American Association of State Highway and Transportation Officials (AASHTO) *Green Book and Designing Walkable Urban Thoroughfares: A Context-Sensitive Approach*, a joint publication of the Institute of Transportation Engineers and the Congress for the New Urbanism. These dimensions are also similar to the recent road diet on Central Avenue between 8th Street and Lomas.

As many planners have noted, transportation systems have been designed to maximize automobile use since at least the 1950s. This mindset encouraged wider streets and higher speeds for "efficiency." However, planners and transportation engineers are increasingly realizing that such car-dependency is not environmentally or economically sustainable. High-speed arterials encourage people to live farther from central urban areas, increasing congestion and pollution and decreasing the number of people

who walk, bike, and use transit. And because roads take up significantly more land than any other form of transportation, expansion projects have become very expensive, as demonstrated by the proposed \$400 million reconstruction of the Paseo del Norte and I-25 interchange. Finally, some prominent public health officials have linked car dependency to the astronomical rise in obesity and other related health issues in recent decades, since fewer people get exercise as part of their commutes and daily lives.

In this environment, Albuquerque and other cities have begun to implement lane reductions to create more pedestrian- and bicycle-friendly roads and encourage alternative modes of transportation. Lane reductions allow more room to be used for other forms of transportation, and they have been shown to reduce vehicle speed and the number of crashes on a street. According to the Federal Highway Administration, lane reductions have little impact on actual traffic volumes for streets like San Pedro that carry less than 20,000 cars per day.

ON-STREET PARKING

Recommended Alternative 1 proposes on-street parking along both sides of the street between Marble and Constitution. As noted earlier, the San Pedro corridor already has enough parking spaces to meet and exceed its needs. However, the primary aim of the on-street parking is to gradually

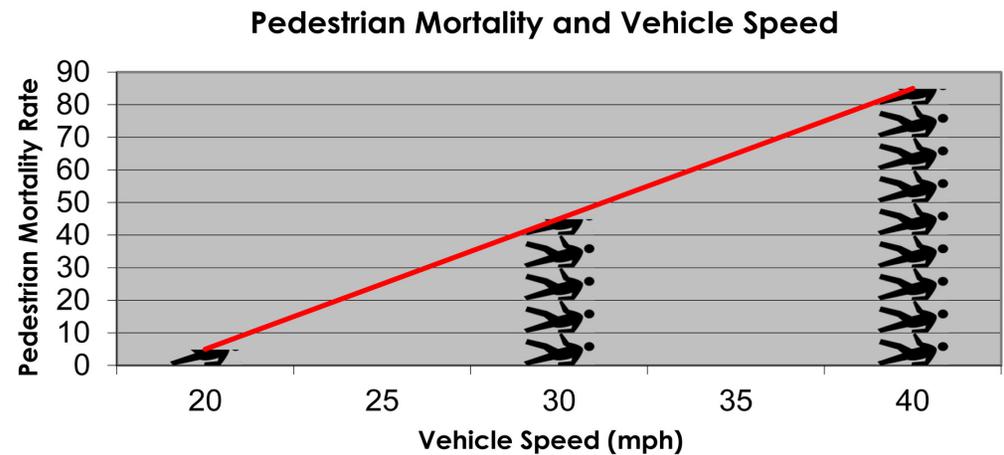


Figure 3.2: Pedestrian Mortality and Vehicle Speed. The chances a pedestrian will die if struck by a car increase dramatically between 20 mph and 40 mph. Source: UK Department of Transport.

replace existing surface parking, rather than supplementing it. Reducing the number of surface parking spaces allows more infill development by local businesses, increasing the number of goods and services available to local residents and creating a more vibrant pedestrian corridor.

Recommended Alternative 1 envisions approximately 100 new on-street parking spaces, each measuring 8 feet wide by 20 feet long. Current citywide parking policies, which are outdated, allow 50 percent of on-street parking spaces to be counted toward off-street parking requirements. This would allow approximately 50 surface parking spaces to be removed. If city policies are reformed to allow 100% of on-street parking to count toward off-street requirements, as had been done in recent Sector Development Plans, at least 100 surface parking spaces – the equivalent of several

small parking lots – could be removed, allowing for more pedestrian-friendly infill development.

On-street parking has several other benefits: increasing local business patronage, encouraging drivers to park once and walk to their destinations, slowing traffic, and creating a buffer between pedestrians and traffic. On-street parking has been successfully implemented in several parts of Albuquerque, including Nob Hill and Downtown. To encourage maximum usage, these on-street parking spaces would not be metered.

To make room for the on-street parking, and to create a more pedestrian-friendly environment, most of the excessive curb cuts in the corridor would eventually be eliminated, allowing cars to access most parking lots from cross-streets. Many parking lots in the area already allow access from the side and the rear of the lots,



CENTRAL AVENUE “ROAD DIET”

In May 2011, the City of Albuquerque implemented a road diet pilot project on Central Avenue between 8th Street and Lomas, as proposed by the 2010 West Central Avenue Corridor Concept Plan. Previously, the road was four lanes, but local residents complained that excessive travel speeds and the wide road width created an environment hostile to all road users, and especially pedestrians and bicyclists. Over the course of one week, the street was re-surfaced and re-striped to two lanes, with bike lanes, a two-way center turn lane, and on-street parking.

The City of Albuquerque will monitor the effects of the road diet for one year, including traffic, pedestrian, and bicycle counts, parking occupancy, travel time, crash data, and interviews with local residents and business owners. If the data confirms that the changes are beneficial to the area, the road diet will be made permanent through physical improvements to the road, including bulb-outs and pedestrian refuges. This conceptual plan for San Pedro proposes a similar two-phase approach.



This pedestrian refuge at Central & 8th is very similar to those proposed on San Pedro. It provides pedestrians with a safe haven in the street.



This median in Nob Hill separates opposing traffic, provides room for turn lanes, and even functions as an informal pedestrian refuge.

cross a single lane of traffic at a time, making the crossing safe and easy. There are no formal crossing signals, but many drivers have been observed spontaneously yielding to pedestrians in the bulb-outs and refuges.

MEDIANS AND TURN LANES

The central median would provide space for landscaping and street trees, improving the corridor's appearance and providing shade for pedestrian refuges. At the residential cross-streets, the median would become a protected left turn lane, allowing cars to turn without obstructing traffic. Medians can also serve as informal pedestrian refuges that allow safe pedestrian passage even in the absence of crosswalks. Pedestrians, like other road users, usually take the shortest possible route between two points, and they will often jaywalk if there are no convenient alternatives. Due to the large distances between crosswalks, many pedestrians have been observed jaywalking on San Pedro.

LANDSCAPING

Chinese Pistache trees are recommended along the median and in bulb-outs. This tree grows between 20 and 25 feet tall and turns a brilliant shade of red in autumn, providing aesthetic appeal and shade for pedestrians and bus stops. Once established after roughly two years, the Chinese Pistache requires minimal water, and it needs little pruning, making it a low-maintenance tree ideal for dry conditions.

CONSTITUTION INTERSECTION

At the charrette, local residents consistently identified the Constitution intersection as a safety concern. To address the offset alignment, two options were presented to the community on July 2. The first option was to straighten the intersection, creating a shallower angle for drivers to navigate, and the second option was a roundabout similar to the one at Central and 8th. The straightened alignment received the most favorable feedback, and it has been incorporated into Recommended Alternative 1.

Under existing conditions, drivers must adjust course by an average of eight degrees over just 200 feet, a relatively sharp course correction. At the steepest part of the curve—in the middle of the Constitution intersection—that angle increases to 12 degrees. Recommended Alternative 1 would straighten the road somewhat approaching the intersection. Instead of an eight degree course correction over 200 feet, it proposes a four degree adjustment over 400 feet (Figure 3.3). Painted stripes, as well as a new median, would also help guide drivers through the intersection.

Sufficient right-of-way (70 feet) exists on the southern end of the intersection for this proposal, but the City of Albuquerque would have to acquire a small amount of right-of-way on the northwest corner of the intersection. This additional right-of-way would allow the northern segment of the road to be shifted slightly to the west to create the narrower angle. San

but some private property owners will have to coordinate with each other to improve the connections between adjacent parking lots.

BULB-OUTS AND PEDESTRIAN REFUGES

Bulb-outs and pedestrian refuges work in concert to create the shortest and easiest pedestrian crossing possible. Bulb-outs are implemented in conjunction with on-street parking, extending the sidewalk into the parking lane at key crossing points and reducing the crossing distance. Pedestrian refuges provide safe havens where pedestrians can stop in the middle of the street before finishing their crossing. Bulb-outs and refuges are especially useful for pedestrians who may need extra time crossing the street, such as children, families, older residents, and disabled individuals. Recommended Alternative 1 would reduce the crossing distance by more

than half, from 48 feet to two 11-foot crossings.

Albuquerque already has some examples of bulb-outs and pedestrian refuges, primarily along Central Avenue. Bulb-outs exist in Downtown Albuquerque and "E Do," while Nob Hill has both bulb-outs and pedestrian refuges that are used frequently. San Pedro is narrower than those examples, and the pedestrian refuges would be larger than those in Nob Hill, with dimensions of 12 feet wide and 10 feet deep. This is consistent with the design standards in Designing Walkable Urban Thoroughfares, which recommend a minimum area of 120 square feet. This would allow several pedestrians to take refuge at the same time, making San Pedro among the most pedestrian-friendly streets in the entire state.

The best local comparison can be found at the roundabout at Central Avenue and 8th Street, where the road is two lanes with large bulb-outs and refuges. Pedestrians only have to

Pedro would transition from two lanes back to four lanes at the Constitution intersection, although extending the lane reductions further to the north may be desirable.

BIKE LANES

Due to the narrow right-of-way, Recommended Alternative 1 does not include dedicated bike lanes. The addition of bike lanes would have required the removal of the on-street parking, which can be a significant business asset, or the removal of the center median, which would have eliminated the pedestrian refuges and turning lanes, causing traffic to back up behind turning vehicles and creating a more difficult pedestrian crossing.

Instead, bicycle traffic would be directed onto local residential streets that are already in use as formal and informal bike routes. Bike lanes would begin at a pre-existing city path that ends at the intersection of San Pedro and Zuni. The path would continue north alongside the State Fairgrounds and just past Lomas. The bike trail would then connect through an improved alleyway and onto Arizona Street, where it would continue north as a shared bike route until intersecting with the existing bike lane on Constitution. From there, cyclists can continue across I-40 at Alvarado Drive or Jerry Cline Park.

This is consistent with other city bike routes, most notably the Bicycle Boulevard along Silver Avenue, that direct bicycle traffic through residential areas. Over time, and with enough

physical improvements, the alleys behind businesses could even be turned into bike routes or bike boulevards, as mentioned in Chapter 5.

POTENTIAL BUSINESS IMPACTS

A number of local business owners have expressed concern that lane reductions might reduce traffic volumes and negatively impact business, since most customers in the area currently arrive by car. These are common concerns, especially in a weak economy, and they should be examined closely and seriously.

According to the Federal Highway Administration, most four-lane to two-lane road diets have little to no impact on traffic volume or capacity. Specifically, it found that capacity was unaffected on four-lane roads with traffic volumes of up to 20,000 vehicles, 5,700 more than the San Pedro study area. This is for two reasons: (1) because two-lane roads can comfortably accommodate 20,000 vehicles per day, and (2) the four-lane roads in the study, like San Pedro, lacked center turn lanes, so turning vehicles obstructed traffic. The addition of turning lanes improved the traffic flow, increasing the capacity of the individual lanes.

As discussed earlier, this can be observed on the stretch of San Pedro from Comanche to Candelaria, which is just two lanes with a center turn lane but carries more vehicles per day (14,600) than the study area (14,300) with no apparent congestion. That road segment accommodates

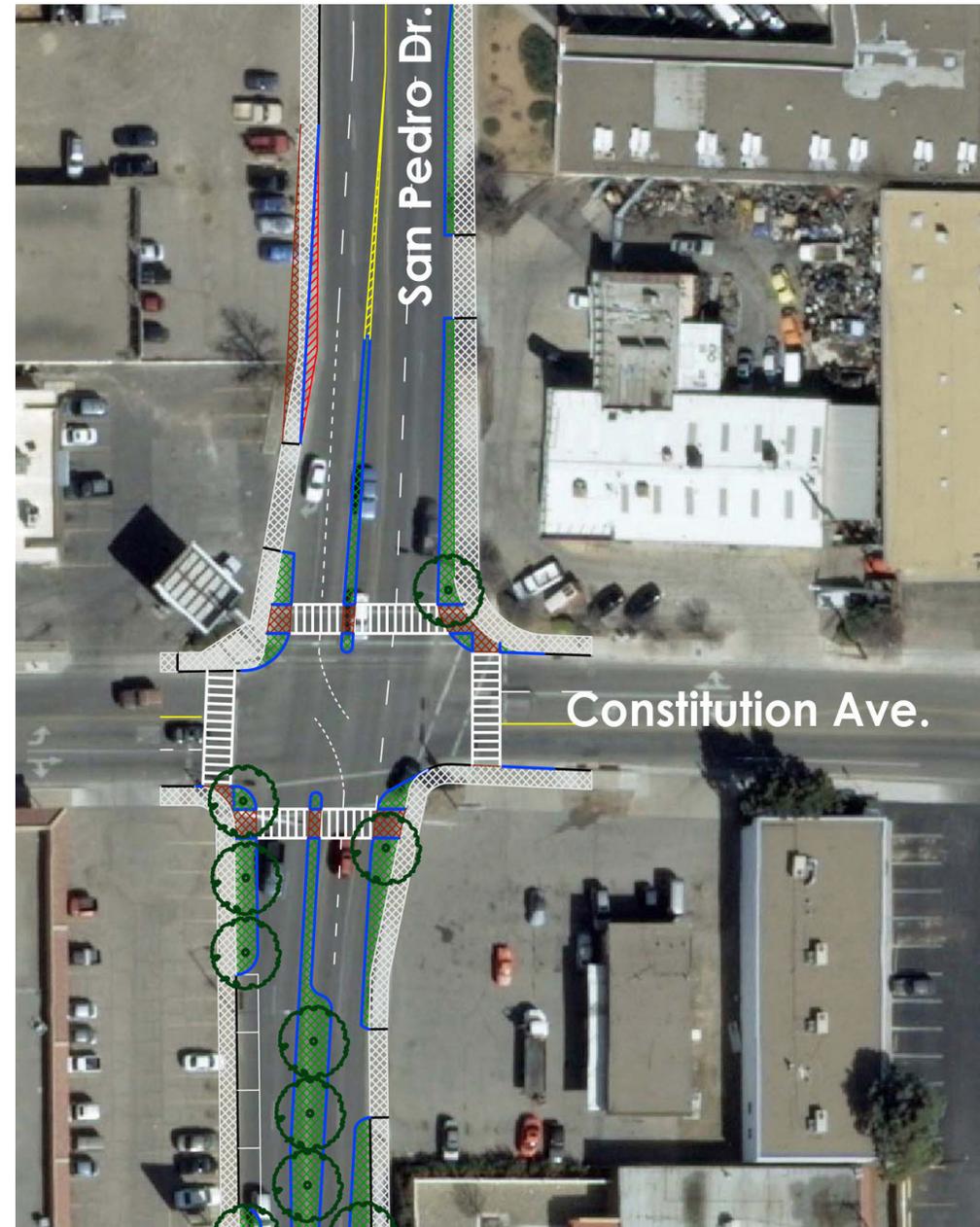


Figure 3.3: “Straightened” Constitution intersection. This proposed alignment would reduce the angle of the intersection from 8 degrees over 200 feet, to 4 degrees over 400 feet.

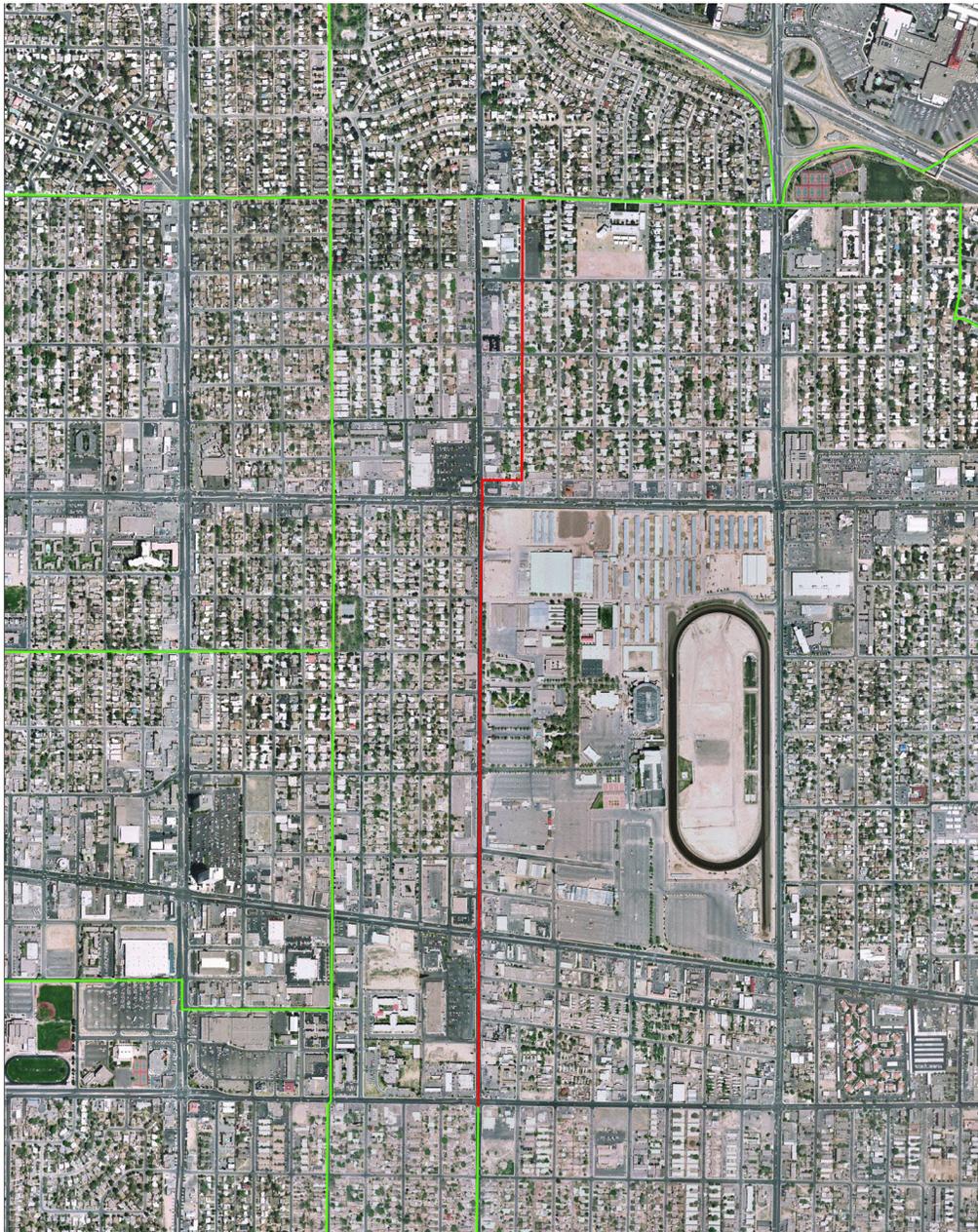


Figure 3.4: The proposed bike lanes (red) would travel up San Pedro and then onto Arizona Street, allowing bicyclists to use residential areas. The bike lanes would connect to existing bike routes (green) at Zuni and Constitution.

both a greater number of cars and a wider variety of transportation options.

Case studies from other cities show that a road diet can actually increase business by creating a more desirable area and bringing more people to the corridor. Lodi, California invested \$4.5 million in retrofitting five street blocks to be more pedestrian-oriented. The city widened sidewalks, installed bulb-outs, and added colored paving stones in the sidewalks and street. The city also added a gateway feature, trees, lighting, benches, and other amenities. The city credits the improvements with the creation of over 60 new businesses, a drop in the vacancy rate from 18 percent to six percent, and a 30 percent increase in sales tax revenues since the work was completed.

West Palm Beach, Florida, implemented a similar traffic calming project and attracted approximately \$350 million in private investment while maintaining the existing traffic volumes. Within five years, commercial vacancy rates in the area decreased from 70 percent to 20 percent, and commercial values increase fivefold.

Before the implementation of any lane reductions on San Pedro, a full traffic analysis should be completed. By that time, the City of Albuquerque will have examined in detail the results of the Central Avenue road diet, including traffic counts and interviews with local business owners. This information can further inform the final design of San Pedro.

Recommended Alternative 1 would have no impact on Lomas,

which carries almost twice the daily traffic of San Pedro, and which is the major arterial through the area.

POLICY BACKING

The San Pedro study area is not governed by a Sector Development Plan, but the Albuquerque/Bernalillo County Comprehensive Plan supports many of the proposals in this document. These city policies include:

- *“Land adjacent to arterial streets shall be planned to minimize harmful effects of traffic; livability and safety of established residential neighborhoods shall be protected in transportation planning and operation.” (Policy II-B-5-k)*
- *“Redevelopment and rehabilitation of older neighborhoods in the Established Urban Area shall be continued and strengthened.” (Policy II-B-5-o)*
- *“Traffic engineering techniques shall be improved to permit achievement and maintenance of smooth traffic flow at steady, moderate speeds.” (Policy II-C-1-c)*
- *“Air quality shall be protected by providing a balanced circulation system that encourages mass transit use and alternative means of transportation while providing sufficient roadway capacity to meet mobility and access needs.” (Policy II-C-1-d)*
- *“Landscaping shall be encouraged within the public and private rights-of-way to control water erosion and dust, and create a pleasing visual*

environment; native vegetation should be used where appropriate.” (Policy II-C-8-d)

•“The frequency of driveways along principal and minor arterial streets will be reduced when possible, toward a spacing frequency of one or two drives per 300 feet of frontage on principal arterials, and one or two drives per 200 feet on minor arterials.” (Policy II-D-4-d)

•“Pedestrian opportunities shall be promoted and integrated into development to create safe and pleasant non-motorized travel conditions.” (Policy II-D-4-g)

•“A metropolitan area-wide recreational and commuter bicycle and trail network which emphasizes connections among Activity Centers shall be constructed and promoted.” (Policy II-D-4-h)

•“Street and highway projects shall include paralleling paths and safe crossings for bicycles, pedestrians, and equestrians where appropriate.” (Policy II-D-4-i)

•“Transportation investments should emphasize overall mobility needs and choice among modes in the regional and intra-city movement of people and goals.” (Policy II-D-4-q)

PHASING

Like the Central Avenue road diet between 8th Street and Lomas, Recommended Alternative 1 would be implemented in two phases. Phase 1 consists of re-striping, which would allow for quick and relatively inexpensive changes to the street

(Figures 3.5-3.8). Phase 1 will reduce the four-lane corridor to two lanes with a center two-way turn lane, adding new crosswalks at Marble, Mountain, and Summer. In this phase, all of the existing infrastructure and curb cuts remain intact. On-street parking lanes are added in some areas, but the parking lanes terminate at existing curb cuts to maintain business access. The road striping will also indicate where future physical improvements will be, such as bulb-outs and pedestrian refuges. Finally, the intersection at Constitution will be re-striping to improve lane visibility, including striping in the intersection itself. A small striped median between the opposing lanes of traffic will also help guide drivers.

After Phase 1, the road could be monitored to measure any impacts on traffic volume, speeds, pedestrian traffic, local businesses, and other data.

Phase 2 consists of the physical streetscape improvements (Figures 3.9-3.12). This includes the installation of bulb-outs and pedestrian refuges, as well as a fully landscaped median replacing the two-way center turn lane. Left turns would be allowed at intersections every 500 to 600 feet, although some other left turns could be preserved if necessary. In Phase 2, most of the curb cuts have been removed to make the area more pedestrian-friendly and allow for more on-street parking. Bus stops would be shifted slightly to fit between bulb-outs at the cross-streets. Since San Pedro is currently served by a single commuter bus route, with two buses in



The Silver Avenue Bicycle Boulevard is an example of a residential street being used as a bicycle thoroughfare.

the morning and two buses during the evening, on-street parking would be allowed in the bus stops except during rush hour. Finally, the intersection at Constitution would be straightened from an 8 degree angle over 200 feet to a 4 degree angle over 400 feet. This

would require the acquisition of a small amount of land on the northwestern corner to allow for the roadway to be shifted a few feet. Phase 2 would be more expensive, and could be implemented when funding allows.



Figure 3.5: Phase 1: Lomas To Marble



Figure 3.6: Phase 1: Marble to Mountain

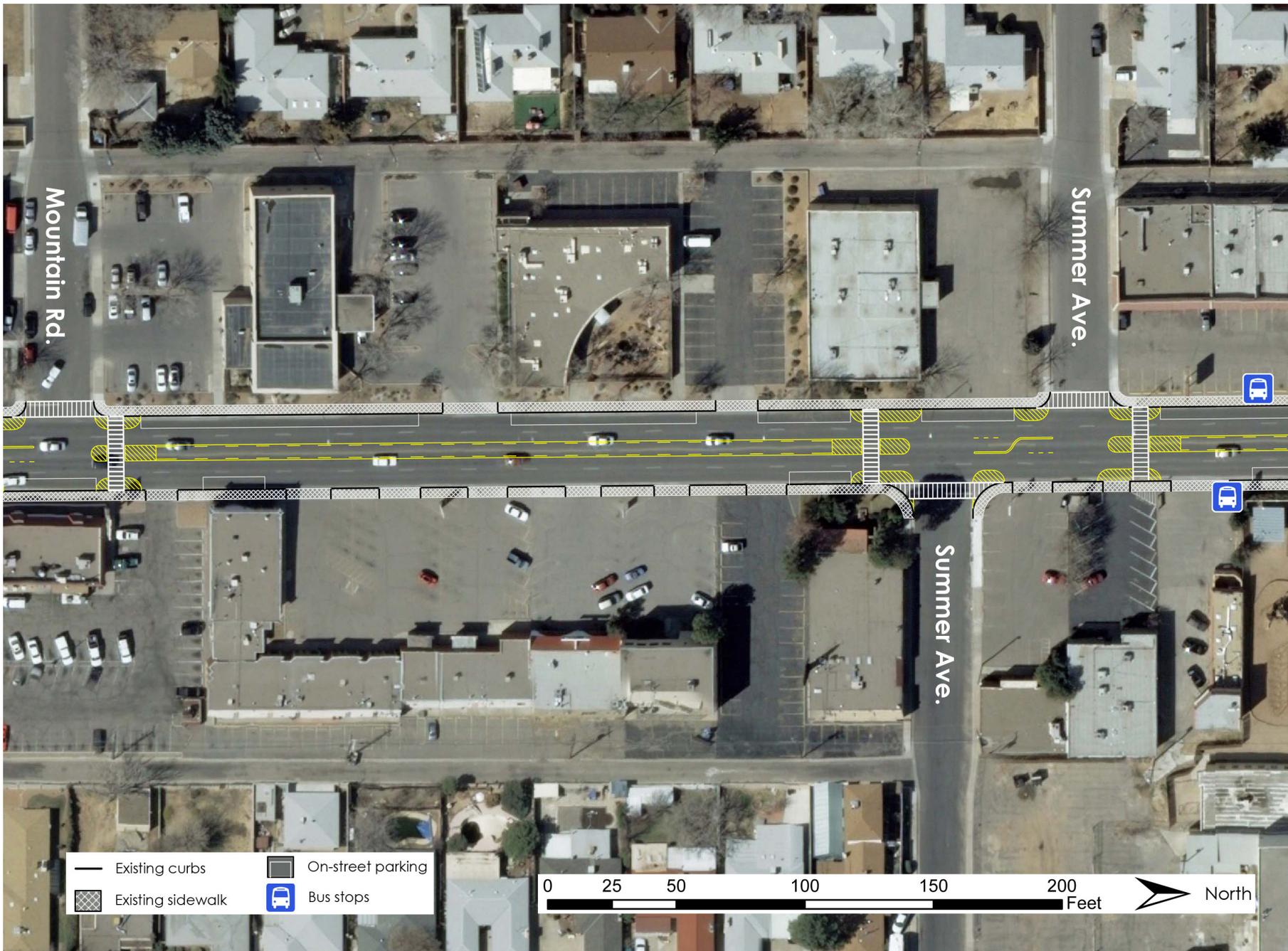


Figure 3.7: Phase 1: Mountain to Summer



Figure 3.8: Phase 1: Constitution



Figure 3.9: Phase 2: Lomas to Marble



Figure 3.10: Phase 2: Marble to Mountain

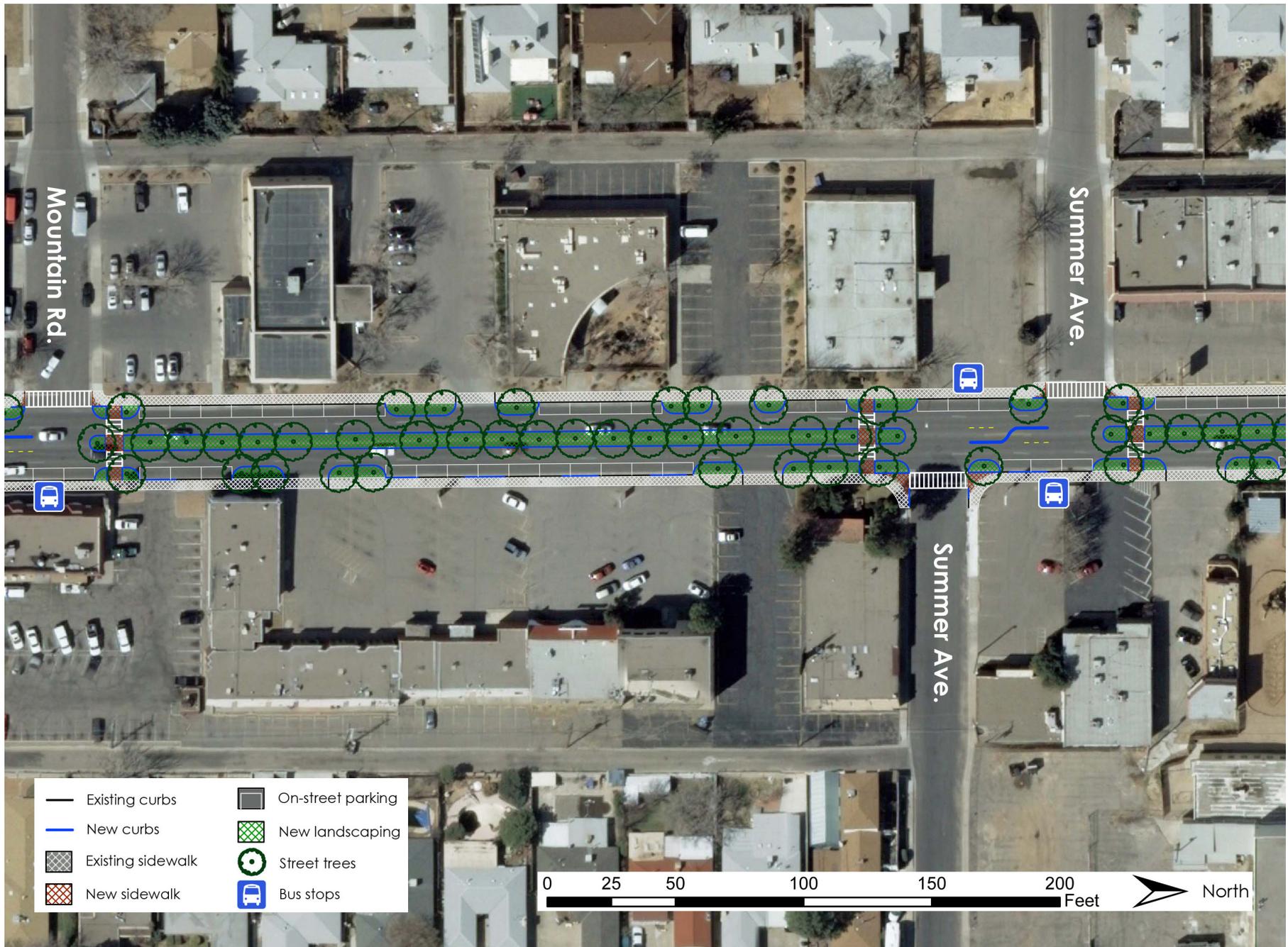
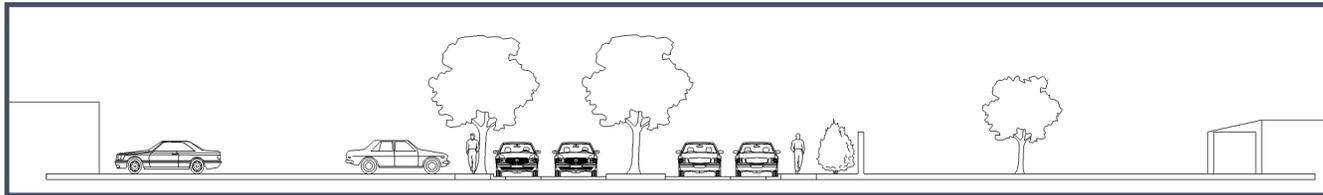


Figure 3.11: Phase 2: Mountain to Summer

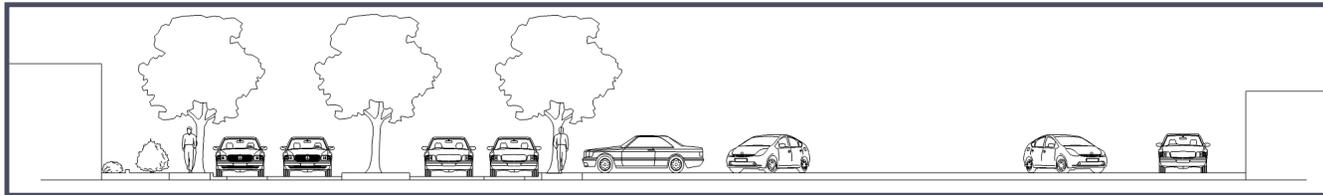


Figure 3.12: Phase 2: Constitution

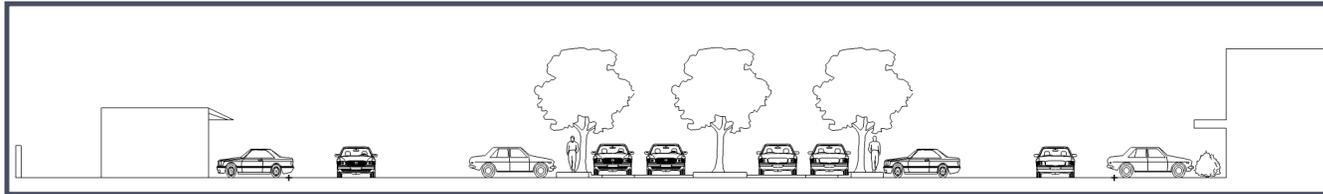
RECOMMENDED ALTERNATIVE SECTIONS



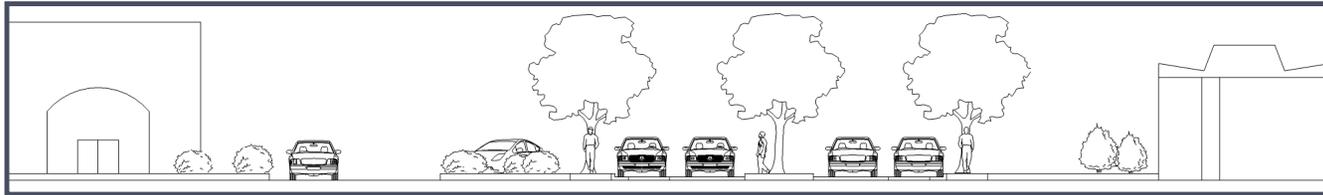
San Pedro Center (left) and Temple Baptist Church (right).



Rio Grande Credit Union (left) and mostly vacant office building (right).



Royal Prestige (left) and Autry Plaza (right).



Hastings (left) and Ms & US Express("sombbrero" building) (right).



CHAPTER 4
OTHER ALTERNATIVES EXAMINED



OVERVIEW

The planning team examined many potential alignments and presented three formal alternatives on July 2, including Recommended Alternative 1 (Chapter 3), and two options for the design of the Constitution intersection. The Recommended Alternative received the most favorable feedback, and it was refined over the next several weeks. A fourth alternative was created after the presentation to address additional business concerns, and it was examined thoroughly to identify its feasibility and desirability. The alternatives that were not recommended are discussed in this chapter.

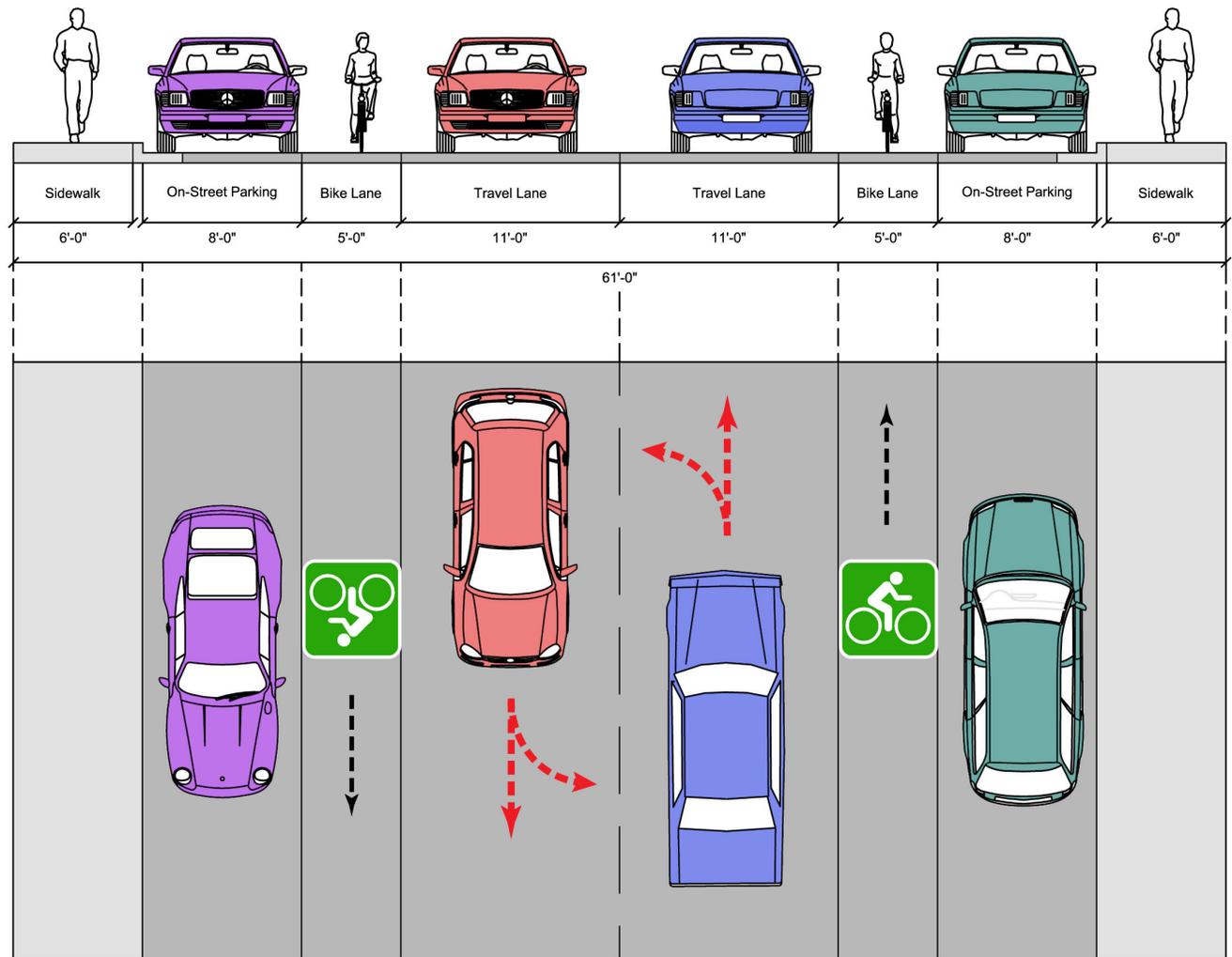


Figure 4.1: Alternative 2 Normal Configuration

ALTERNATIVE 2

Alternative 2 includes a lane reduction from four lanes to two lanes, on-street parking, bulb-outs, and bike lanes (Figures 4.1-4.2). In this scenario, the medians, turn lanes, and pedestrian refuges were removed to make room for a bicycle route connecting the corridor to the north and the south. The pedestrian crossing would be an improvement over existing conditions, since the bulb-outs would reduce the crossing distance from 48 feet to 32 feet. However, there would be no pedestrian refuge in the middle of the street, making the crossing more difficult for vulnerable individuals.

Of particular concern, the traffic flow would likely deteriorate in Alternative 2, since the road would be reduced to one lane in each direction with no turn lanes. As a result, vehicles waiting to turn left could create significant delays and congestion despite the relatively low traffic volumes. Without a median, landscaping opportunities would be limited to the bulb-outs and private properties. Alternative 2 received the least interest at the July 2 meeting, and it was not analyzed in depth after that point.

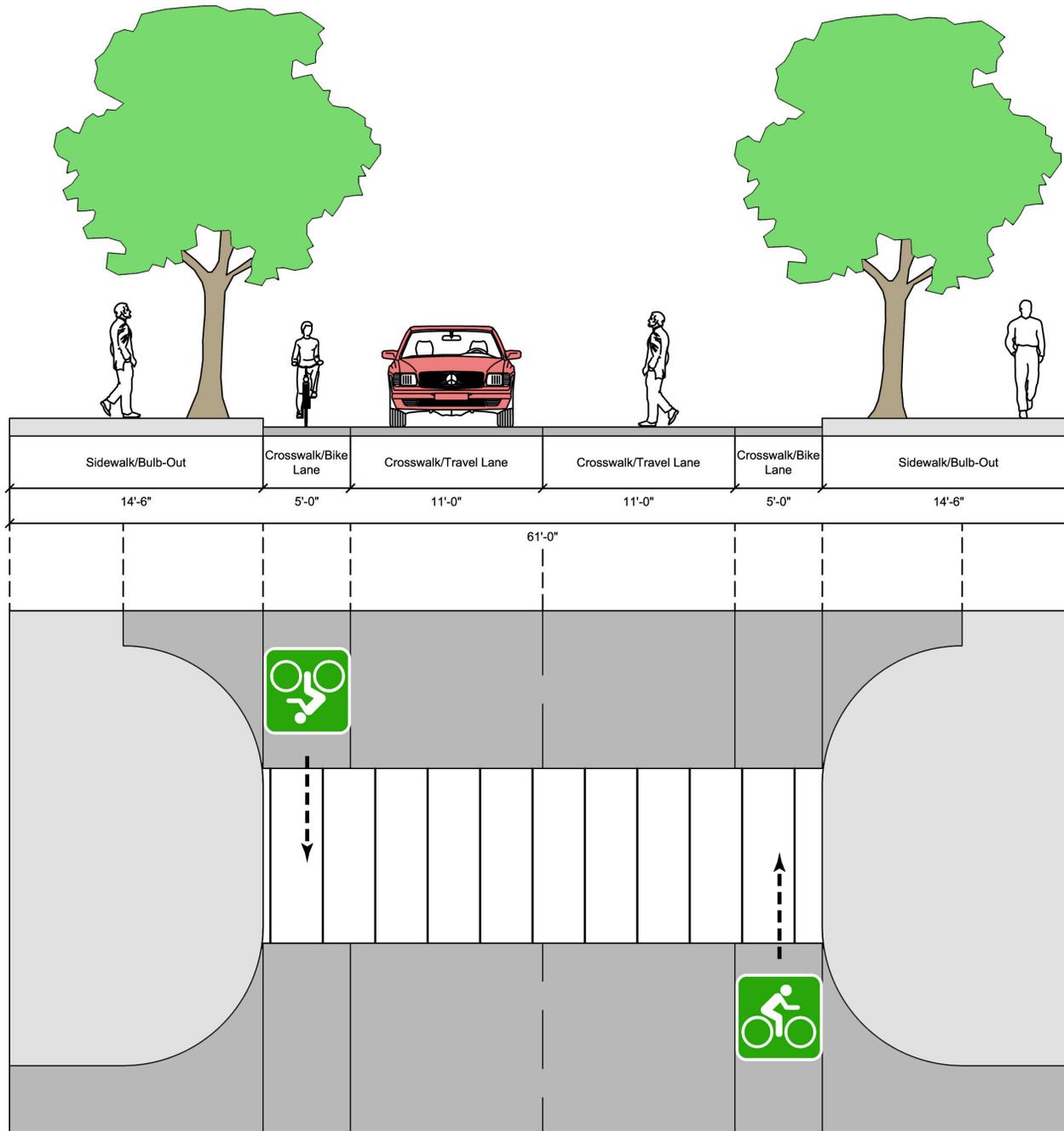


Figure 4.2: Alternative 2 Pedestrian Crossing

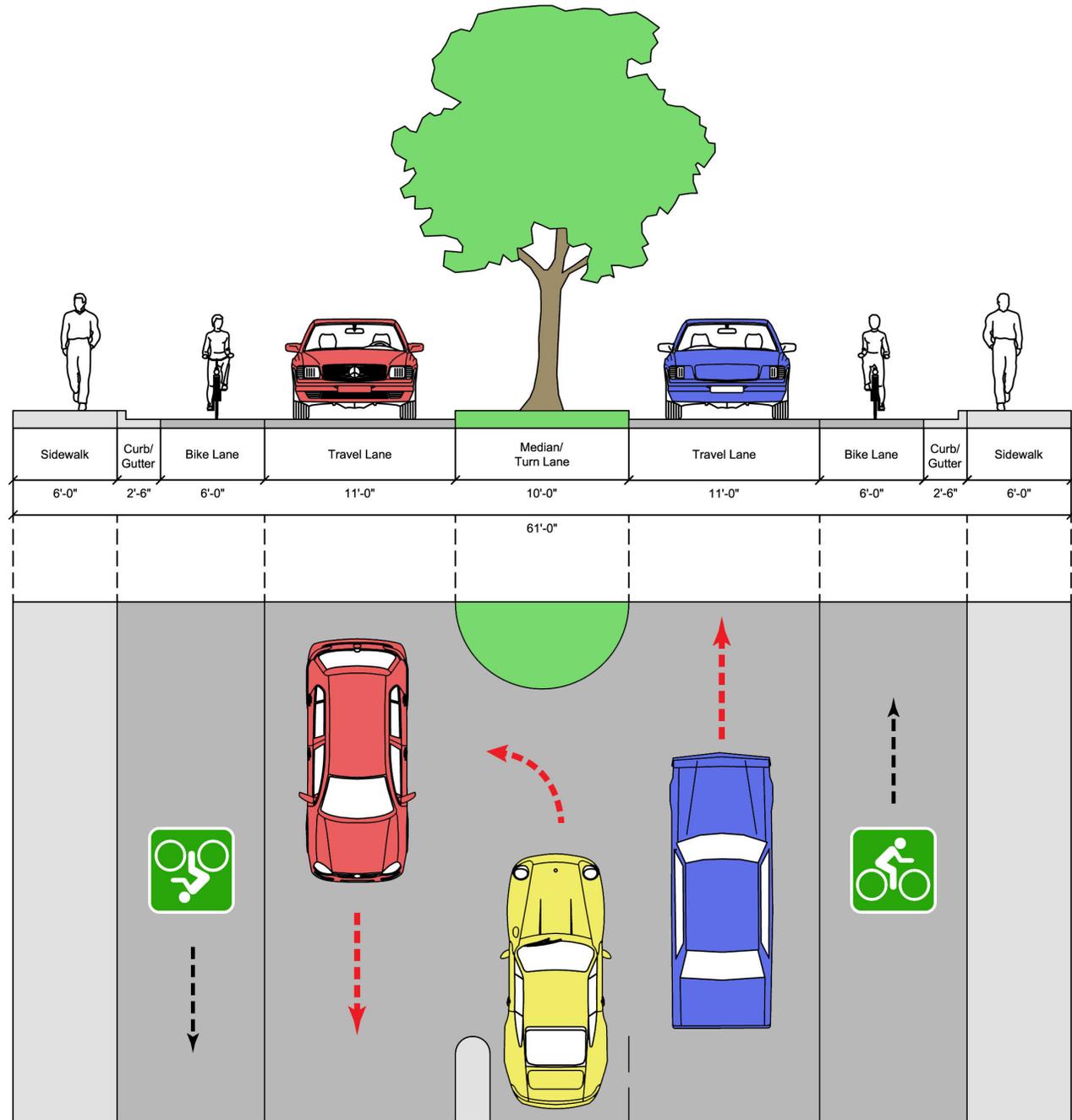


Figure 4.3: Alternative 3 Normal Configuration

ALTERNATIVE 3

Alternative 3 consists of a lane reduction from four lanes to two lanes, bike lanes, medians, left turn lanes, and pedestrian refuges (Figures 4.3-4.4). In this alignment, which received some interest at the July 2 presentation, the on-street parking and bulb-outs were removed to make room for the bike lanes. This is the most bicycle-friendly configuration, but it is less pedestrian-friendly than Recommended Alternative 1 due to the lack of bulb-outs. The pedestrian crossing would be reduced from 48 feet to two 19-foot crossings, which is very manageable for most groups.

The bike lane would also create a larger space between pedestrians and passing vehicles, increasing pedestrian comfort and safety. However, Alternative 3 does not include on-street parking, which could otherwise be very beneficial to local businesses. Rather than encouraging people to park and stay in the area, San Pedro would continue to be used primarily as a through corridor. While installing bike lanes instead of on-street parking might be advised in a residential part of the street, it is not recommended in this business corridor.

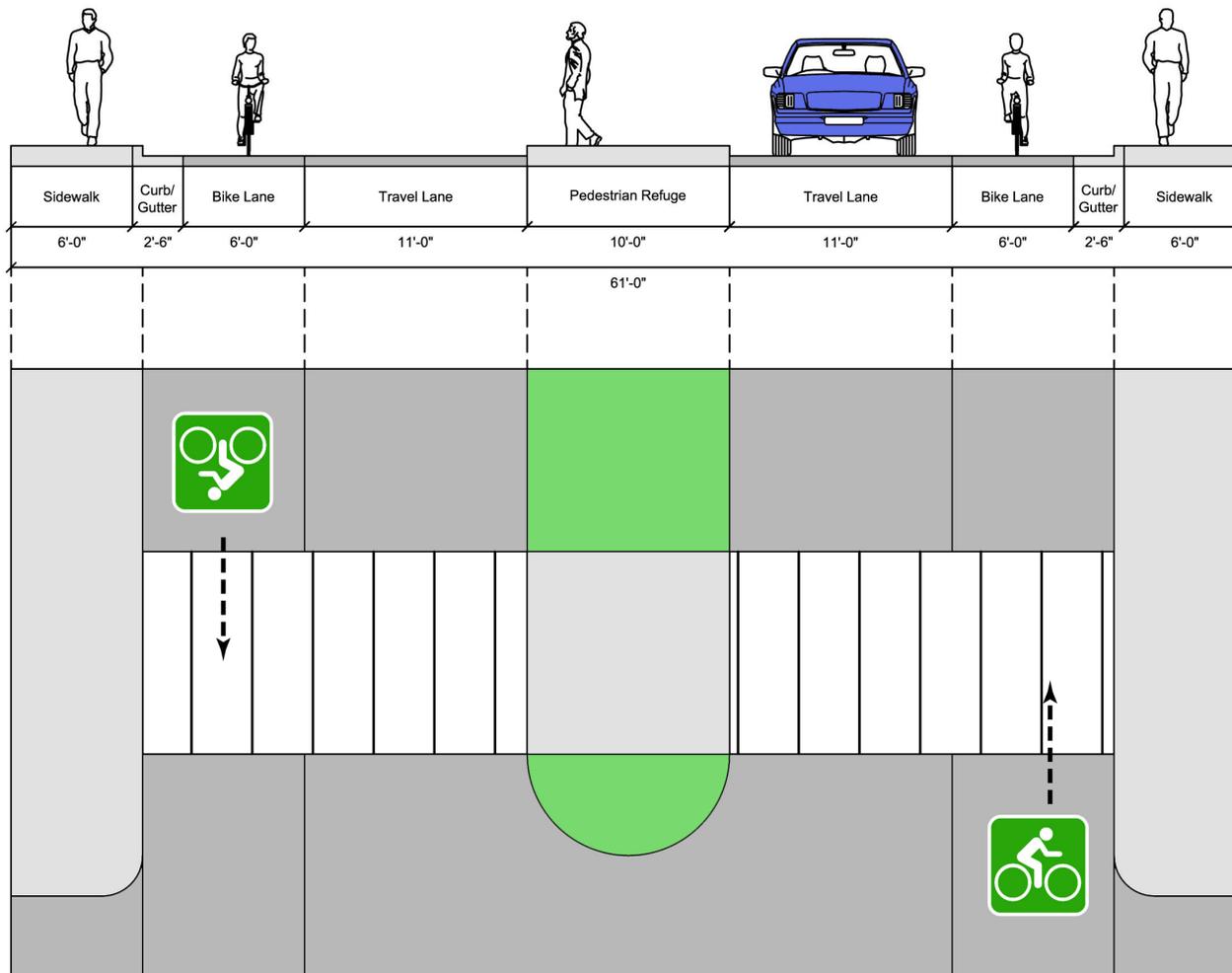


Figure 4.4: Alternative 3 Pedestrian Crossing

ALTERNATIVE 4

Alternative 4 was created after the July 2 meeting to respond to local business concerns that a lane reduction would result in decreased traffic and a declining customer base. In Alternative 4, San Pedro retains its existing four-lane alignment, and the lane widths are slightly (Figures 4.5-4.6). Because the right-of-way is so narrow, this leaves little room for any additions, and accordingly it was not presented as one of the original alternatives. By reducing the lane width, the corridor would gain a total of four feet to use for landscaping purposes, since four feet is not enough for dedicated bike lanes, turn lanes, or on-street parking.

In Alternative 4, the lane widths are reduced from 12 feet to 11 feet, and the speed limit could remain at 35 miles per hour or be reduced to 30 miles per hour. Maintaining the 35 mile per hour speed limit deters pedestrians from using the street, and could potentially reduce business visibility since drivers have less time to look at signs. Even without reducing the speed limit, shrinking the size of the lanes, consistent with the AASHTO Green Book and Designing Walkable Urban Thoroughfares, would help slow traffic.

In the proposed alignment, the four feet gained by reducing the lane widths would be consolidated in the form of a center median. The median would provide extra safety for drivers by separating the two

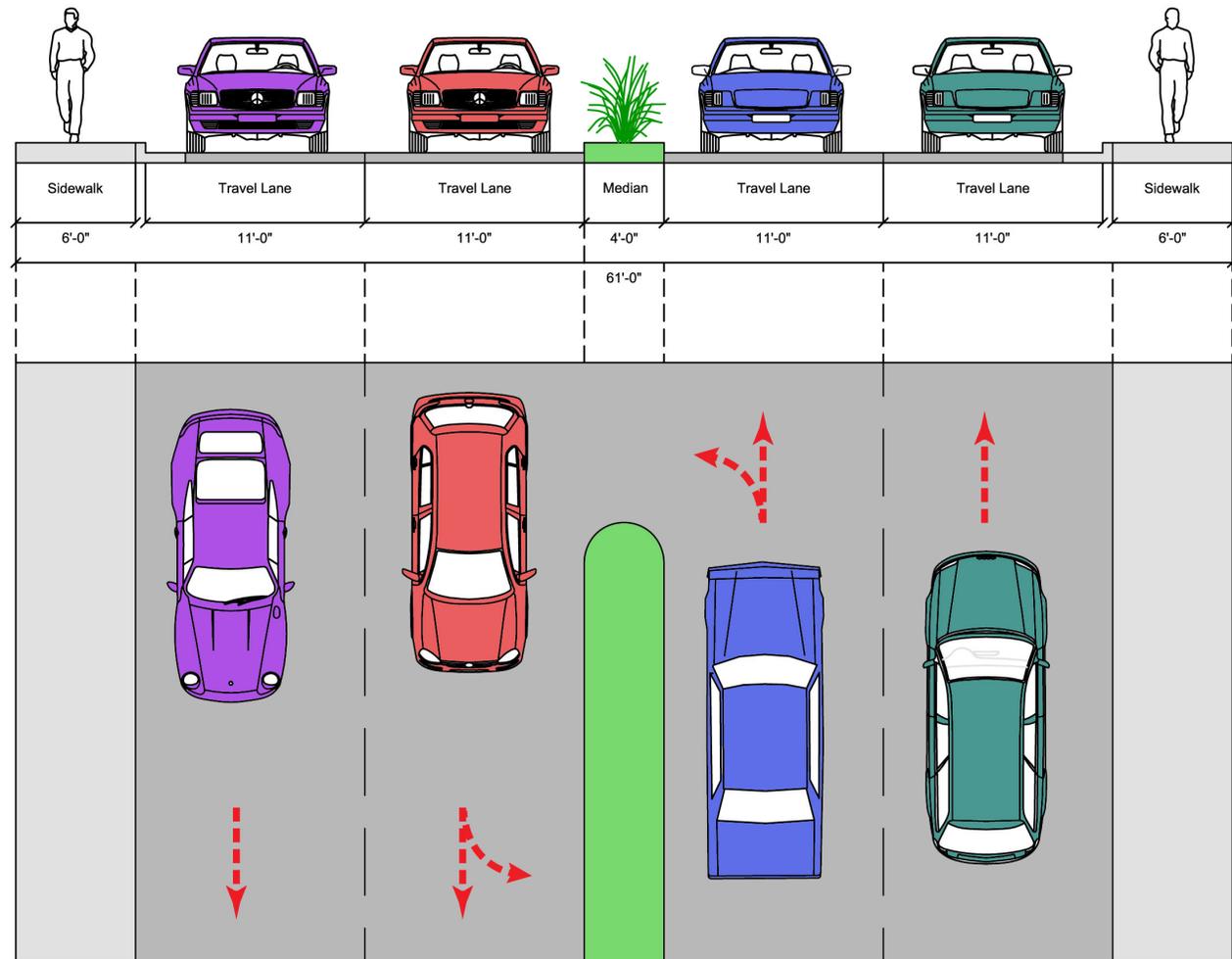


Figure 4.5: Alternative 4 Normal Configuration

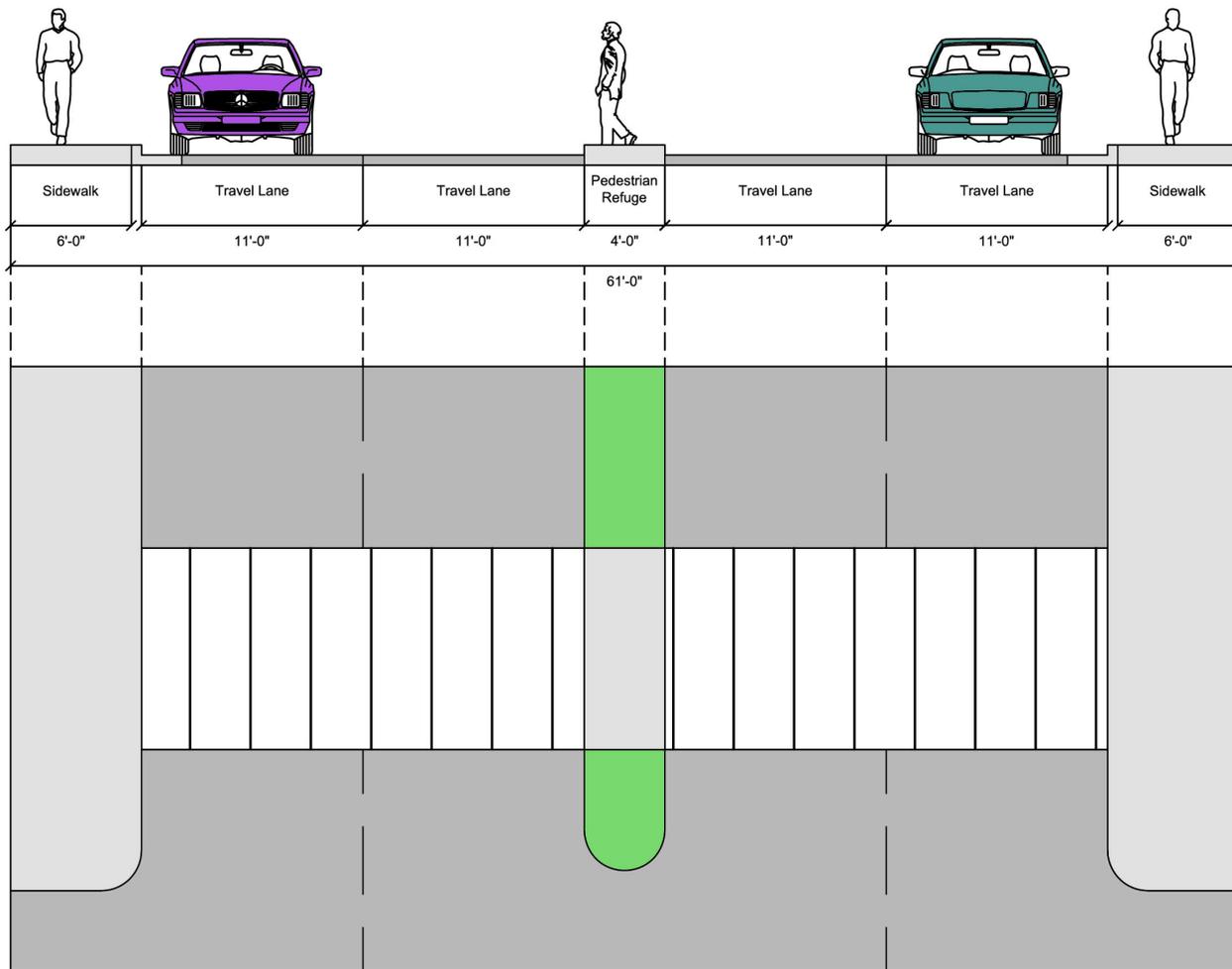


Figure 4.6 Alternative 4 Pedestrian Crossing

opposing traffic directions. It would not be wide enough to support turn lanes, so the median would be broken periodically to allow for left turns into local businesses and residential streets.

Many local residents and business owners have expressed a desire for increased landscaping along the corridor, and the median would provide limited room for these improvements. Due to the narrow width, the landscaping would most likely consist of xeriscaping and hardy grasses or shrubs, rather than street trees. At intersections, the median would also serve as a pedestrian refuge, reducing the pedestrian crossing from 48 feet to two 22-foot intervals. This crossing is manageable, but the refuge provides minimal protection and is significantly smaller than the 120 square feet recommended by *Designing Walkable Urban Thoroughfares*. The median would restrict the number of left turns into business parking lots, but this can be minimized by reducing the excessive number of curb cuts on the street.

Alternatively, the additional right-of-way could be divided between the two sides of the street, with two feet of landscaping adjacent to each sidewalk. This would provide even fewer landscaping opportunities, since plants and trees need a certain amount of room to grow, and in this scenario the landscaping would most likely consist of gravel or crushed glass.

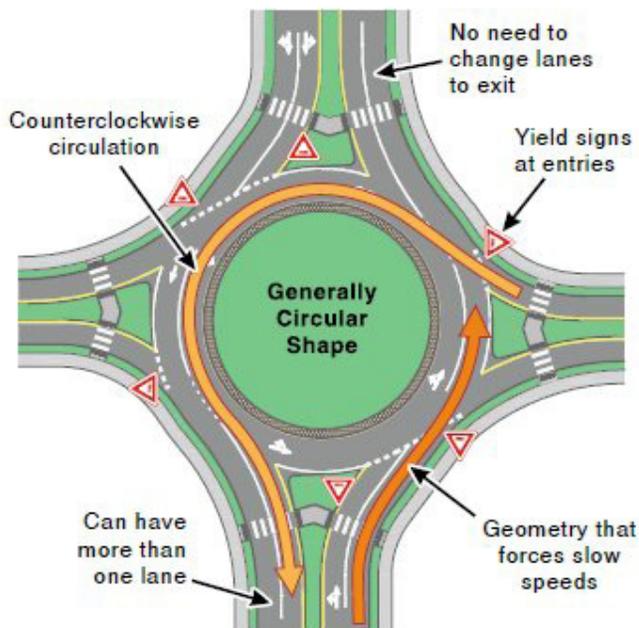
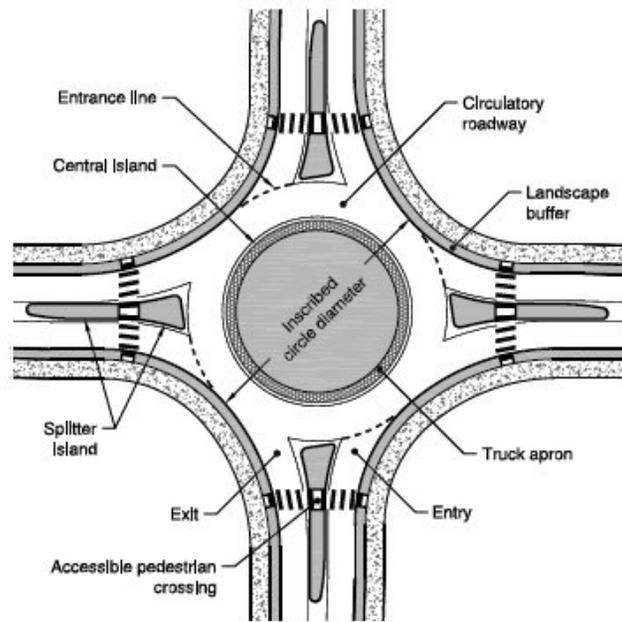


Figure 4.7: General roundabout design.
 Source: Federal Highway Administration.

CONSTITUTION ROUNDABOUT

To address the offset Constitution intersection and help reduce the number of crashes at the intersection, the planning team examined the possibility of installing a roundabout. Roundabouts have been commonplace in Europe for decades, and they are becoming more popular in the United States for their many benefits. In a roundabout, the conventional four-way traffic signal is replaced by a circular intersection. Instead of a traffic signal, traffic on all sides must yield to vehicles in the roundabout. From a roundabout, drivers can turn onto any of the connecting streets (Figure 4.7).

Single-lane roundabouts, which are the most common, help to significantly reduce vehicle speeds and crash rates, since drivers must pay more attention while approaching the roundabout. According to a recent and comprehensive study, total crashes were reduced by 35 percent, injury crashes were reduced by 76 percent, and crashes resulting in serious or fatal injuries decreased by at least 89 percent after the installation of roundabouts. Traffic flow also improves, since drivers may enter whenever the road is clear rather than waiting for the next green light.

Pedestrian safety increases at roundabouts, primarily due to speed reductions and the presence of pedestrian refuges. Drivers have even been observed yielding spontaneously to pedestrians in the bulb-outs and

refuges at the roundabout at Central and 8th Street. However, these crossings can present challenges for pedestrians with visual impairments and other disabilities, since there are no formal walk signals, and planners should consider additional design standards to enhance accessibility.

Roundabouts also provide an opportunity to distinguish the area, serving as an “entrance” to the corridor and allowing for beautification through landscaping or public art. Due to the lack of a traffic signal, roundabouts generally cost less to operate and maintain than signalized intersections. However, installing a roundabout in urban areas can be difficult and expensive, since the city usually must acquire more right-of-way before construction.

Despite these benefits, one key challenge to implementing a roundabout at Constitution is the intersection’s role as a major crossing point for Mark Twain Elementary School. As stated earlier, there are no formal pedestrian crossing signals at roundabouts to guide schoolchildren across, and children often have smaller attention spans than adults and might not pay as careful attention to traffic. The implications for school crossings are unclear, and a roundabout would undoubtedly make the job of a crossing guard more challenging. For these reasons, most community members opposed a roundabout at Constitution, instead preferring the straightened option presented in Recommended Alternative 1.

CHAPTER 5
FUTURE CONSIDERATIONS



OVERVIEW

While the first four chapters of this report provide streetscape recommendations and alternatives, Chapter 5 is designed as an informational guide for local business owners and residents. The sketches and depictions within provide examples of what naturally-occurring redevelopment might look like over ensuing years and decades. This portion of the document provides possibilities, not recommendations, and it does not propose demolishing or redeveloping any current buildings along the corridor.

Streets and buildings interact in complex ways. Streets have a profound impact on buildings, providing thoroughfares for cars, pedestrians, and bicyclists to access their destinations. The street not only intersects the built form – it also connects or divides the opposite sides of the street. Narrow, low-speed streets encourage the development of pedestrian- and transit-oriented buildings, including cafes, retail stores, and offices. These buildings normally have little or no setback from the street, allowing for pedestrians to conveniently travel from building to building. Wide, high-speed arterials, on the other hand, encourage car usage, and most buildings along these roads have large setbacks to allow for parking lots and landscaping.

Prior to the 20th century, there were few controls on building form. Most people traveled on foot or by transit, and building form was largely

dictated by the surroundings. Since people could travel limited distances, new growth went up instead of out. This created dense, pedestrian-oriented cities like those in Europe and New England, where shops and residences intermingled. In the early 20th century, cities began regulating land use to minimize noxious uses, which usually consisted of heavy industry. These new zoning codes separated land by uses but placed few restrictions on building form. The advent of the mass-produced automobile, which was affordable enough for most Americans to own and allowed drivers to travel farther and faster than ever before, suddenly opened up vast tracts of land at the outskirts of cities.

The resulting developments were built around cars, not pedestrians, and included large parking lots in front of the buildings. Walking and transit use declined, except for in the major urban centers, and rapidly-growing Sun Belt cities such as Albuquerque became dependent on the automobile. Recently, there has been a movement to revive older, more pedestrian-friendly building forms, led by the New Urbanism movement. These proponents argue that instead of sprawling, single-story buildings with parking lots in front, U.S. cities should be building taller buildings with wide sidewalks and narrow setbacks to encourage walking and transit use.

Currently, San Pedro is a commercial corridor with C-1 and C-2 zoning, which primarily allows low-density retail and office uses, as well as very limited residential development.

The San Pedro corridor, since it was built in the 1950s, includes a mix of pedestrian-friendly buildings abutting the sidewalk, and vehicle-oriented buildings separated from the road by parking lots. The corridor also provides an example of horizontal mixed-use development – where residential and commercial uses are adjacent to one another. Many cities, including

Albuquerque, are encouraging mixed-use development to reduce the distances between destinations and to increase alternative modes of transportation.

The sketches and perspectives in this chapter are hypothetical suggestions of what the area could look like in several decades – a vibrant pedestrian-oriented business corridor.

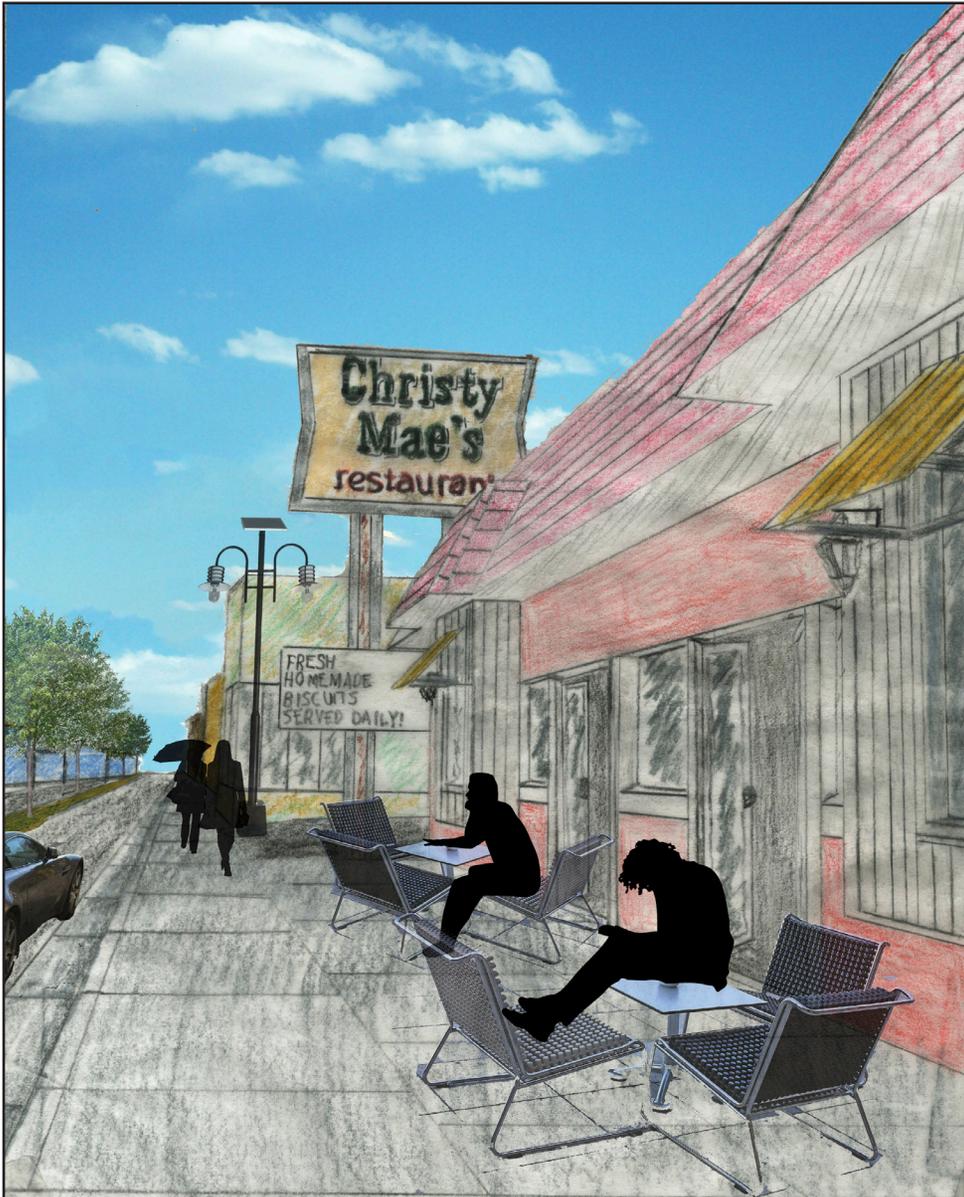
EXISTING



A street lined with buildings begins to give a “sense of place” to the neighborhood, attracting pedestrians and business.

FUTURE POTENTIAL





FUTURE POTENTIAL

Adding simple amenities such as patio seating to neighborhood restaurants like Christy Mae's invites people to linger and make the neighborhood a destination, rather than a pass-through.

PEDESTRIAN-FRIENDLY BUILDING DESIGN

The goal of Recommended Alternative 1 is to create a narrower, more pedestrian-friendly road, and pedestrian-friendly street design tends to encourage pedestrian-friendly building design. If Recommended Alternative 1 is implemented, it would likely lead to a slow evolution of the private properties along the corridor.

Pedestrian-friendly buildings have shorter distances between sidewalks and buildings, creating increased business visibility, encouraging more pedestrians to use the street, and slowly re-shaping the corridor. Such a transition could be accomplished in three ways: (1) adding on to existing buildings, (2) infill development on underused land, such as a vacant parcel or a parking lot, or (3) redeveloping existing buildings.

In 2009, Albuquerque adopted optional "form-based zoning," which has been adopted in several Sector Development Plans and encourages developers to construct pedestrian-friendly buildings. These buildings focus on building form more than land use – in particular, eliminating setbacks, placing parking lots to the side and rear of buildings, and creating a vibrant pedestrian realm. Several Albuquerque businesses have begun moving their buildings up to the sidewalk and adding parking on the sides, and these parking lots can eventually be built over if the corridor attracts enough density and pedestrians.

Many of the long-term visions presented in this document are consistent with form-based zoning, and accordingly, some of these changes might require new zoning, designations. These sketches can serve as a resource for new development and construction, showing what the corridor might look like with building facades closer to the street and parking in the back to facilitate pedestrian activity.

EXISTING





FUTURE POTENTIAL

ARCHITECTURAL STYLE

The San Pedro corridor evokes a mid-century modern style that is distinct from other neighborhoods in Albuquerque. This style is characterized by clean lines, revolutionary-for-the-time new uses of materials such as flagstone, brick, concrete, and large plate-glass windows to bring the outdoors into buildings. Many buildings along the corridor, including local landmarks such as Helen's Bakery, exhibit mid-century modern characteristics that should be

cherished, restored, and replicated to form an identity for the neighborhood.

Future development should take mid-century modern styles into consideration and further develop the identity of the neighborhood. Styles should be updated for present-day modern uses and adapted to suit the needs of businesses and potential mixed-use development. The continuation of this style will set the neighborhood apart and attract people and customers, turning the corridor into a place to drive to, rather than a place to drive through.

Opening shops up to the street, such as Helen's Bakery, makes the environment a more pleasant place to use and enjoy. Maintaining and restoring signage gives the neighborhood the feeling of a "cared for" place, that people will take pride and respect in.

FUTURE POTENTIAL

EXISTING



EXISTING

Extending buildings such as San Pedro Center to the sidewalk and adding amenities like on-street parking, lighting, street trees, and a safer street-crossing can do a lot to attract new business.

ALLEYWAYS

The alleyways behind businesses are used primarily for business services such as unloading and trash collection, and some local residents have suggested that they encourage crime and disorderly conduct. However, these alleyways could become an asset to businesses and residents alike by incorporating greenways and other improvements.

A recent project in Detroit, called the Green Alley Project, demonstrates how under-utilized alleyways often are.

The Green Alley Project incorporates native vegetation, gardens, permeable pavement, lighting, community recycling containers, and other improvements into existing alleyways that were previously seldom used.

Likewise, the San Pedro alleyways could serve multiple purposes by incorporating walkways, bike routes, and even gardens and seating areas. This would create a welcoming environment for residents, business owners, and visitors to engage and relax, while still providing service access to businesses.



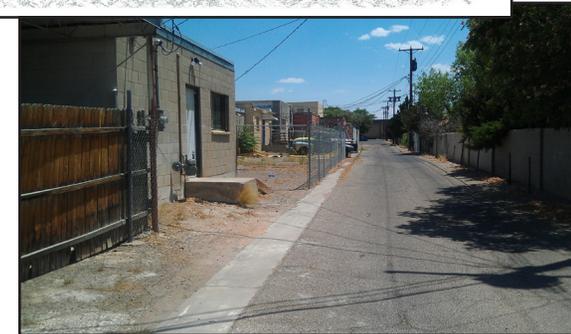
FUTURE POTENTIAL



FUTURE POTENTIAL

More usage of the alleyways by pedestrians and bicycles can also discourage crime and loitering from transients and unwanted users.

EXISTING



EXISTING

Alleyways have the potential to be used as pedestrian and bicycle corridors too. Adding plantings, lighting and better pavement can make them usable for everyone, while still maintaining service access for waste pickup and deliveries.

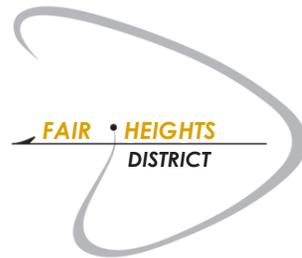


BRANDING

Neighborhood “branding” is also an important way of reinforcing an area’s identity and distinguishing it from the rest of the city. Branding an area helps create a design theme that is repeated and reinforced, and developing a branding scheme requires careful observation and analysis. The branding theme should include both the Fair Heights and Mark Twain neighborhoods, since San Pedro straddles the two neighborhoods.

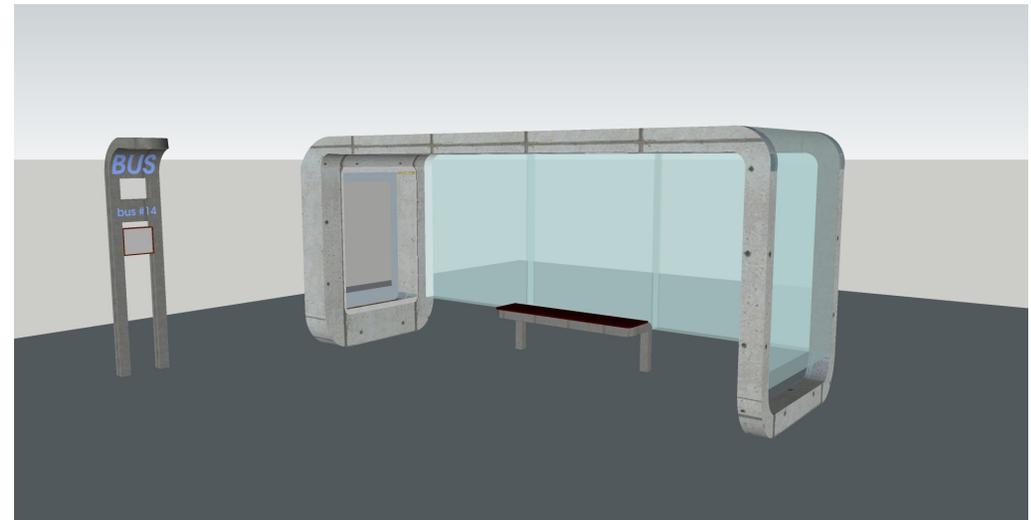
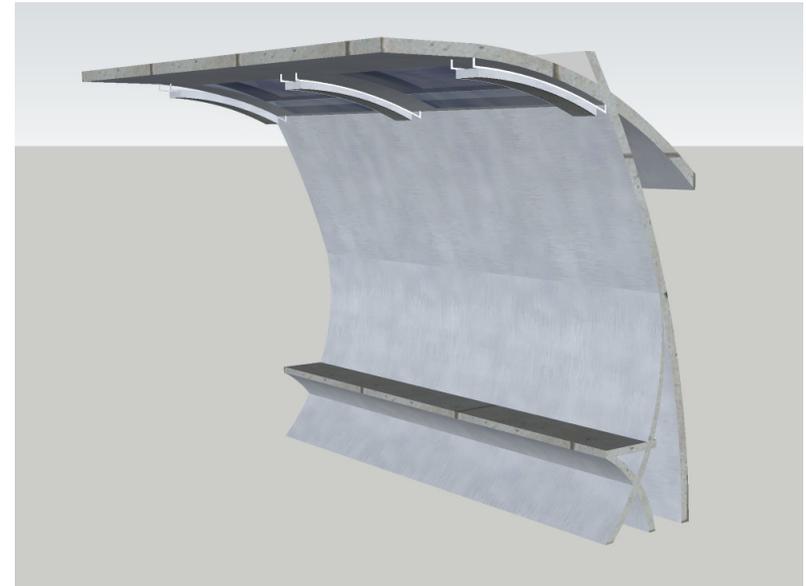
Branding includes many elements, including the mid-century modern architectural theme discussed earlier, as well as lighting and signage, landscaping, and even logos. Included in this chapter are potential logos, lighting types, and landscaping options to reinforce the area’s identity as a “mid-century mecca.”

All of these elements – pedestrian-friendly building design, architectural style, alleyways, and branding, can be used in concert to support and enhance the proposed streetscape, creating a truly unique San Pedro corridor.



Developing a name and logo for the San Pedro corridor can set it apart from other areas, attracting more people, and renewed interest. These are just samples of what they could be.

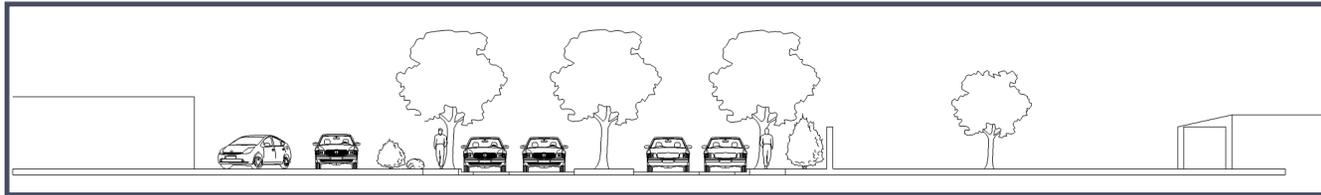
A distinct bustop that is different from surrounding neighborhoods can help give the San Pedro corridor a unique identity. Other cities have used this method with pleasing results, often with a different bus shelter for every neighborhood.



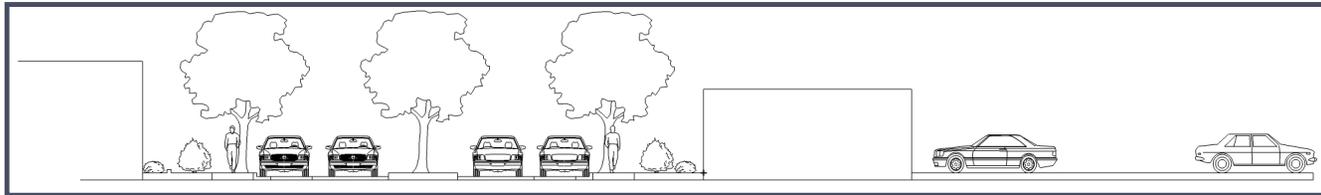
Architecturally significant signage and lighting should be preserved and restored.



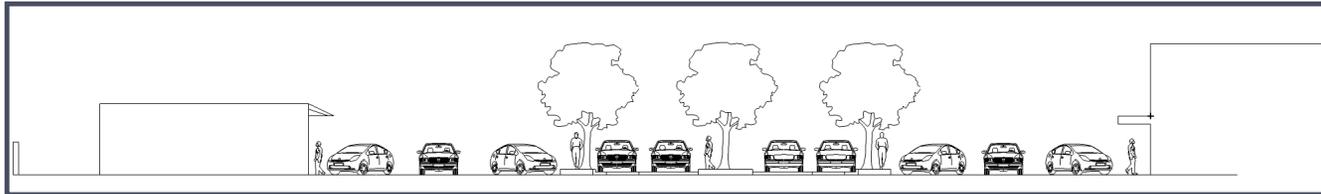
FUTURE CONSIDERATION SECTIONS



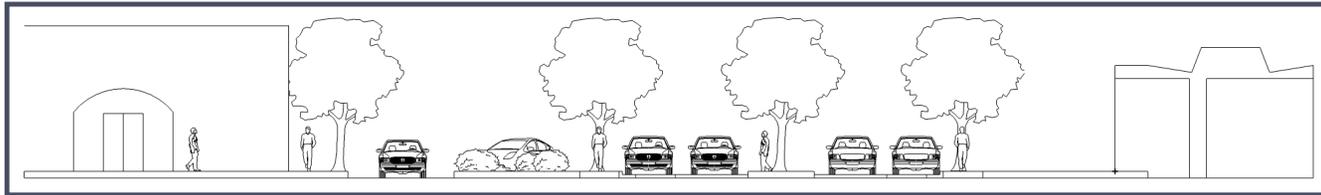
San Pedro Center (left) and Temple Baptist Church (right).



Rio Grande Credit Union (left) and mostly vacant office building (right).

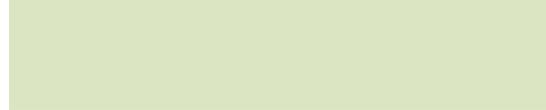


Royal Prestige (left) and Autry Plaza (right).



Hastings (left) and Ms & US Express("sombbrero"building) (right).





GLOSSARY

Bike lane: A designated lane within a roadway reserved for bicycle travel and separated from vehicle lanes by painted lines or other pavement markings.

Bike route: A wide lane shared by motorists and bicyclists and identified by signs, without painted lines or other pavement markings.

Bulb-out: An extension of the sidewalk into an on-street parking lane, to provide for a shorter pedestrian crossing. Also known as a “bump-out” or “curb extension.”

Curb cut: A break in the curb/ sidewalk that allows motorized vehicles access to and from adjacent properties.

Form-based zoning: An optional zoning code adopted by the City of Albuquerque in 2009 that emphasized building form over land use. Form-based zoning is designed to encourage pedestrian-friendly development, including features such as limited setbacks, street-facing doors and windows, awnings and detailed facades, and parking lots at the side or rear of buildings. Form-based zoning provides fewer restrictions on land use than traditional zoning.

Median: An area in the approximate center of the street that separates opposing traffic lanes and may provide enough room for left turn lanes, landscaping, and pedestrian refuges. Medians can be designated by painted stripes or permanent curbs and gutters.

Minor arterial: A moderate-capacity, medium-speed road which serves local and through traffic.

On-street parking: A parking space or lane in the public right-of-way that provides easy access to businesses and a buffer between pedestrians and traffic.

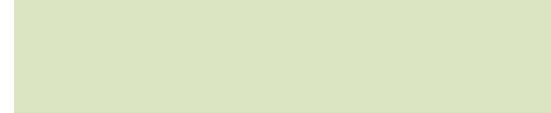
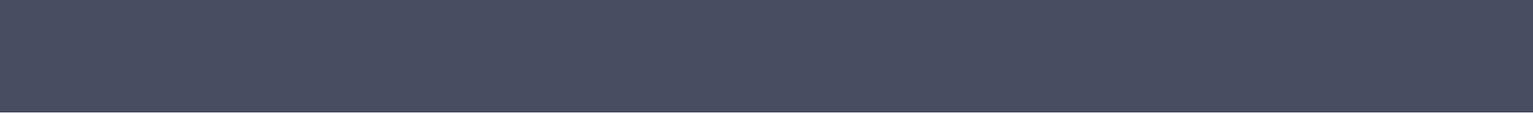
Pedestrian refuge: A safe haven for pedestrians in the middle of the street between opposing lanes of traffic. Pedestrian refuges are frequently incorporated into medians, and they usually include physical barriers such as curbs to provide protection from traffic.

Right-of-way: An area of land between private lots that is dedicated for public or private use to accommodate infrastructure such as transportation and utilities. In addition to the roadway, the right-of-way usually includes sidewalks, landscaping strips, curbs, gutters, medians, lighting, and drainage facilities.

Road diet: A road that is re-stripped or re-paved with a reduced number of lanes. The goals of a road diet include speed reduction, crash reduction, and improved alternative transportation options. Also known as a “lane reduction.”

Roundabout: A circular intersection where, instead of a traffic signal, entering traffic must yield to circulating vehicles. Roundabouts are often used to reduce speeds, reduce crashes, and improve traffic flow.

Sector Development Plan: A regulatory plan adopted by the City of Albuquerque to create tailored zoning, land use, and transportation standards in a small geographic area. The San Pedro study area is not governed by a Sector Development Plan, although it is located near the Uptown and proposed International District Sector Development Plans. Instead, the corridor is subject to general citywide zoning and transportation standards.



BIBLIOGRAPHY

American Association of State Highway and Transportation Officials. (2004). *A Policy on Geometric Design of Highways and Streets* (5th ed.). Washington, DC: AASHTO.

Bonn, Michael. (2010, June 14). Road diets: Making streets slim down is good for pedestrians, businesses, and even traffic. Planetizen. Retrieved from <http://www.planetizen.com/node/44645>

City of Albuquerque. (2010). West Central Avenue Corridor Concept Plan. Retrieved from http://www.cabq.gov/council/documents/west_central_ave_corridor_study_2010-07-10.pdf

City of Albuquerque and Bernalillo County. (2003). *Albuquerque/Bernalillo County Comprehensive Plan*. Retrieved from <http://www.cabq.gov/planning/publications/>

Drennen, Emily. (2003). *Economic Effects of Traffic Calming on Urban Small Businesses*. San Francisco, CA: San Francisco State University. Retrieved from http://www.emilydrennen.org/TrafficCalming_full.pdf

Institute of Transportation Engineers. (2010). *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (Publication No. RP-036A). Washington, DC: ITE.

Jojola, L. (2011, April 22). Central to be put on "road diet." *Albuquerque Journal*. Retrieved from <http://www.abajournal.com/news/metro/22231068993newsmetro04-22-11.htm>

Kittleson & Associates. (2011). *Road Diets: White Paper*. Portland, OR: Kittleson & Associates. Retrieved from http://ashlandtsp.com/system/datas/89/original/AshlandTSP_RoadDietsWP_011110.pdf

Mid-Region Council of Governments. (2011a). *San Pedro Drive Pedestrian Composite Index Analysis*. Albuquerque, NM: MRCOG.

Mid-Region Council of Governments. (2011b). *2010 Traffic Flow Map for Greater Albuquerque Area*. Albuquerque, NM: MRCOG. Retrieved from http://www.mrcog-nm.gov/images/stories/pdf/maps_and_data/traffic_flow/tfm10urban.pdf

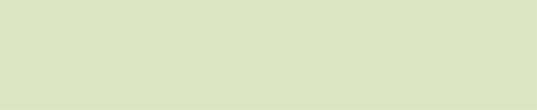
University of New Mexico Division of Government Research. (2009). *Bernalillo County Traffic Crash GIS*. Retrieved from <http://www.unm.edu/~dgrint/berncom.html>

U.S. Federal Highway Administration. (2010a). *Evaluation of Lane Reduction "Road Diet" Measures on Crashes* (Publication No. FHWA-HRT-10-053). Washington, DC: U.S. Department of Transportation. Retrieved from <http://www.fhwa.dot.gov/publications/research/safety/10053/10053.pdf>

U.S. Federal Highway Administration. (2010b). *Technical Summary: Roundabouts* (Publication No. FHWA-SA-10-006). Washington, DC: U.S. Department of Transportation. Retrieved from <http://safety.fhwa.dot.gov/intersection/roundabouts/fhwasa10006/fhwasa10006.pdf>

U.S. National Park Service. (2001). *National Register of Historic Places: Twentieth Century Suburban Growth of Albuquerque, New Mexico* (OMB Approval No. 1024-0018). Washington, DC: U.S. Department of the Interior.





FINAL EDIT AND DESIGN BY:
Jackson Morsey

TEXT EDITING BY:
Steve Hawley

