

Central Avenue Complete Street Plan and Design Toolkit

First Street to Girard Boulevard

October 2013



Prepared For:
The City of Albuquerque Council Services

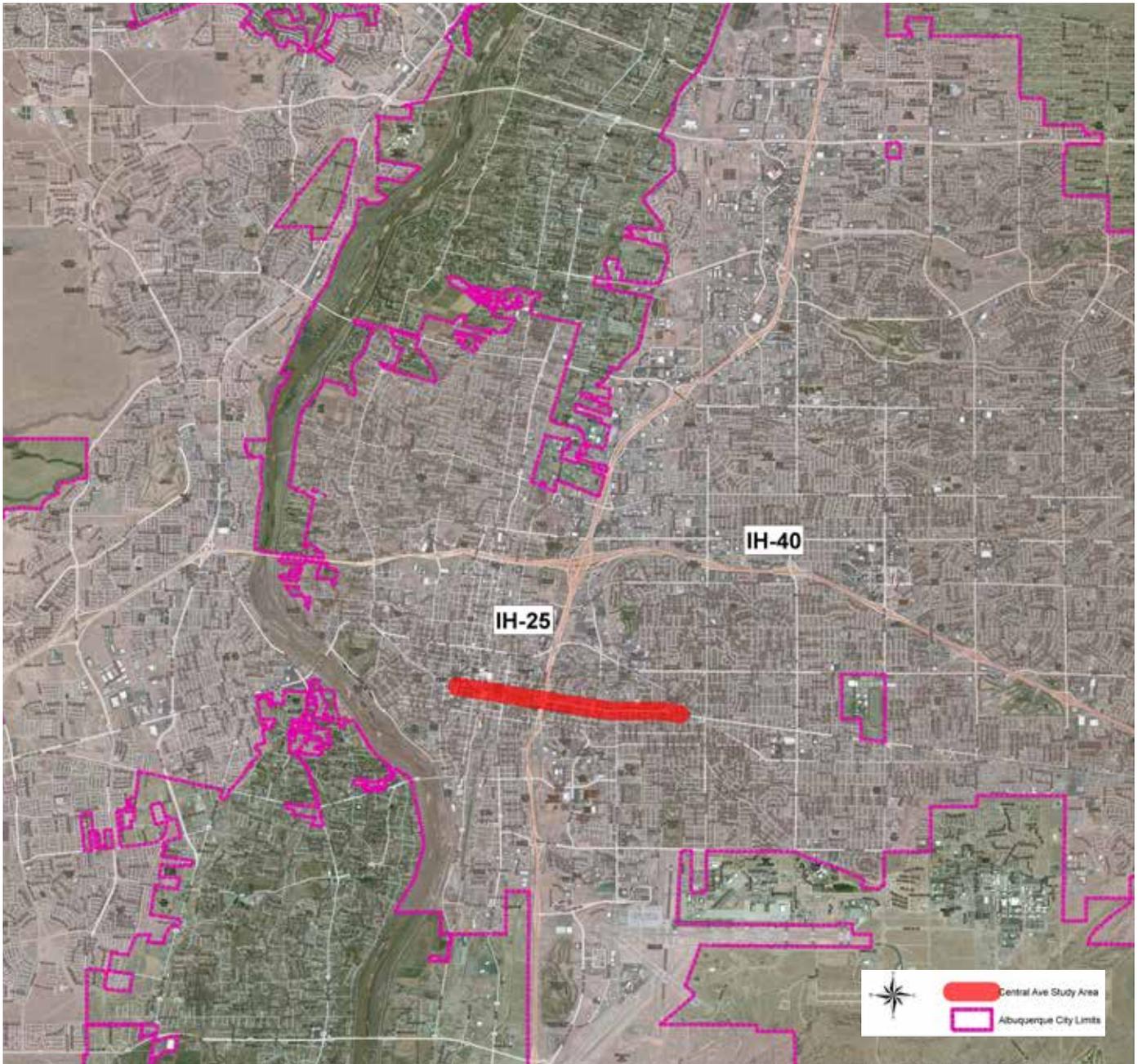
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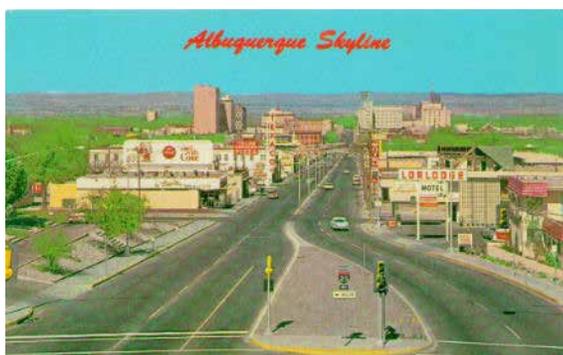
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Purpose and Goals



From its prehistoric roots as a Native American trading route to its iconic mid-20th Century role as part of Route 66, Central Avenue continues to serve as the city's most significant urban thoroughfare. In its latest incarnation, Central Avenue offers the best transit service in the City, cementing its status as Albuquerque's main axis of commercial development and transportation.

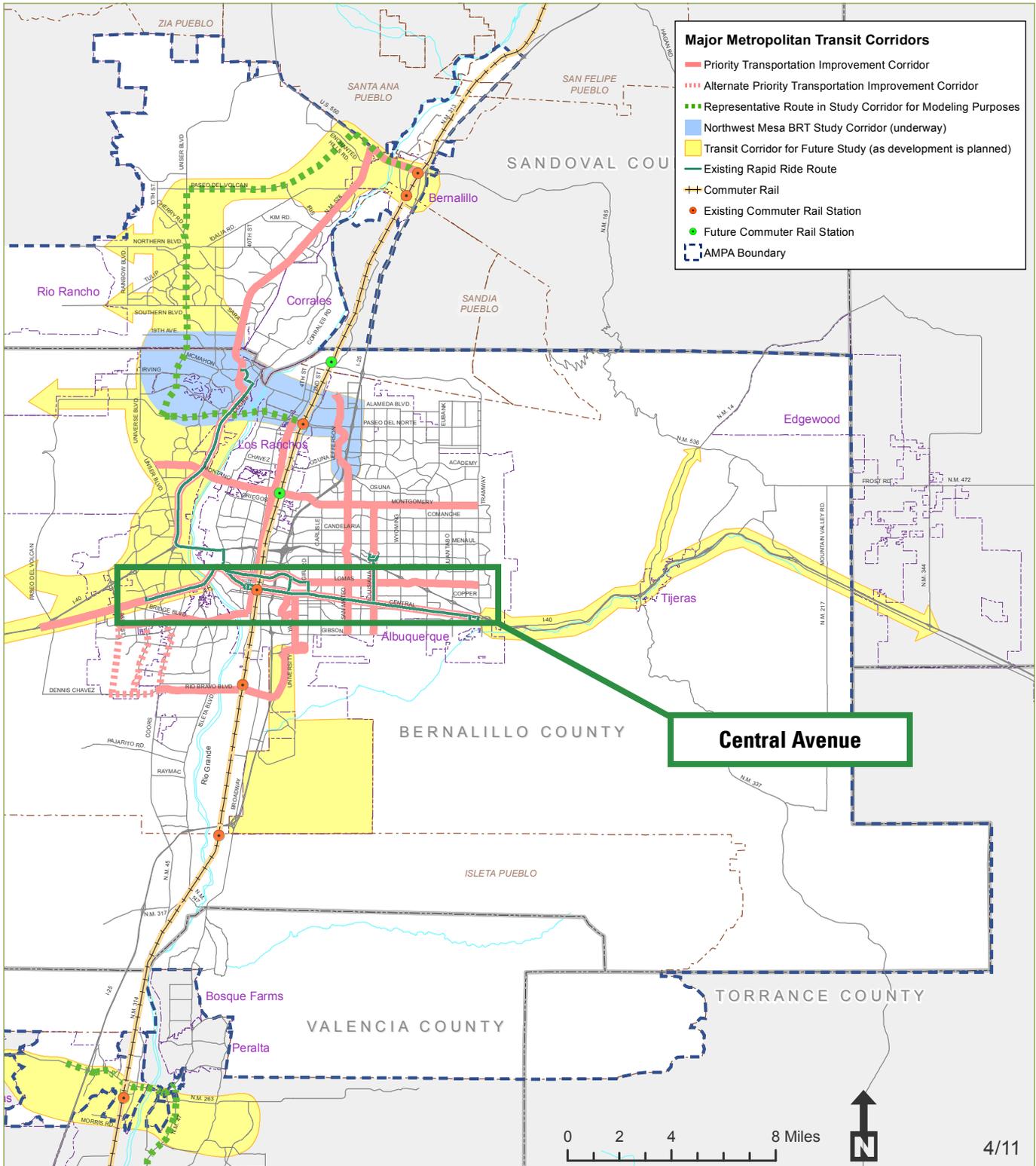
This study considers a segment of the corridor linking several of the city's key post-railroad neighborhoods from 1st Street in Downtown to Girard Boulevard east of the University of New Mexico. These historic neighborhoods retain much of their unique character as early suburbs or commercial service areas for Route 66 travelers. As locals and visitors rediscover them, a unique opportunity exists to catalyze redevelopment in concert with a growing interest in the Route 66 heritage and a new focus on alternative transportation modes as the City grapples with traffic congestion and growth.

Even along this famed emblem of personal vehicle travel, new enhanced mass transit systems move increasing numbers of road users between the major activity centers linked by Central Avenue and commuter rail services to points north and south.

Goals of this Process:

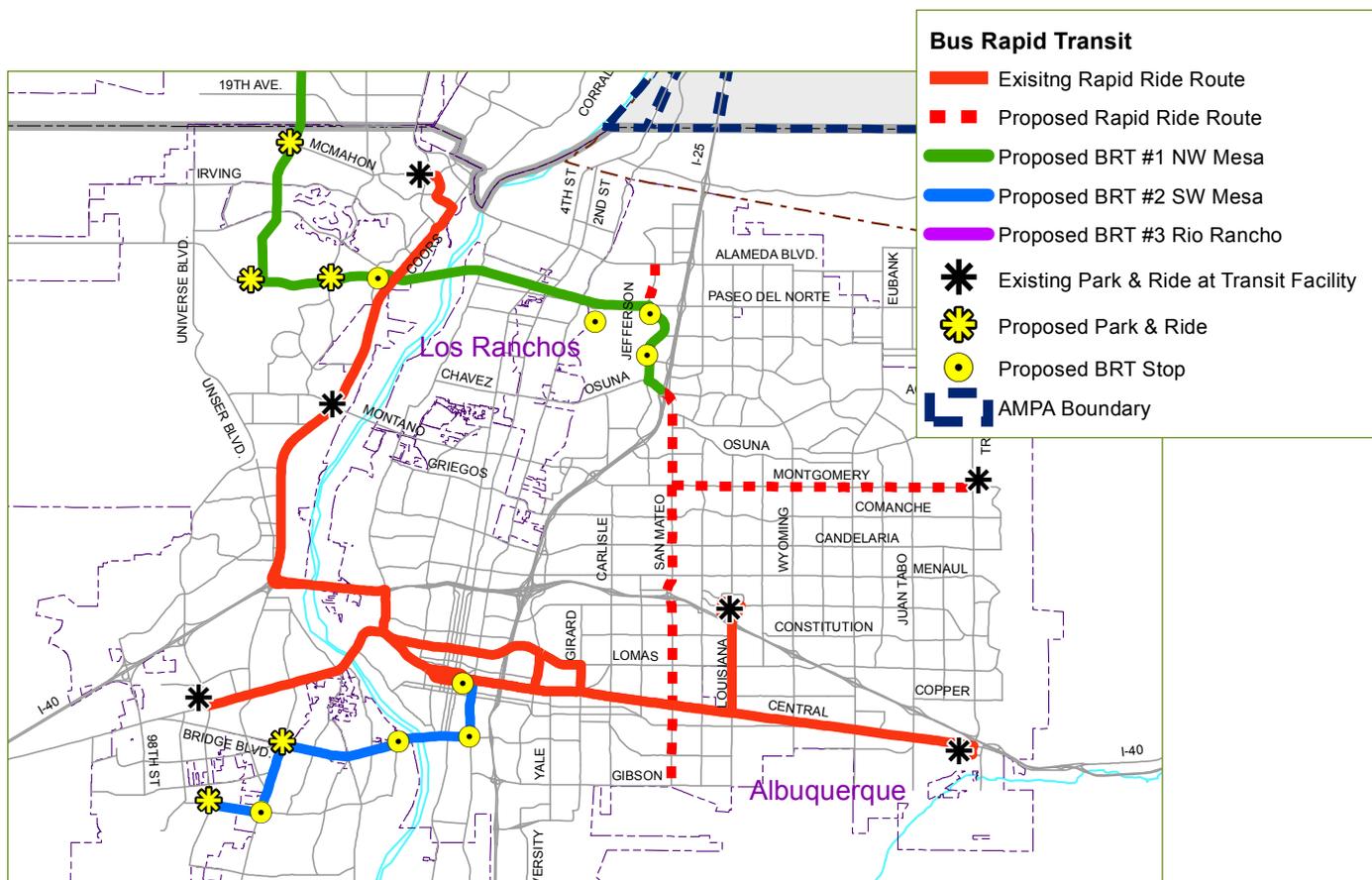
The goals being used to guide the content and focus of the Central Avenue Complete Street Plan and Design Toolkit from First Street to Girard Boulevard are:

1. To improve the overall safety and multi-modal functionality of the corridor;
2. To increase options for pedestrians and transit users by improving facilities along the length of the corridor;
3. To catalyze and support future development/redevelopment of properties along the corridor by creating a high-quality public realm;
4. To improve the quality of life of area residents and create a sense of place through the design and construction of a safe and attractive roadway.



Major Metropolitan Transit Corridors, 2035 Metropolitan Transportation Plan

The Importance of Being Central Avenue



Bus Rapid Transit Map, Proposed and Existing, 2035 Metropolitan Transportation Plan

Central Avenue in Past and Current Planning Efforts

This study is informed by past and concurrent planning efforts within the city by various entities along this corridor as well as studies that intersect the corridor. These studies include long range transportation and bike plans, studies by the county and regional governments and the applicable comprehensive and zoning plans for the corridor and the neighborhoods it serves.

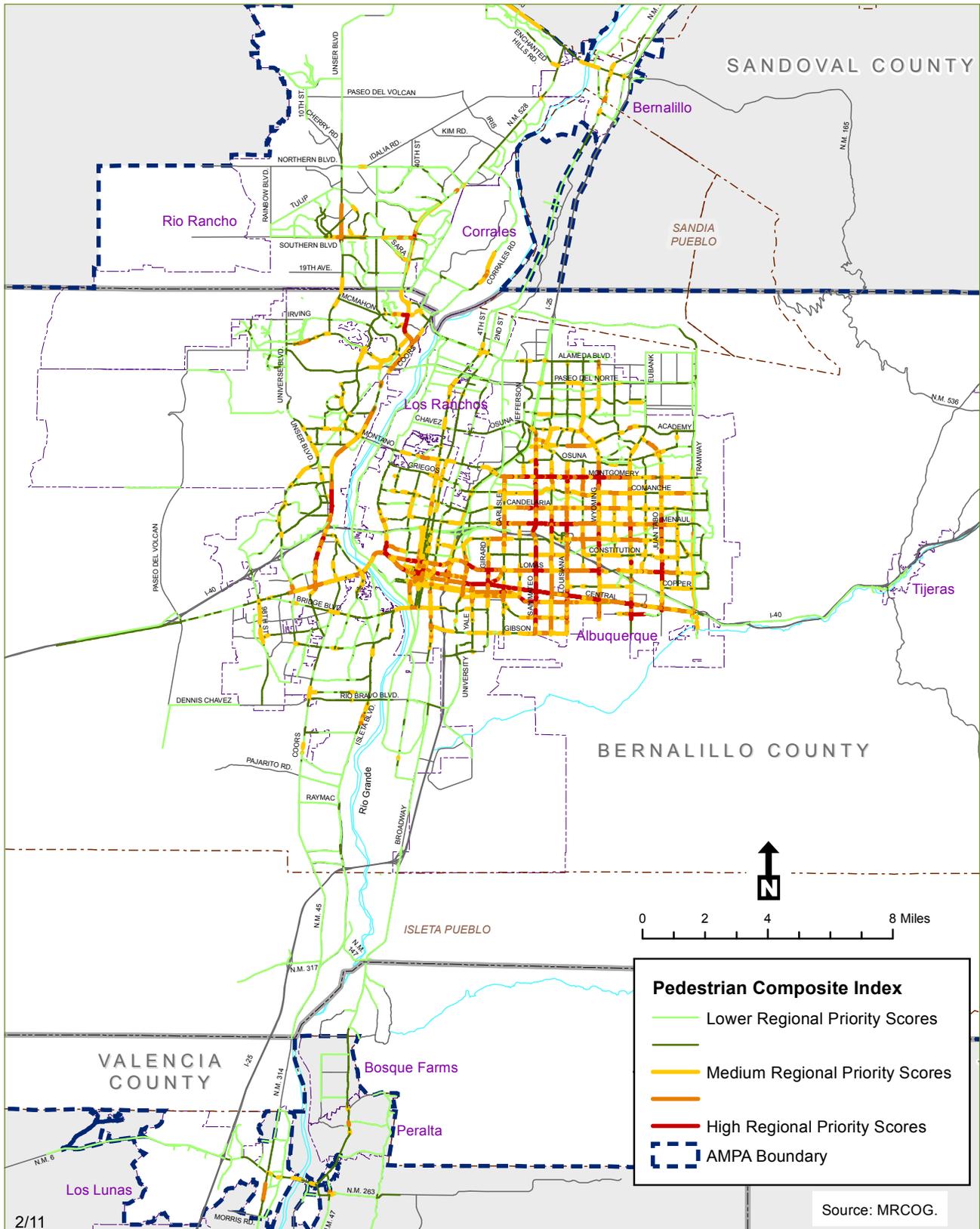
Previous Studies

2035 Metropolitan Transportation Plan

The 2035 Metropolitan Transportation Plan promotes expanded transit and alternative modes of transportation, integrated land use and transportation planning, and maximizing the efficiency of existing infrastructure. Population and employment projections from the MTP indicate that the area is increasingly urbanizing (one in two NM residents will reside in Albuquerque by 2035), but job growth will increase at a slower rate than population growth

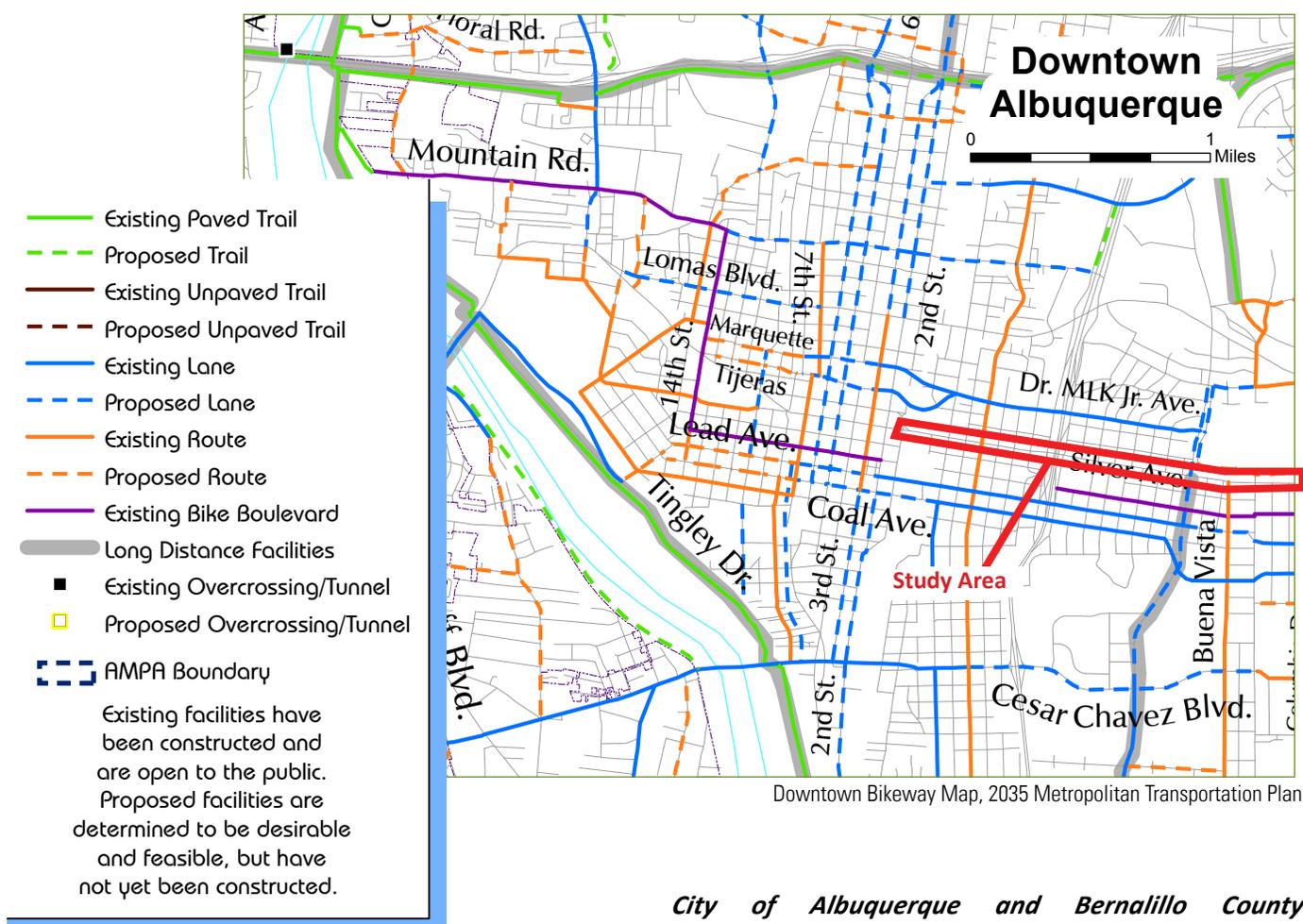
(48% for jobs to 75% for population). This development will contribute to a doubling of Vehicle Miles Traveled (VMT) per day by 2035 (from 16 million VMT per day to 32 million VMT per day), unless travel behaviors change. The report made two categories of recommendations, as shown in Table 1, to moderate the VMT growth, manage congestion, and improve air quality.

<i>Systems Management Strategies</i>	<i>Demand Management Strategies</i>
Signal Timing	Ridesharing
Signal Optimization	Biking
Managed Lanes	Walking
High Occupancy Vehicle Lanes (HOV)	Public Transit
	Parking Management



Pedestrian Composite Index, 2035 Metropolitan Transportation Plan

The Importance of Being Central Avenue



2035 Long Range Bikeway System

The Long Range Bikeway System map depicts proposed and existing bike facilities developed over the course of studies beginning in the early 1970's. It also defines the specifications of different types of bike facilities such as bike lanes, trails and bike routes. Of particular note, Central Avenue (outlined in red) is not a proposed route.

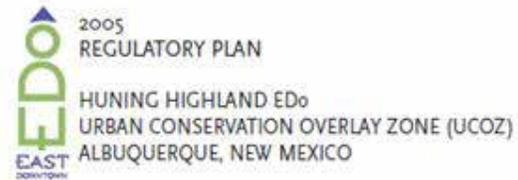
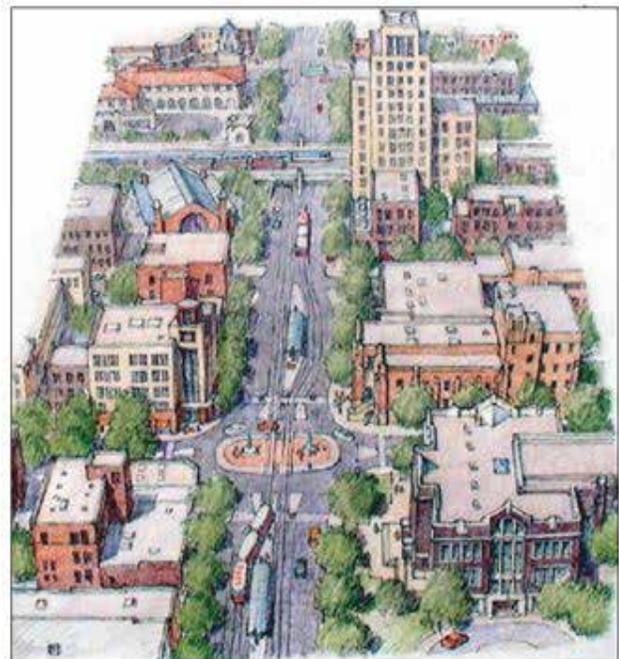
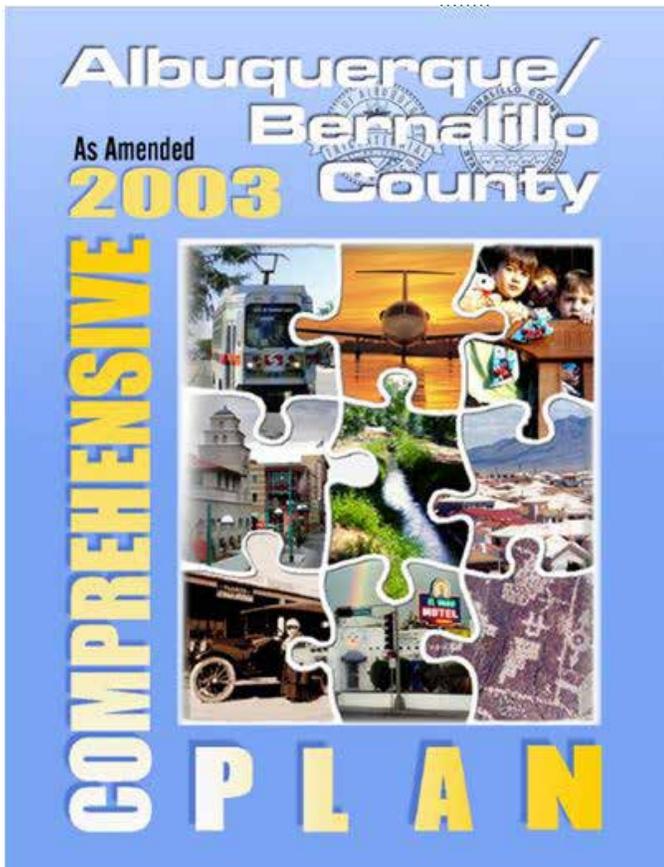
MRCOG Future Albuquerque Area Bikeways and Streets (FAABS)

The FAABS plan contains all the future Bikeways and Streets within the Albuquerque Metropolitan Planning Area. The FAABS Map shows how Central Avenue transitions from a collector west of I-25 to a principle Arterial east of the Interstate. Appendix G of the FAABS Plan outlines the issues addressed in the planning process which includes: ensuring economic vitality, improving safety for motorized and non-motorized users, increase accessibility and mobility options, and enhance integration and connectivity across modes.

City of Albuquerque and Bernalillo County Comprehensive Plan (2003)

The Albuquerque/Bernalillo County Comprehensive Plan, updated in 2013, sets the vision for the city to follow in the future to guide zoning, land use and transportation decisions. A key strategy in the future of Albuquerque is establishing 'Activity Centers' that would be nodes of mixed use connected by major transit corridors. An example of an Activity Center is UNM (University of New Mexico) which would function as vibrant, transit-oriented, urban places that encourage walking to destinations throughout the center. Major Transit Corridors, like Central Avenue, serve multiple travel modes including mass transit, pedestrians, bicycles and vehicles.

Activity Centers provide a rational framework for the efficient allocation of public and private resources. These nodes encourage the concentration of land uses for greater efficiency, stability, image, diversity and control while protecting the city's existing single-family residential areas. The Comprehensive Plan envisions Central Avenue as a transit oriented east/west corridor and a priority area for infill and redevelopment



Adopted March 2005

City of Albuquerque Zoning Code

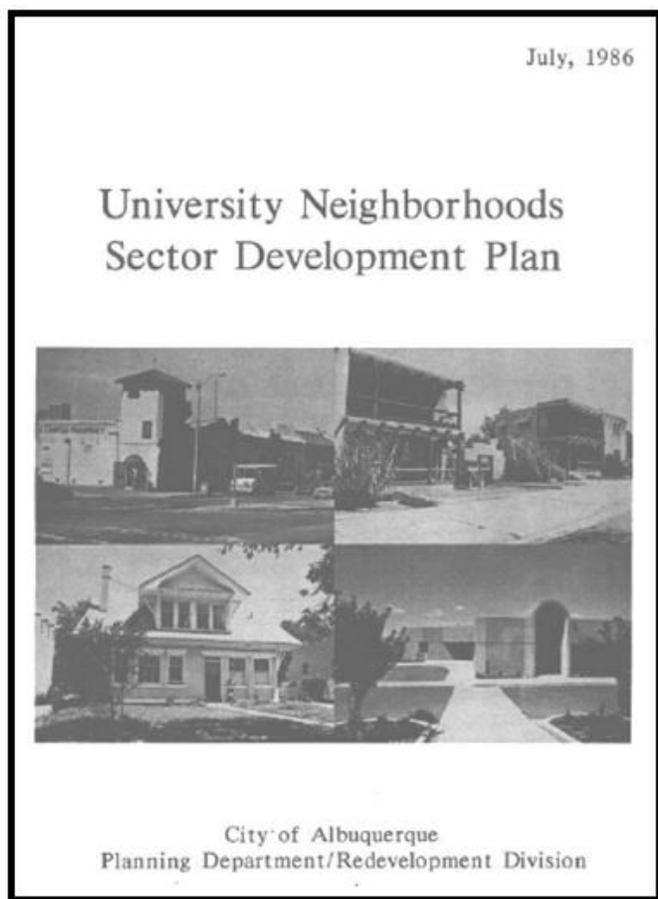
The City of Albuquerque Zoning Code sets land use regulations for areas of the City not regulated by Sector Development Plans, including parts of the Study Area. Relevant to Central Avenue it also sets the parking requirements which do not always encourage the most walkable and aesthetically pleasing environment. For example, current off-street parking requirements are one space per 200 SF of net leasable area for office uses, 200 SF for the first 15,000 SF of net leasable retail and service uses and one space per bath but not less than two spaces for dwelling units built after 2002.

These regulations discourage the reduction of automobiles by being so aggressive in the requirement, compared to other urban cities focused on increasing transit modes. For instance, the City of Fort Worth, Texas has recently removed all requirements for non-residential parking, with the rationale that the market will adequately supply the needed parking. The City has not second guessed the decision and development continues.

East Downtown (EDo) Master Plan/Regulating Plan (2005)

The EDO Master Plan and Regulating Plan was an extensive plan completed in 2005 to shape a vision for the EDO and Huning Highland areas. The plan calls for a pedestrian first environment with wide sidewalks, buildings framing streets, clean, safe and inviting storefronts, street trees and shade, appropriate street furniture, on-street parking, outdoor dining, and street lighting. This would help shape a street that would have slower car speeds, but higher vehicle parking capacity and a neighborhood that could accommodate a park once environment. The plan encourages an urban environment that combines the historic neighborhoods and many of the original pedestrian scale buildings and frontages along Central Avenue.

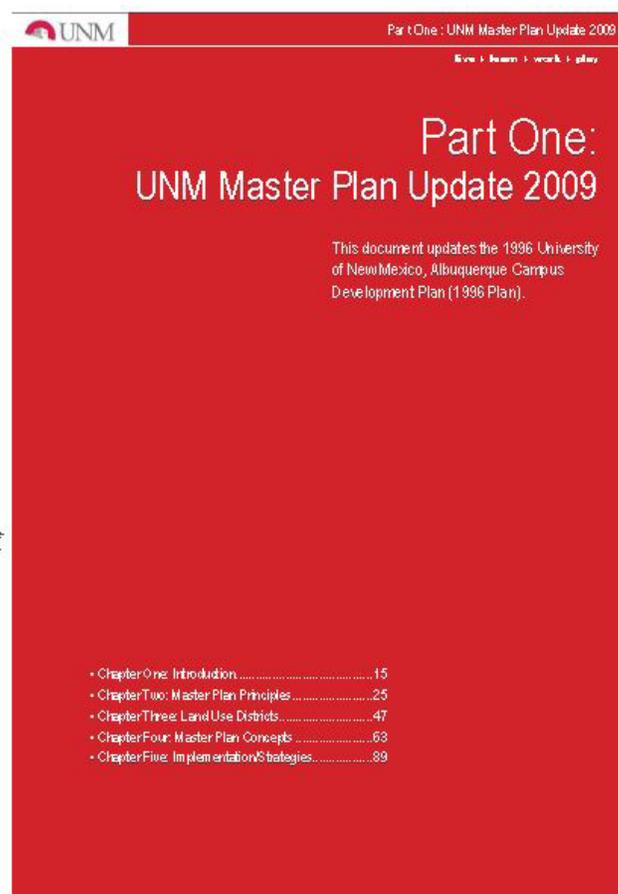
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University Neighborhoods Sector Development Plan (1986)

The University Neighborhoods Sector Development Plan was completed in 1986 with the intent of protecting the neighborhood and its historic housing stock. The Plan calls facade improvements along Central Avenue and pedestrian improvements to sidewalks and streetscape on Central Avenue. The plan specifically calls for bus shelters and benches.

The plan was written with many of the elements of a complete street in mind for Central Avenue, well before the term had been coined to reflect today's understanding of a complete street.



UNM Master Plan (2009)

The University of New Mexico Master Plan Update from 2009 centers around three primary themes: synthesize, connect and create. These “big ideas” require coordination and investments in transportation. The plan specifically calls for increased “transit options between campuses and coordination with other transit providers” and to “participate in regional transit planning and ongoing transportation studies.” Part of that solution is to increase transit and bike options for the Central Campus and make East/West pedestrian connections on the Central Campus more visible and direct.

Presbyterian Hospital Master Plan (1995)

The Presbyterian Hospital Master Plan is to be used as a “road map” for near and long term development of the main Presbyterian Hospital Campus. The plans intent is to be effective for the short term but flexible for the long term. Part of that flexibility is manifested in a series of development alternatives that share three commonalities:

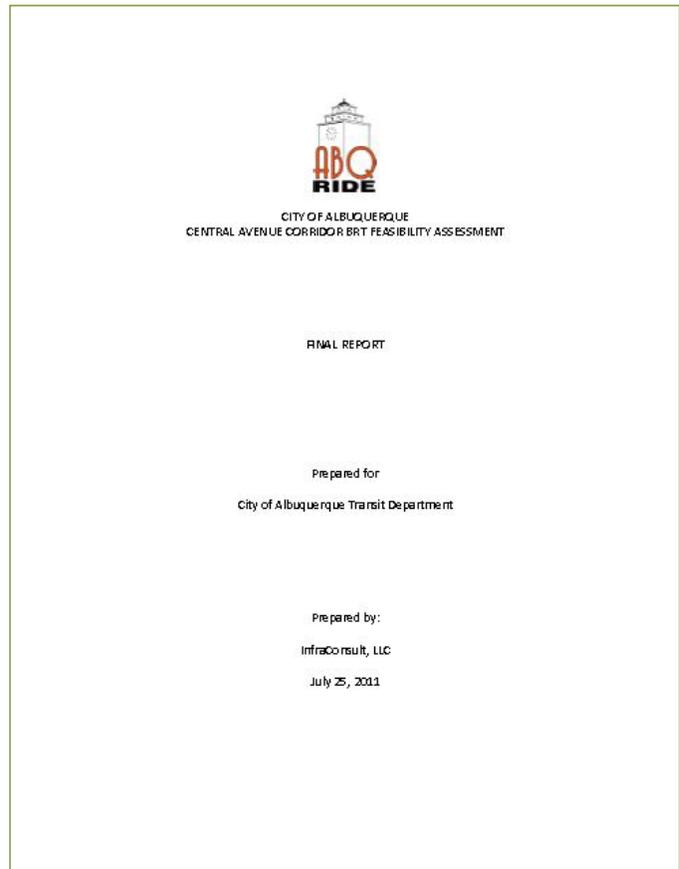
- A public entryway that includes a green area.
- Parking that is visible and easy to access by visitors.
- Hotel/Mixed-use development in future phases on Central Avenue.

Overall the plan calls for development to respond to the neighborhood context by:

- Locating the most intense development away from existing residential areas.
- Mixed use commercial qualities to reinforce the existing character of of Central Avenue,.
- Increased structured parking to meet parking demands closer to buildings and open up existing surface parking for future development.

The Presbyterian Hospital Master Plan seeks to respond to neighborhood concerns and context while at the same time allowing the medical center to fulfill its mission:

- To deliver cost-effective quality healthcare to the community.
- To promote a good fit with the neighborhood.
- To create a sense of place.
- To create an identity for Presbyterian in the community.



City of Albuquerque Central Avenue Corridor Bus Rapid Transit (BRT) Feasibility Assessment (2011)

This study evaluated the feasibility and impacts of a proposed BRT along Central Avenue from 98th Street to Tramway Blvd. The first section of the study provided background information and characteristics of BRT. Of particular note is the study’s assertion that station location will play a key role in successfully integrating BRT into a “Complete Street.” The study states that the “recommended BRT station width for a center station is 14 feet with a constrained width of 12 feet. For a split platform configuration, the preferred width is 10 feet and a constrained width of 8 feet.” The plan also addresses street furnishings and pedestrian amenities at stations by suggesting that stops include “shelters, seating, public art and trash receptacles.”

Task 2 of the study evaluated Central Avenue itself, including the allocation of right-of-way to various users and how the road would function with BRT. The report makes recommendations

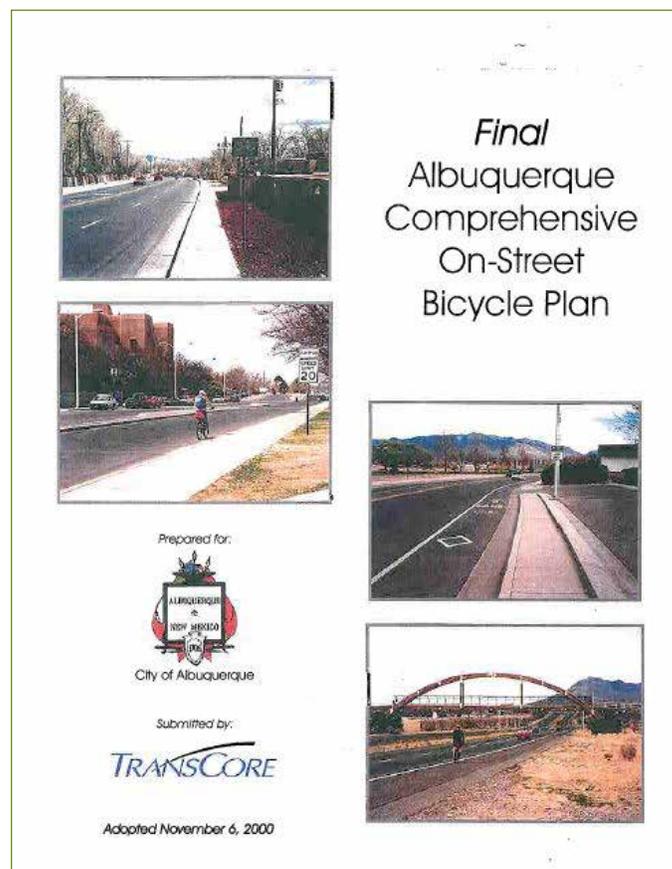
The Importance of Being Central Avenue

based on existing conditions and what would function best for the BRT with the caveat that many of the details like station location and type would be worked out in later studies.

The recommendation from the report for the UNM section from Girard Boulevard to University Boulevard is for a BRT located in the median with a center station, which would require the elimination of the median (left turn bays) and the westbound transit only lane. At intersections, inclusion of left-turn bays may necessitate the elimination of some on-street parking.

The next section from University Blvd. to 1st Street passes through the Hospital District and East Downtown (EDo). During public meetings held to discuss BRT, residents and property owners in the EDo area indicated their desire for a reduction in the existing number of lanes along Central Ave. in this location to slow traffic and allow allocation of some of the the narrow right-of-way for other users, such as cyclists and pedestrians.

The BRT study made that narrow configuration recommendation but also states that the alternative is to accommodate a median guideway. This treatment would require: removal of on-street parking; reduction in sidewalk widths to an average width of approximately seven feet; and elimination of the median to maintain two travel lanes in each direction. This alignment does not promote a pedestrian friendly environment, which conflicts with the primary goal of the EDo Master Plan.



Albuquerque Comprehensive On-street Bicycle Plan (2000)

The Albuquerque Comprehensive On Street Bicycle Plan is an update to a previous Trails and Bikeways plan in the early 1990's to a system that began in 1974. The plan evaluates deficiencies in the bike system and benefits of a comprehensive and connected bike system. It sets a goal of having 5% of commute trips by bike in 2005 and 10% by 2020. The plan shows bike facilities on Lead and Coal, similar to how they currently exist, and calls for further study for a Central Avenue Bicycle Corridor from Old Town to Nob Hill. The plan states that adding bicycle facilities to this corridor would provide needed connectivity, especially for the high use area between UNM and Nob Hill and would "enhance the attractiveness of this corridor."

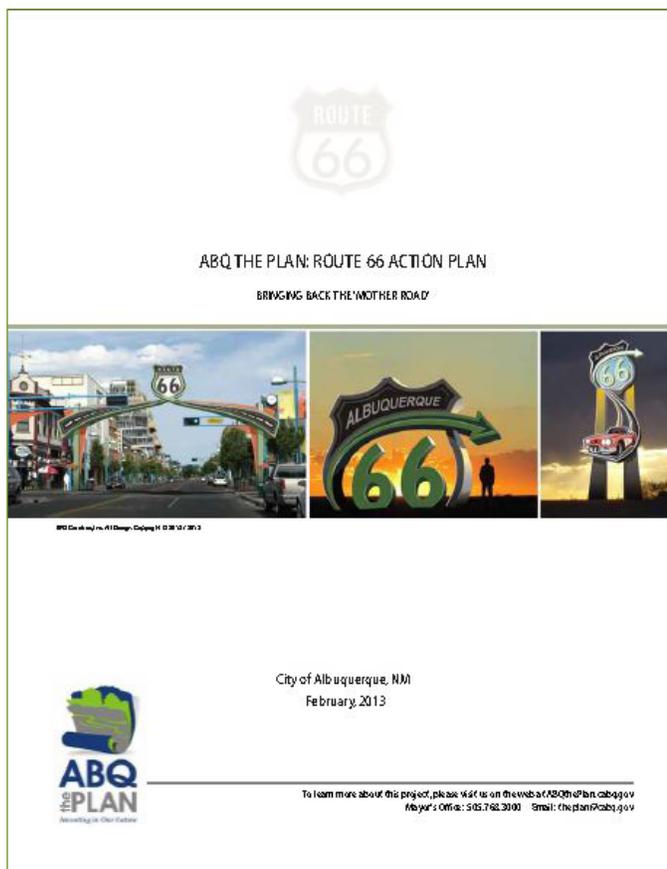
Table 2: Complete Streets Goals Compared to previous studies

<i>Complete Streets Goals</i>	<i>2035 Metropolitan Transportation Plan</i>	<i>2035 Long Range Bikeway System</i>	<i>MRCOG Future Albuquerque Area Bikeways and Streets (FAABS) Plan</i>	<i>Albuquerque and Bernalillo County Comprehensive Plan</i>	<i>Albuquerque Zoning Code</i>	<i>EDo Masterplan/Regulating Plan</i>
Safety and multi-modal functionality	●	●	●	●		●
Increase options for pedestrians and transit users	●	●	●	●		●
Catalyze and support future development/redevelopment				●		●
Improve the quality of life of area residents and create a sense of place	●			●	●	●

Table 3: Complete Streets Goals Compared to previous studies, continued

<i>Complete Streets Goals</i>	<i>University Heights Sector Plan</i>	<i>University of New Mexico Master Plan</i>	<i>Presbyterian Hospital Master Plan</i>	<i>Central Avenue Corridor BRT Feasibility Assessment</i>	<i>Albuquerque Comprehensive On-street Bicycle Plan (2000)</i>
Safety and multi-modal functionality	●	●		●	●
Increase options for pedestrians and transit users	●	●		●	●
Catalyze and support future development/redevelopment	●	●	●		
Improve the quality of life of area residents and create a sense of place	●		●		●

The Importance of Being Central Avenue



Current Studies

Route 66 Action Plan

Commissioned as part of the Mayor's "ABQ The Plan" project to explore public investments citywide, the Route 66 Action Plan aims to promote historic Route 66 as a tourist destination and create a 'sense of place' in Albuquerque. The plan has goals of preserving historical legacy, placemaking, economic investment and tourism. This is done in the physical environment along the corridor via numerous action items. The plan specifically calls for maintaining a quality level of service for all users and incorporating "a strong network of pedestrian and bicycle improvements to support diverse transportation choices" which would include the "development of a Bus Rapid Transit system (BRT) along Central Avenue." Any pedestrian wayfinding or infrastructure should reinforce the Route 66 identity along Central Avenue yet develop a flexible streetscape palette that responds to individual neighborhood character and distinctiveness. To improve the pedestrian experience low

walls could be used "to frame the street edge and mask vacant lots and parking." In addition public art could be installed on orphan signs and blank sides of existing buildings. This would help to "establish a comprehensive series of gateways at significant points along Route 66, introducing activity nodes, the crossroads, and key entry and exit points along the road." The overall goal would be to create constant development along the corridor and minimize development gaps along Central Avenue by establishing a façade improvement program for existing businesses and implement a streamlined approval process for development.

NMDOT Interstate Highway 25 Accessibility Study

The South IH-25 Access Study spans 12 miles from the Big I to the NM 47 (Broadway Boulevard) interchange. The primary objectives are to improve traffic flow and safety through additional capacity and better lane utilization. Focus is on lane management, lane additions, frontage roads, and ramp relocations and improvements. New and/or improvements to existing interchanges are also part of the study. The study will define the short term and long term needs.

ABQ Ride – Central Avenue Bus Rapid Transit (BRT) Study

Led by the City's Transit Department (ABQ Ride), this study builds on the aforementioned 2011 Feasibility Assessment and aims to address the feasibility of a Bus Rapid Transit system along much of Central Avenue within city limits. Such a system would employ pre-board payment, dedicated facilities (where possible) and signal prioritization to enable service speeds rivaling conventional motor vehicle travel. The study has involved several rounds of public meetings to solicit input on station locations, alignment of transit-only lanes in the right-of-way where space allows, and other characteristics. Depending on the availability of federal and other funding, ABQ Ride envisions having such a service up and running within five years, replacing some of the existing Rapid Ride express bus system. ABQ Ride has coordinated closely with the Central Avenue: 1st to Girard Boulevard Complete Street project team as it considers this complex and narrow segment of the corridor.

UNM/CNM/Sunport BRT Study

The Mid-Region Council of Governments (MRCOG) is studying route alternatives for a proposed Bus Rapid Transit system running between the University of New Mexico, Central New Mexico Community College and the Albuquerque Sunport. This project’s study area constitutes the largest activity center in the city, attracting an estimated 74,000 students and employees daily. MRCOG hopes to show potential BRT routes that would connect those visitors to biking and walking facilities, as well as proposed new enhanced east-west transit services on Central Avenue and other local and regional transit systems. As of late 2013, the study had narrowed the potential routes down to two alternatives: University Boulevard and Yale Boulevard..

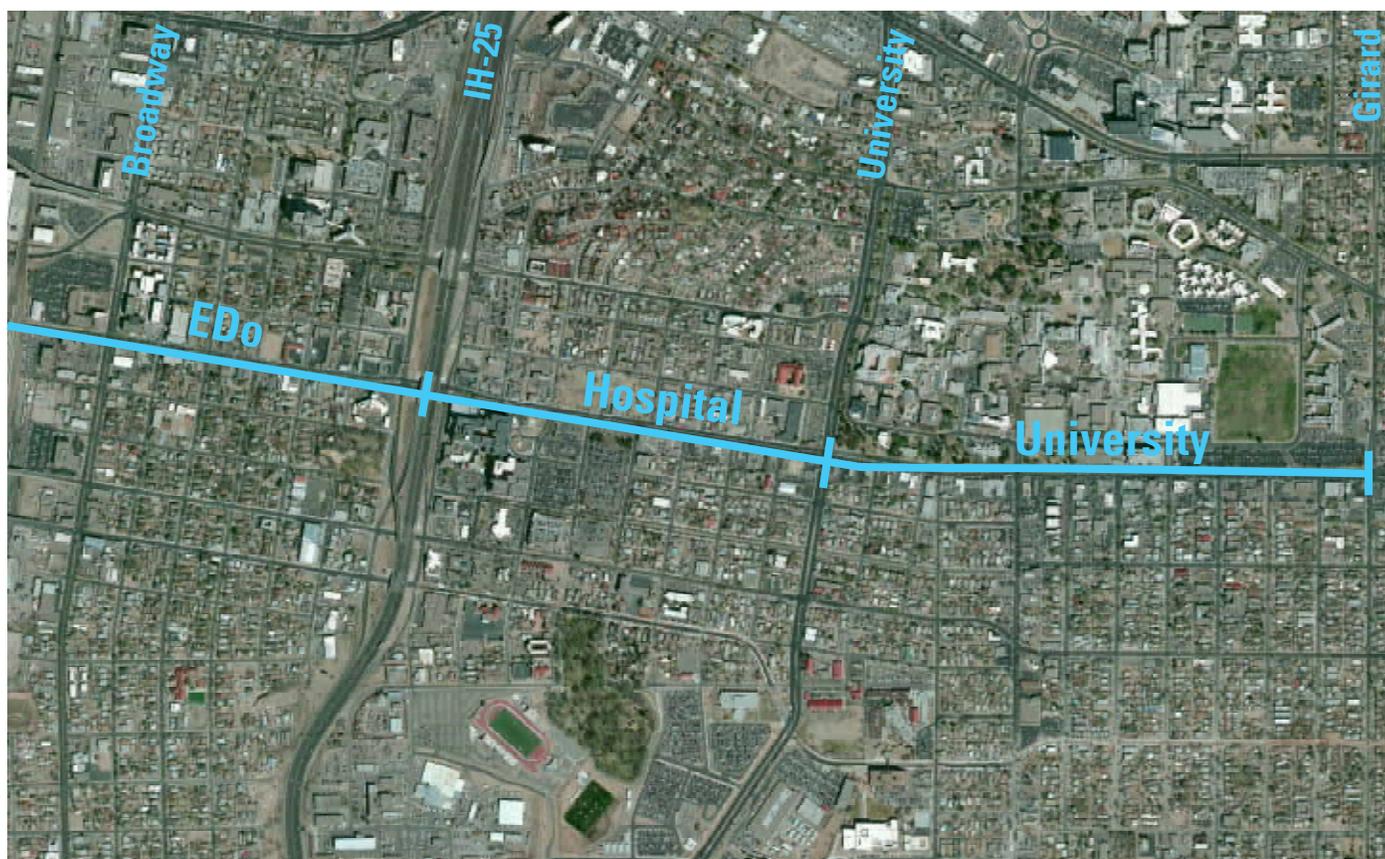


Project Study Area, MRCOG North/South BRT Study

Table 4: Complete Streets Goals Compared to Current Studies				
<i>Complete Streets Goals</i>	<i>I-25 Access Study</i>	<i>MRCOG North/South BRT Study</i>	<i>ABQ Ride Central Avenue BRT Study</i>	<i>ABQ The Plan/ Route 66 Plan</i>
Safety and multi-modal functionality	●	●	●	●
Increase options for pedestrians and transit users	●	●	●	
Catalyze and support future development/redevelopment		●		●
Improve the quality of life of area residents and create a sense of place		●	●	●

Existing Conditions Assessment

Existing Conditions Assessment



Study Area Map

The Location

The study area for the Central Avenue Complete Street Plan and Design Toolkit is divided into three distinct sub areas, each with its own unique character. The westernmost sub area is East Downtown (EDo) from First Street to I-25. The central section is the Hospital area near Presbyterian Hospital from I-25 to University Boulevard. The eastern segment abuts the southern edge of the main campus of the University of New Mexico, from University Boulevard to Girard Boulevard. Each of these areas is adjacent to established historic neighborhoods with respective sector plans and neighborhood plans.

This study does not propose changes to the existing single-family residential cores of these neighborhoods. However, where they are not already governed by Sector Development Plans or other regulations, it will reflect on appropriate transitions between future new development and redevelopment, both residential and commercial, along the Central Avenue corridor and established residential areas.

Existing Conditions Assessment

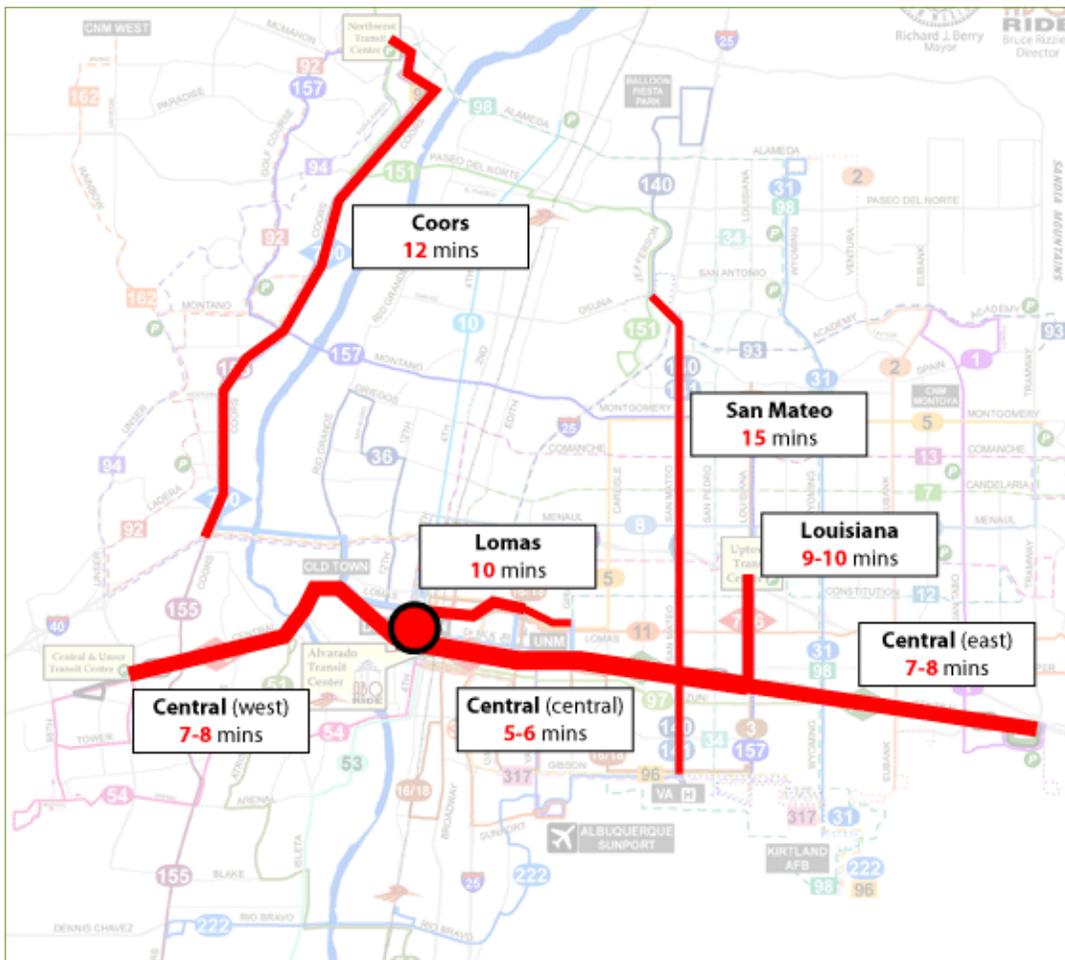
Traffic Conditions

Central is the primary connection between many of the City’s busiest neighborhoods and activity centers. Generally traffic volumes increase from west to east, approaching UNM. Traffic volume is added to Central Avenue from I-25 and the major north south connectors like Broadway Boulevard, University Boulevard and Yale Boulevard.

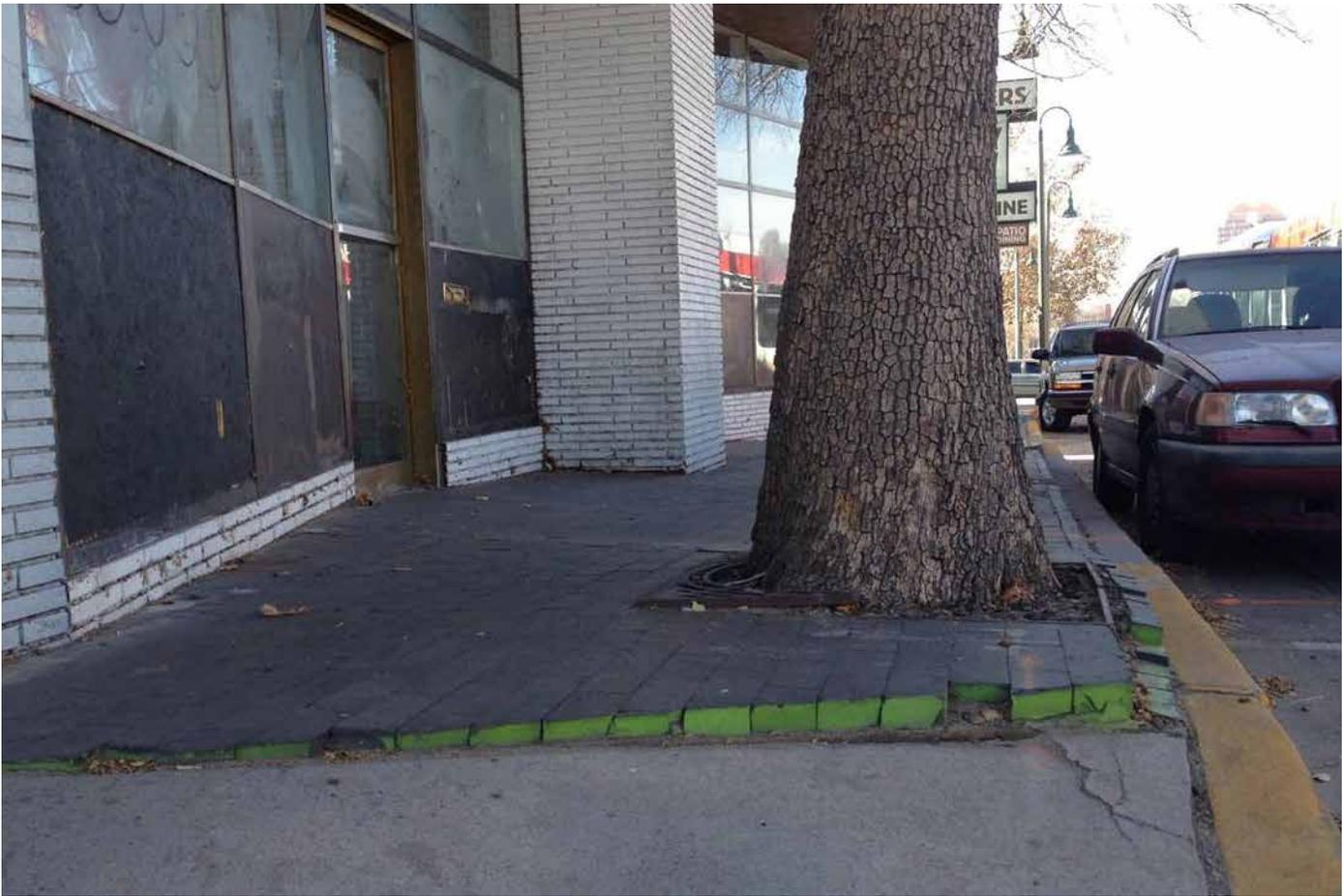
Transit Conditions

The Central Avenue corridor is one of the primary transit corridors in the city, serving in excess of 40% of the total daily boardings system-wide. Services affecting the 1st Street to Girard Boulevard study area include several Rapid Ride articulated express bus routes serving stops located approximately one mile apart, as well as the local “66” bus, which serves stops located approximately every two blocks.

<i>Transit Stop</i>	<i>Daily Boardings and Alightings</i>
1st (Across from A.T.C)	4,389
Yale	1,951
Cornell	1,927
Edith	549
University	468
Girard	440
Cedar	373
Broadway	318
Mulberry	313



Transit Corridor s with peak service intervals of 15 minutes or less



Pedestrian Conditions

Despite Central Avenue's importance to patrons of transit and the growing number of small shops and businesses that abut it in the study area, pedestrians are poorly served by narrow and damaged sidewalks, excessive block lengths and unprotected crossings.

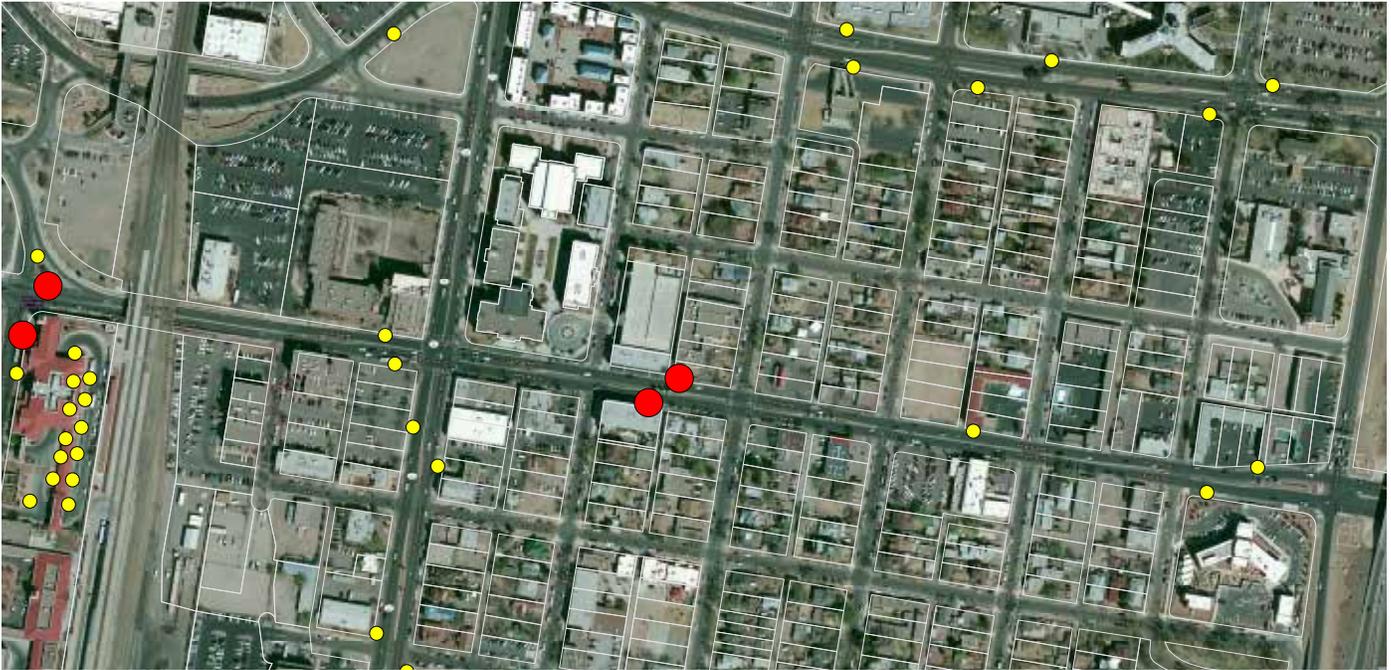
Within the study area, there were 77 Vehicle collisions with pedestrians between 2000 and 2011. Predictably, the locations where five or more crashes occurred are all located in the UNM district, where pedestrian and vehicle traffic are the highest and the crossing distances are the widest at up to 82 feet.

High numbers of accidents occurred near Central Avenue's intersection with Girard Boulevard (8), Cornell Drive (6), Harvard Drive (6) and Yale Boulevard (12) with fatalities occurring at Oak Street and Yale Boulevard.

Existing Conditions Assessment

Bicycle and Pedestrian Crash Hot Spots (2000-2011)

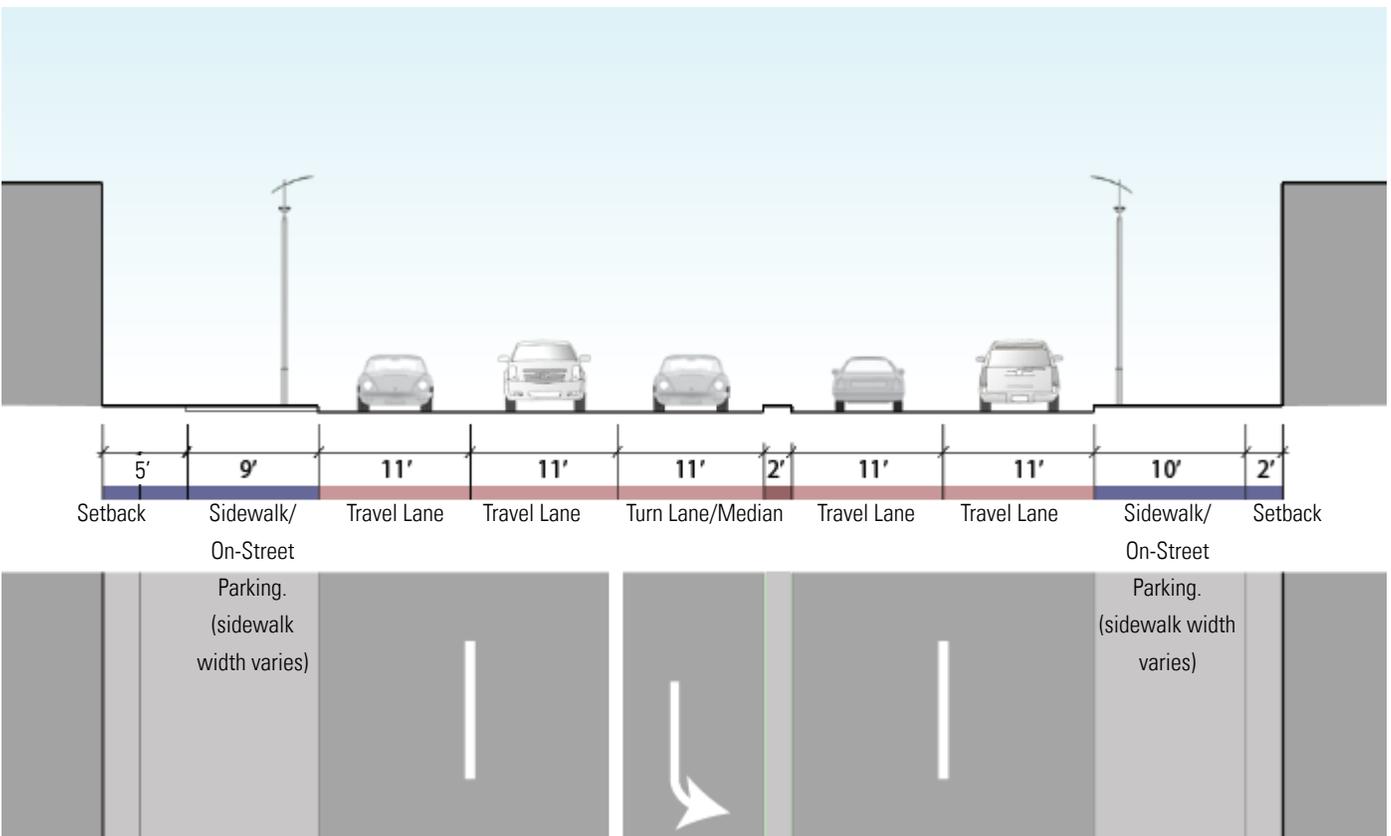




EDo Sub Area Existing Aerial Map showing lot arrangement and transit stops.

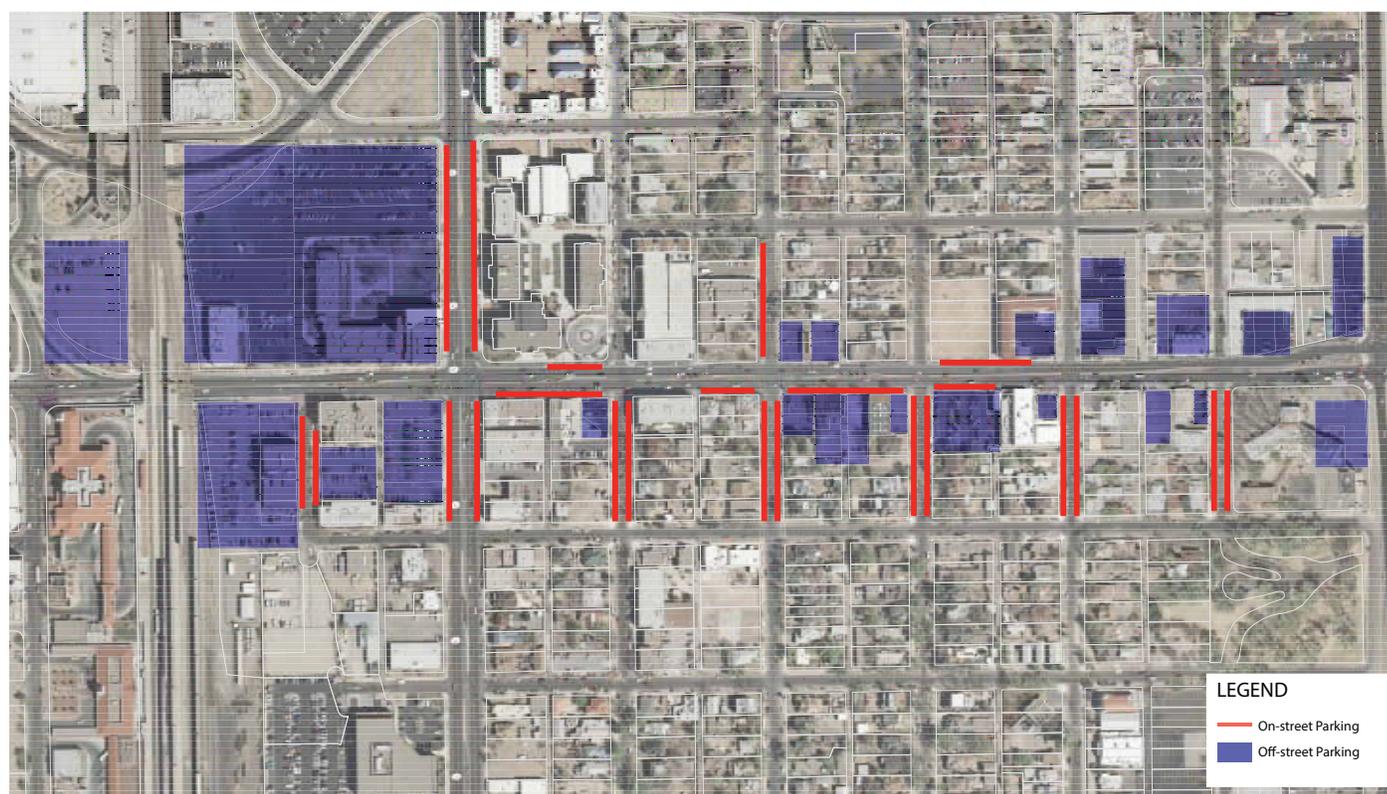
● = Rapid Ride

● = Rt. 66 Local



EDo Sub Area representative cross section of Central Avenue showing typical conditions (looking West)

Existing Conditions Assessment



EDo Sub Area Existing Parking Map highlighting on-street and off-street surface parking

EDo Sub Area – First Street to I-25

EDo (East Downtown) is defined by the section of Central Avenue that runs from First Street to I-25. The EDo corridor bisects the historic residential neighborhoods of the Huning Highland Addition. Development along the corridor is regulated by both the EDo Urban Conservation Overlay Zone (UCOZ) Regulating Plan and the Huning Highland Sector Development Plan, which was updated in 2005 to reflect new neighborhood visions for the Central Avenue corridor. This stretch of Central Avenue is a mixture of retail, multifamily, restaurant and hotel uses.

Central Avenue in this area covers a distance of approximately 0.6 miles and includes undercrossings of Interstate 25 and the New Mexico Rail Runner Express tracks. The roadway is 66 feet of paving from curb to curb, including the raised median. The existing cross section varies with intermittent on-street parking, (where on-street parking exists, it reduces sidewalk width) raised medians and turn lanes, while consistently maintaining two driving lanes in each direction.

The building form and range of uses along this section of Central Avenue leads to a moderate level of transit and pedestrian use. New private infill development and improvements to the public realm could help increase pedestrian traffic and use of other modes of transportation.

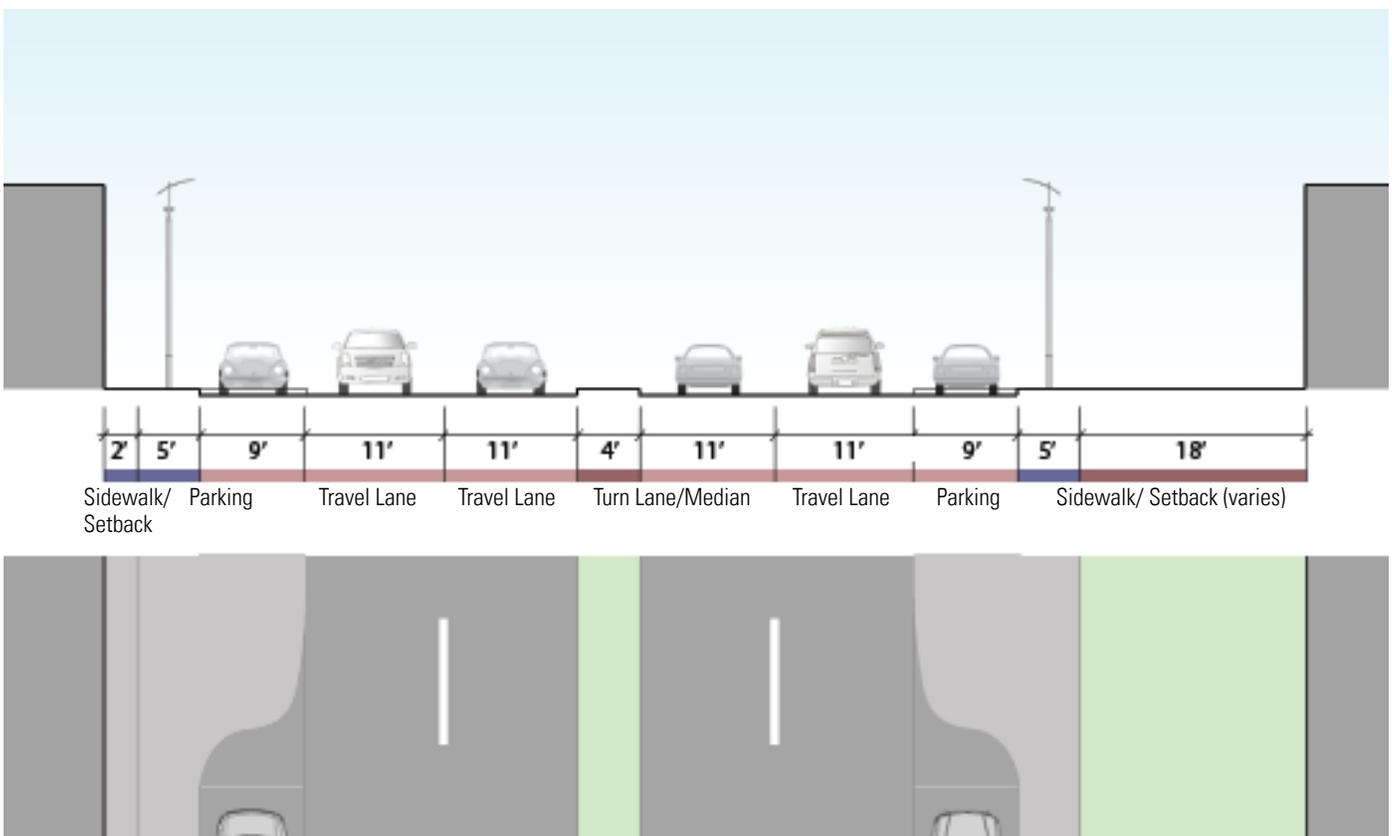
General condition assessment:

- Lacking street trees, or existing trees too obstructive
- Poor pedestrian underpass at rail crossing
- Minimal approved pedestrian crossings and narrow curbed medians do not provide refuge for crossing.
- Narrow sidewalks along corridor, particularly along the southern side of Central Avenue, where the clear distance of the sidewalk can be as narrow as 4 feet. Some improved areas are accommodating sidewalks up to 10 feet wide.
- A portion of the sidewalks are in the private property setbacks.
- Too few on-street parking on Central Avenue, where retail establishments are fronting. On-street parking is abundant on side streets, but generally are fronted by residential and not the ideal arrangement for supporting retail on Central Avenue as primary parking locations.
- No wayfinding or district identifiers within the right-of-way
- No bike lanes along Central Avenue
- Insufficient lighting under I-25 overpass



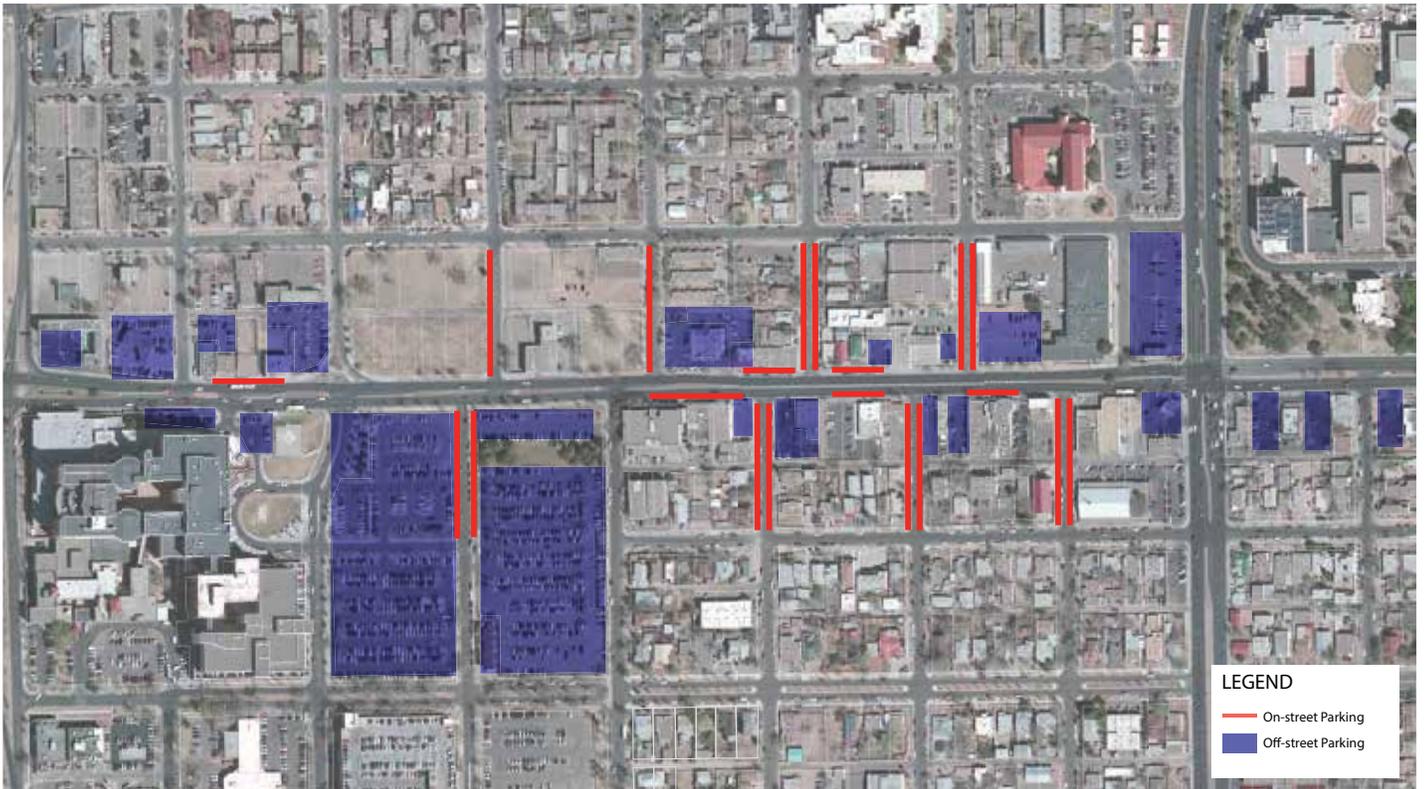
Hospital Sub Area Existing Aerial Map showing lot arrangement and transit stops

● = Rapid Ride ● = Rt. 66 Local



Hospital Sub Area representative cross section of Central Avenue showing typical conditions (looking East)

Existing Conditions Assessment



Hospital Sub Area Existing Parking Map highlighting on-street and off-street surface parking

Hospital Sub Area – I-25 to University

Though some sidewalk improvements have been made in recent years, the current streetscape on the 0.6-mile segment of Central Avenue from I-25 to University generally favors automobile travel. The western end of this segment is characterized by a large hospital and its surface and structured parking to the south and unused structures and vacant lots to the north, leaving pedestrians somewhat exposed on sidewalks. Development at the eastern end of this segment contains numerous restaurants and retail establishments that create more of a sense of “enclosure” along the street. Closed medians designed to keep traffic moving at the east end of the segment invite speeding and make it difficult for pedestrians to cross Central.

General condition assessment:

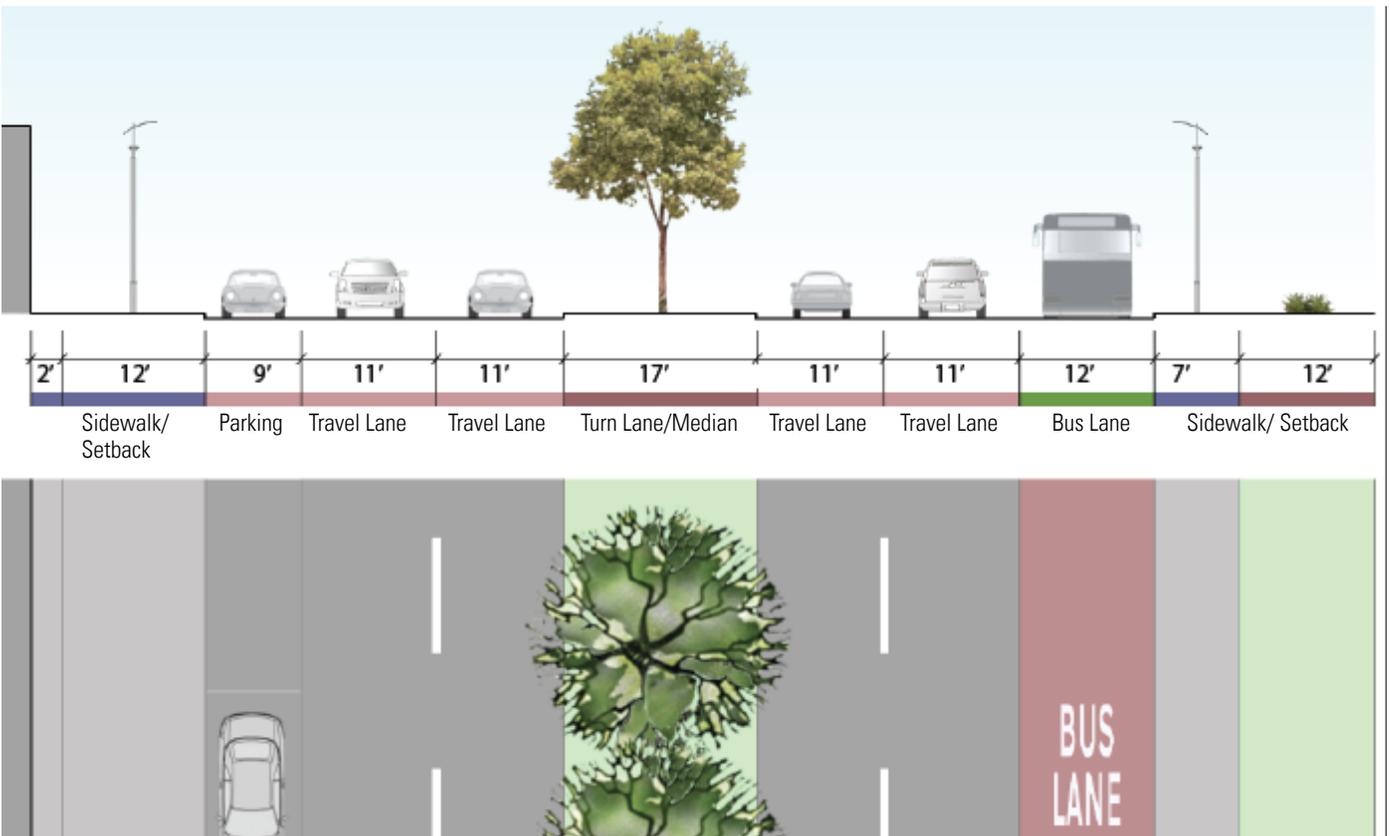
- Narrow sidewalks near hospital
- A portion of the sidewalks are in the private property setbacks.
- Lack of pedestrian crossings and intersections allows cars to speed; no median for pedestrian refuge.
- Lacking street trees, or existing trees too obstructive
- Insufficient lighting under I-25 overpass
- No bike lanes along Central Avenue
- No wayfinding or district identifiers within the right-of-way
- Too few on-street parking on Central Avenue, where retail establishments are fronting. On-street parking is abundant on side streets and not the ideal arrangement for supporting retail on Central Avenue as primary parking locations.



University Sub Area Existing Aerial Map showing lot arrangement and transit stops

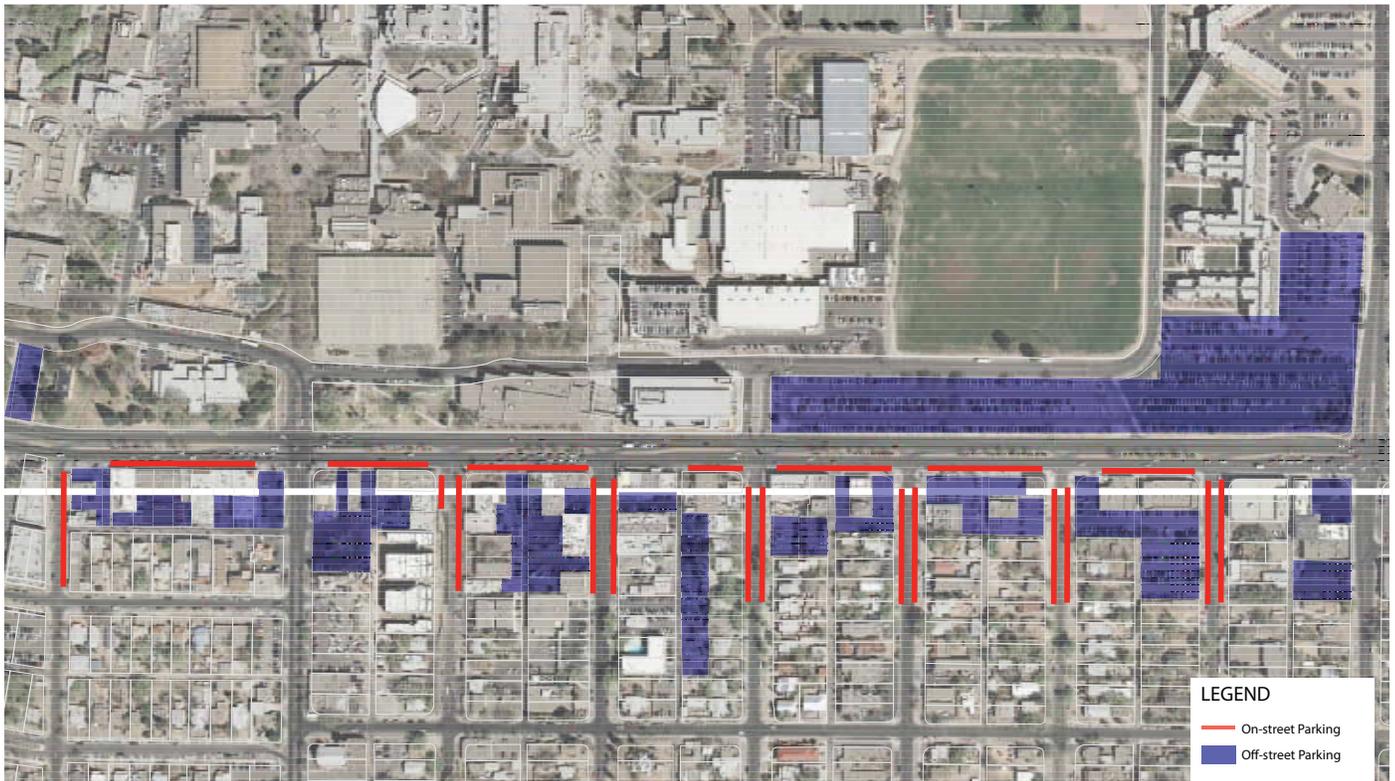
● = Rapid Ride

● = Rt. 66 Local



University Sub Area representative cross section of Central Avenue showing typical conditions (looking west; note that the 12' setback on the north side of the street is measured from building line to inner edge of the 7' public sidewalk ROW)

Existing Conditions Assessment



University Sub Area Existing Parking Map highlighting on-street and off-street parking

University Sub Area – University to Girard Boulevard

Central Avenue from University to Girard covers a distance of approximately 0.8 miles. The roadway is 82' wide from curb to curb, and features include a wide landscaped median with left turn pockets, and two driving lanes in each direction. Additionally, the eastbound side has curbside on-street parking and the westbound side, fronting on the University of New Mexico campus, has a curbside transit-only lane.

General condition assessment:

- Limited signalized intersections make pedestrian crossing difficult and encourage vehicle speeding
- A portion of the sidewalks are in the private property setbacks.
- Lacking street trees or existing trees too obstructive
- No bike lanes along Central Avenue
- No wayfinding or district identifiers within the right-of-way
- Too few on-street parking spaces on Central Avenue
- Utility poles, trashcans, etc in the sidewalk
- Dangerous pedestrian crossings at Yale Boulevard, Cornell Drive and Stanford Drive

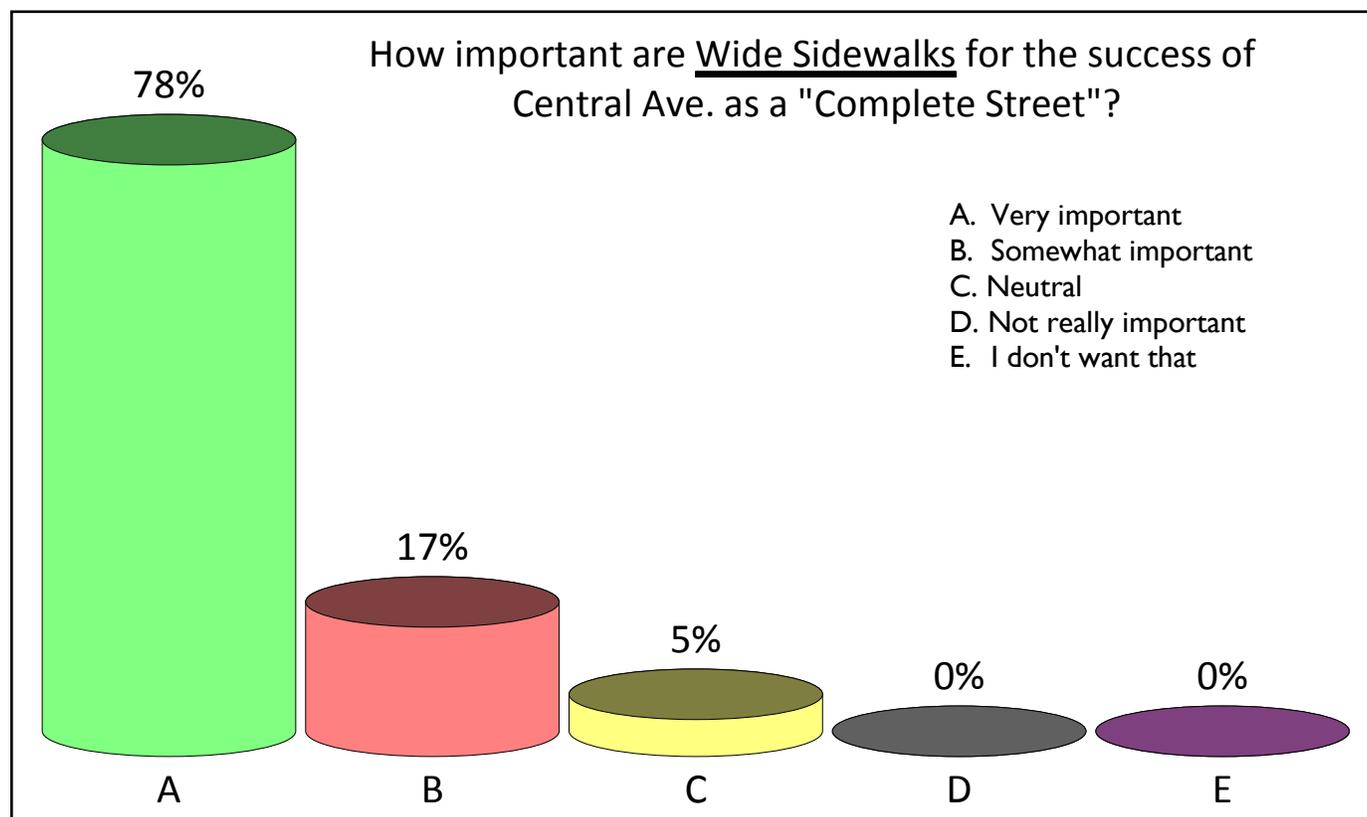
Public Input and Workshop

A public meeting and workshop were held in February 2013. The meeting began with a presentation on "Complete Streets" and the context-sensitive elements that apply to complete streets in general. After the "Complete Streets" informative presentation an "Existing Conditions" presentation on Central Avenue, specific to the study area was given.

Following the "Existing Conditions" Presentation, a non-scientific poll was conducted using a real-time audience response system. Questions were asked in four sets, beginning with two practice questions followed by demographic questions asking what neighborhood people lived in and what their primary mode of transportation was. The Third section asked what elements were important for Central Avenue to be successful as a "Complete Street."

A complete public participation report showing questions asked and audience response is included as Appendix A of this document.

In addition, three tables were set out with maps of each segment. Small groups broke out to mark or comment on the existing conditions of Central Avenue in their segment.





Public Comments (unedited)

1st to I-25

- Add Street Trees
- Renovate Pedestrian underpass at rail crossing
- Add striped crosswalks at un-signalized intersections
- Widen sidewalks along corridor
- Add roundabout at Central and Broadway
- Replace travel lane with on-street parking along most of corridor
- Add "yield to pedestrian" signs
- Add entry feature in median at I-25 and Central
- Change street to being one lane in each direction with center turn lane, widened sidewalk and add bike lanes
- Improve street lights to be similar to those in Nob Hill (in keeping with Historic Character)
- Improve lighting under I-25 overpass

IH25 to University

- Widen sidewalks near hospital
- Add left turns to section between Maple and Pine
- Respect Neighborhood plans for Central
- This is the forgotten section of Central
- Lack of intersections and left turns causes cars to speed

- Tie Sycamore St. into the street grid and add a signal
- Public doesn't always agree with mentality of road engineers. Need to be able to translate desire of public to city officials
- Make sure changes to Central do not impact historic areas near Central

University Boulevard to Girard Boulevard

- Sidewalk between University and Terrace Street contains power poles, trashcans, etc. in the pedestrian walk zone which results in an unsafe pedestrian environment.
- Add pedestrian refuge at Yale crossing
- Add striped crossing at Yale
- Add striped crossing at Harvard, Cornell and Stanford
- Restore grid by connecting Princeton through UNM surface parking lot to Redondo Dr.
- Add raised pedestrian table across Central between Columbia and Princeton
- Add striped crossing at Central Avenue and Girard Boulevard
- Buses are too close to the sidewalk (Widen sidewalk)
- Convert Silver into bus/ bike corridor
- Mass transit on Central corridor is good
- Improve midblock crossing on Harvard
- Add bike lanes to Central Avenue

Proposed Sub Area Improvements

Kind comments on part of this concept in Virginia at infocapita.org

Walking -- Levels of Quality

Created by:
Walkable Communities
www.walkable.org

	A	B	C	D	E	F
Sidewalks						
Main Streets						
Local Streets						
Avenue/Boulevard						
Crossings						

Dan Burden (2003)

Proposed Sub Area Improvements

Preface to the Analysis

What is Level of Service?

[Excerpted from the TDM Encyclopedia, Victoria Transport Policy Institute, <http://www.vtpi.org/tdm/tdm129.htm>]

Level of Service refers to the speed, convenience, comfort and security of transportation facilities and services as experienced by users. Level-Of-Service (LOS) ratings, typically from A (best) to F (worst), are widely used in transport planning to evaluate problems and potential solutions. Because they are easy to understand (they are similar to the schools grades), Level-Of-Service rating often influence transport planning decisions. Such ratings systems can be used to identify problems, establish performance indicators and targets, evaluate potential solutions, compare locations, and track trends.

Current planning tends to evaluate transportation system performance based primarily on motor vehicle traffic speed and delay. Transportation engineers often produce maps showing roadway links and intersections considered to have excess traffic congestion (Level-of-Service rating D or worse), which is used to prioritize roadway expansion projects. This methodology is criticized as being technically flawed and biased because it ignores the following:

- Other transportation problems besides traffic congestion, such as parking congestion, traffic accidents, increased consumer costs from automobile-dependent transportation systems, inadequate mobility for non-drivers, excessive energy consumption, pollution emissions and inadequate physical fitness and health.
- The tendency of increased vehicle traffic volumes and speeds to increase problems such as traffic accidents, pollution emissions and sprawl.
- Negative impacts that wider roads and increased vehicle traffic speeds tend to have on walking and cycling travel. (Cortright 2010)

Multi-Modal Level of Service Indicators

This Complete Street Plan and Design Toolkit utilizes Multi-Modal Level of Service Indicators in its analysis. The development and use of Multi-Modal Level-of-Service Indicators is consistent with current trends toward more comprehensive and balanced transport planning that considers diverse modes and impacts (Cambridge Systematics 2010). Such indicators can help respond to users' preferences and expand the range of solutions that can be considered in transport planning. For example, travelers may sometimes be willing to accept lower speeds for increased convenience and comfort, and improvements to other modes besides roadway. Application of Multi-Modal Level-Of-Service standards supports infill development by allowing roadway LOS ratings to decline provided that LOS ratings for other modes such as walking or biking improve, thus creating more public tax base and private development potential.

The poster on the previous page shows one element — walking — of the Multi-Modal Level of Service Indicators. Where does your area of Central Avenue fall within the walkability analysis?

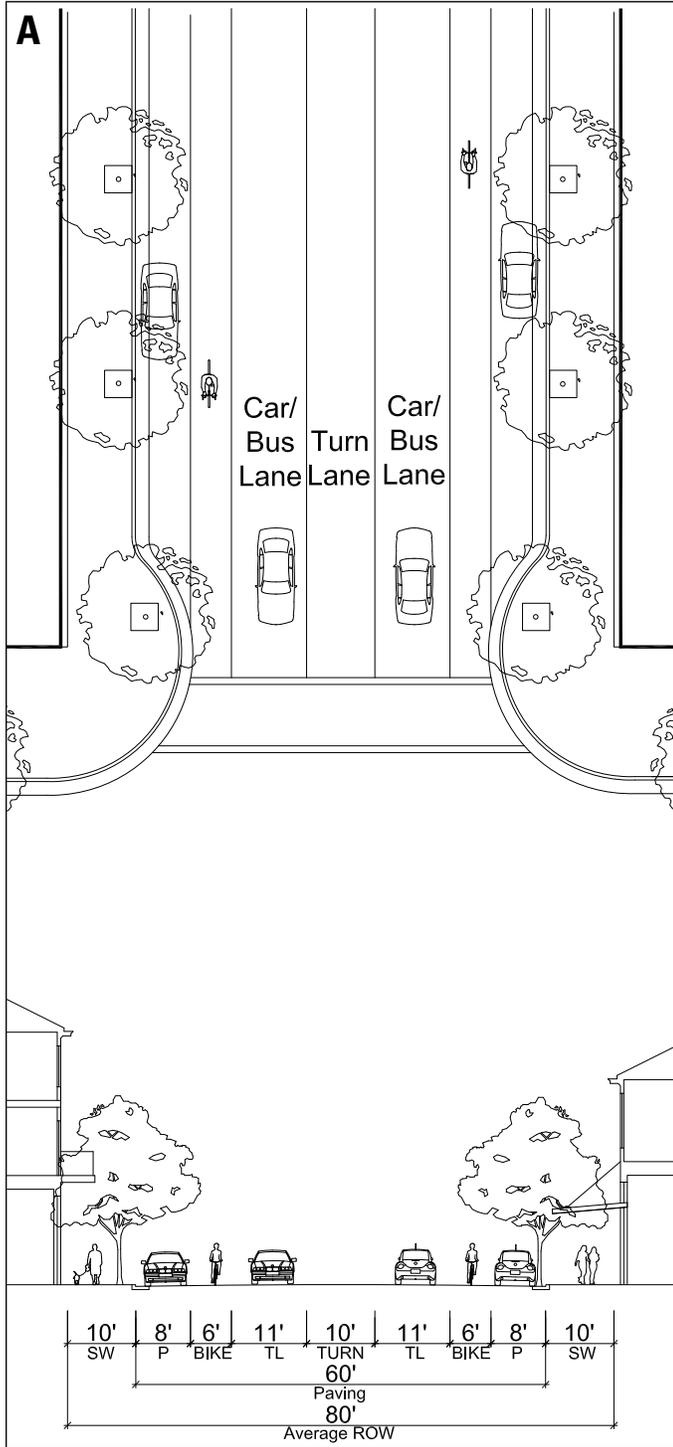
References

Dan Burden (2003), Level of Quality (LOQ) Guidelines, Walkable Communities (www.walkable.org/library.htm); at www.tjpc.org/transportation/walkability.asp. Shows graphically roadway design features that optimize pedestrian and cyclist access, safety and mobility, and transit station accessibility.

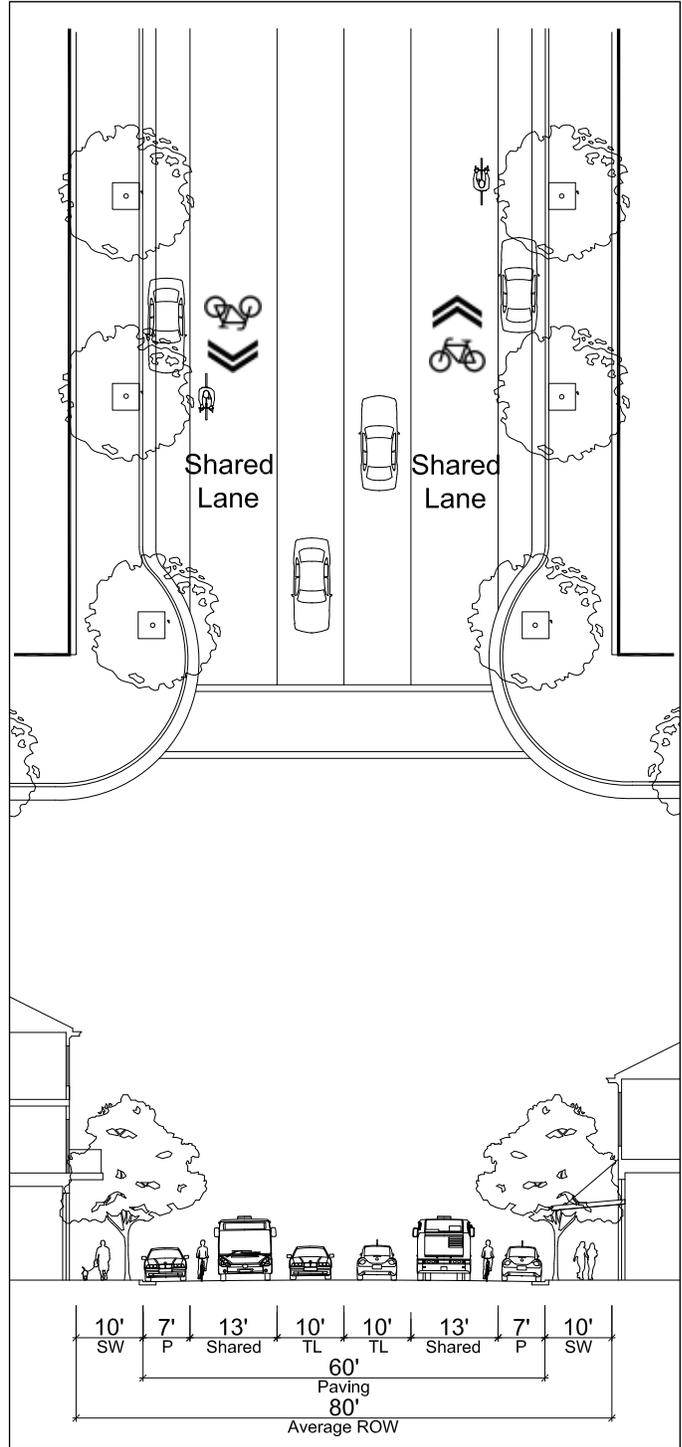
Cambridge Systematics (2010), Measuring Transportation Network Performance, NCHRP 664, TRB (www.trb.org); at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_664.pdf.

Joe Cortright (2010), Driven Apart: How Sprawl is Lengthening Our Commutes and Why Misleading Mobility Measures are Making Things Worse on Wednesday, CEOs for Cities (www.ceosforcities.org); at www.ceosforcities.org/work/driven-apart.

EDo Sub Area – Proposed Street Sections



EDo Sub Area Proposed 3-Lane Section with one (1) auto/transit through lane and bike lanes in each direction, with center turn lane



EDo Sub Area Proposed 4-Lane Section with one (1) auto through lane and one (1) shared BRT/bike through lane (with bike sharrow) in each direction

Proposed Sub Area Improvements

EDo Sub Area – Recommended Typical Sections

Improvements to the EDo Sub Area are constrained by the existing right-of-way and the existing development pattern. Due to the existing urban form and right-of-way constraints of this western segment, it will be difficult to design a “perfect alignment” that fully meets the needs of all modes of transportation.

For this section, we have therefore identified two potential conditions for complete street improvements that are both technically viable but which balance the needs of transportation modes in different ways, as described below

Three-Lane Section with Bike Lanes

This cross-section would provide one (1) Auto/Transit Through Lane and one (1) Bike Lane in each direction, along with a Center Turn Lane

This condition will:

- Provide more convenient and comfortable travel for bicyclist;
- Enhance transit operations by providing a dedicated boarding lane for transit vehicles. Transit vehicles and autos would continue to share the through lanes; and
- Maintain appropriate vehicle operations for this land use context, by preserving a center turn lane that helps keep an even traffic flow and throughput, but also keeps traffic speeds low due to frequent bus stops.

It is important to note that this proposed three-lane cross-section would be adequate to accommodate peak-hour vehicle volumes and average daily traffic (ADT). Maximum peak-hour capacity on a 3-lane segment is generally between 2,000 and 2,400 vehicles hourly. Currently traffic data shows AM peak travel on this segment of Central Ave. to be at 1,500 vehicles and PM peak travel at 1,900, both of which are well below the 2,000 to 2,400 vehicle capacity for a three lane segment.

PM peak-hour are typically about 8% to 10% of Daily volumes. For that reason, theoretical discussions of “daily” capacity are typically based on “peak hour times 10.” Therefore, the maximum capacity for a 3-lane segment (2-lane with center turn-lane) is generally between 20,000 and 24,000 vehicles per day. The precise capacity is a function of side-street volumes, signal settings and peak-hour turning movements, etc. This segment of Central Avenue, east of Broadway Boulevard and west of IH-25, has low side-street volumes, so the capacity per lane on Central Ave. will be on the higher end of the range due to fewer red-lights, vehicle turn outs, and other flow disruptions. The next page shows a 3-Lane section where a transit stop occurs along the EDo stretch.

Four-Lane Section with Shared BRT/Bike Through Lanes

This proposed cross-section would provide one Auto Through Lane in each direction and one Shared BRT/Bike Through Lane (with Bike Sharrow pavement markings) in each direction. This condition would allow a dedicated transit lane to be incorporated and allow a free-flow auto lane.

This proposed condition will:

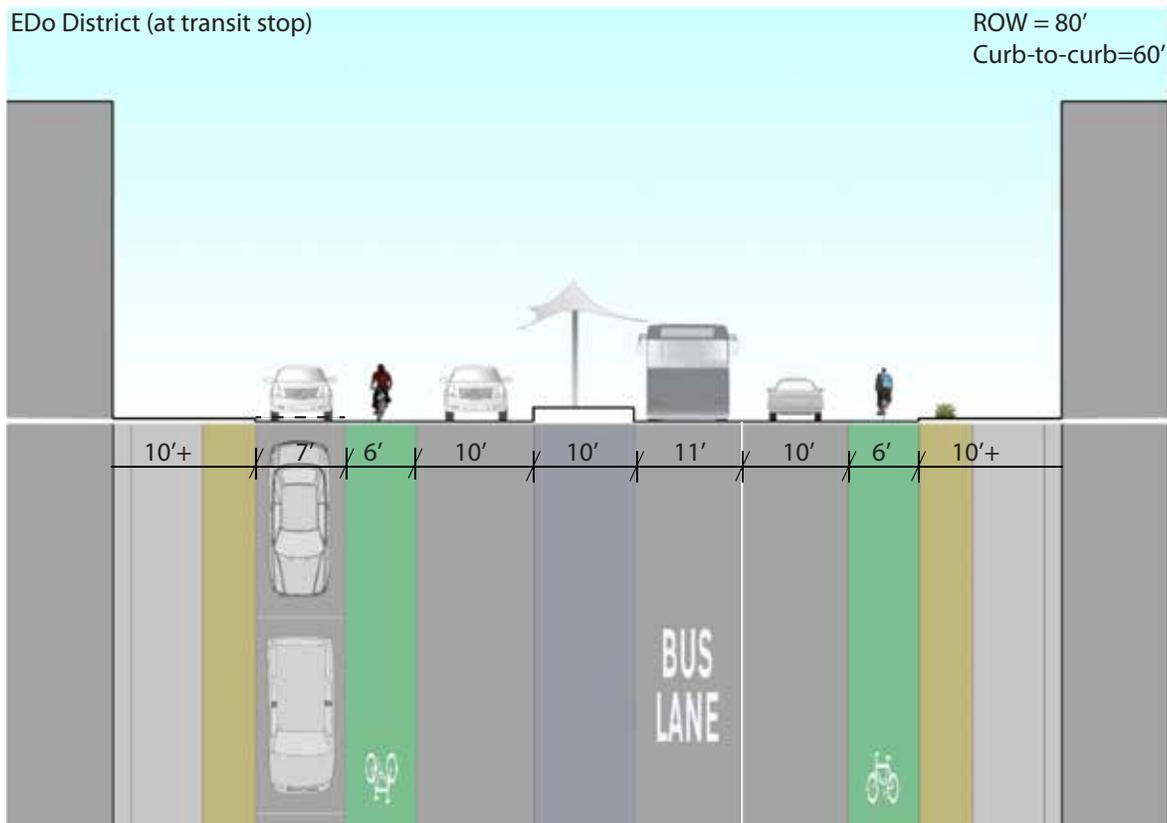
- Provide a lower level of comfort and convenience for bicyclists traveling along the corridor, because bikes would be sharing the same lane with buses, and modal conflicts could arise due to “leapfrogging” effect caused by speed differentials of these modes.
- Enhance transit operation by providing a dedicated transit lane. However it is unclear that a dedicated transit lane is needed in this segment due to low traffic volumes. A similar amount of travel-time savings for transit could potentially be achieved by re-timing signals along this segment to reduce signal time for cross-streets thereby reducing red time for buses on Central Ave.
- Likely reduce efficiency of vehicle operations, as the center turn lane would be removed. Left turns could either be prohibited, or if allowed to occur from the through travel lanes would certainly obstruct traffic flow.



Street improvement from other cities

EDo Sub Area – Key Moment Sections

B EDo District (at transit stop)



This diagram shows how stations for an enhanced transit system, such as Bus Rapid Transit, would be configured in the EDo segment if travel lanes were reduced to one in each direction.

Proposed Sub Area Improvements

EDo Sub Area – Proposed Improvements

The following recommendations are consistent with either of the typical sections provided on the previous pages. The map shows these recommendations along the EDo segment.

Sidewalks:

- Sidewalks must be improved for a safer pedestrian environment.
- Where sidewalks cannot be expanded, they should be repaired and leveled for general ADA compliance and a more comfortable experience for the general public.
- Sidewalks in EDo were replaced with brick pavers in the early 1990s. Where existing brick pavers are in use, they should be maintained in a state of good repair.
- Where sidewalks need to be repaired and capital or maintenance costs for brick pavers is cost prohibitive, stamped concrete with a pattern that resembles the existing brick pavers should be considered as a lower-maintenance, lower-cost alternative. While brick pavers are the preferred treatment from a placemaking and aesthetic standpoint, it is most important that sidewalks be brought up to a state of good repair to improve pedestrian connectivity and comfort for all sidewalk users and meet all applicable regulations for public rights of way.
- Bulb-outs on intersecting streets will allow pedestrians to be seen clearer, prior to stepping out into the travel lanes, improving vehicle sight distance.
- Crosswalks must be enhanced along this segment of Central Avenue to reduce modal conflicts and collision “hotspots”, at the locations shown on the improvements graphic on the preceding page.

Parking:

- On-Street parking must be expanded along Central Avenue to support retail that faces Central Avenue
- Due to the narrow right-of-way, it is recommended that parallel parking be used and not angled parking, except when the adjacent property is being redeveloped and set back from the parcel line to accommodate the necessary sidewalk clear distance
- Bulb-outs on intersecting streets will help identify parking or bus pull-outs and prevent drivers from turning into that area to make right turns, slowing traffic in the meantime

Public Transportation:

- Public transportation must share lanes with autos in order to efficiently integrate into the narrow EDo right-of-way
- Free right turns, such as the westbound turn at 1st Street, is not supportive of a complete street. This free right can be removed and the excess right-of-way can be used to develop the property at the corner and provide better pedestrian access to the parcel
- Stops for Rapid Ride or Local 66 bus service are recommended at Broadway Boulevard and High Street, stops should always be placed after the intersection, rather than before and should pull out into protected pull-in areas

Street Trees or Shade Structures:

- Street trees must be replaced with less obstructive species
- Where trees are not available or able to be maintained shade structures should be installed to shade pedestrians along Central Avenue
- Tree wells and grating should account for future growth of the tree and be able to be adjusted or the grating should be supplied with breakout panels to account for growth

Wayfinding and Identity:

- Wayfinding or district identifiers should be integrated within the right-of-way, especially at key moments, such as a bridge underpasses, entry into the sector, and public open space areas

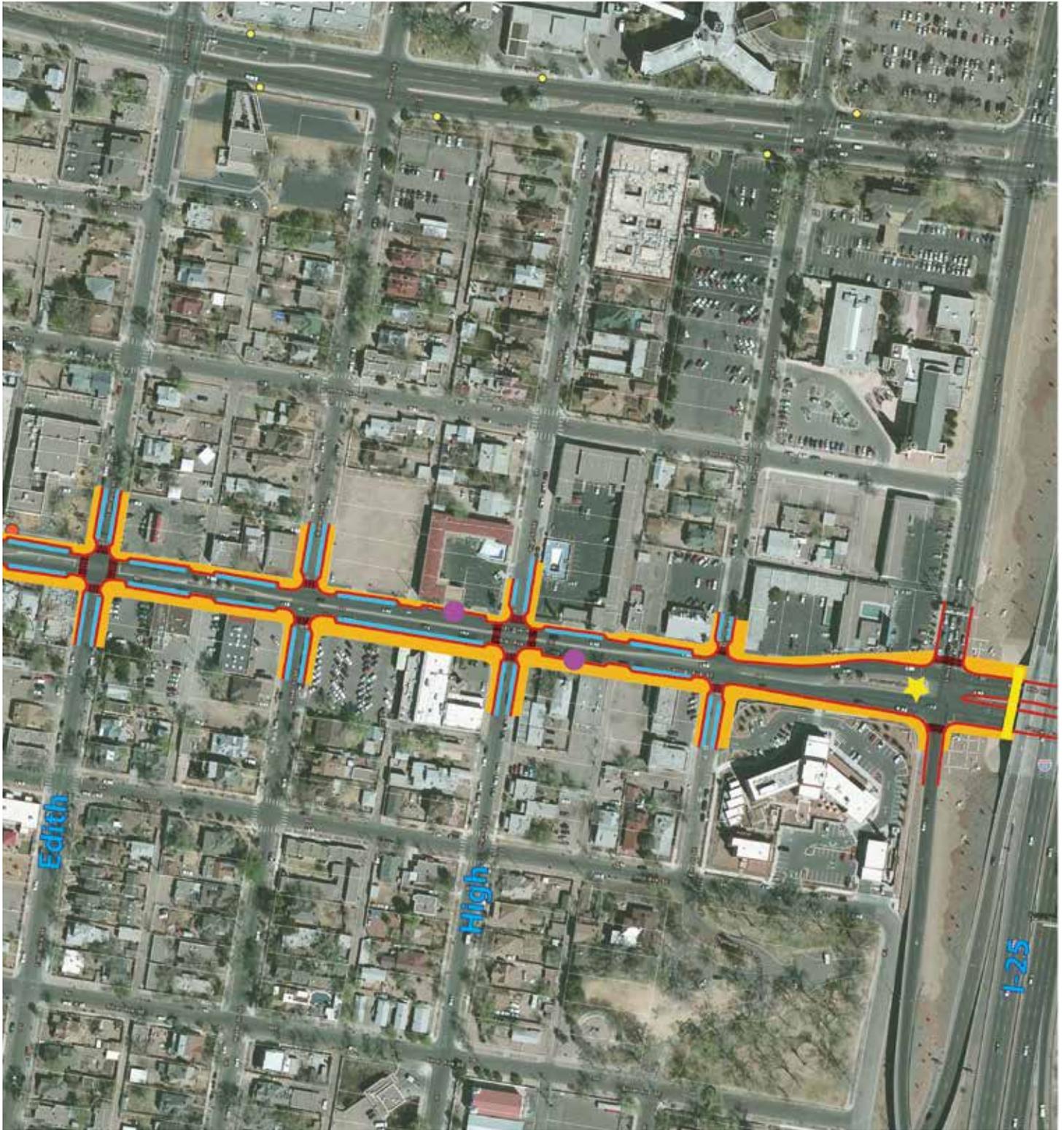
Bridge Underpasses:

- Lack of lighting and obstructions under the rail and IH-25 bridges must be addressed to encourage crossing from Downtown and the Hospital Area.

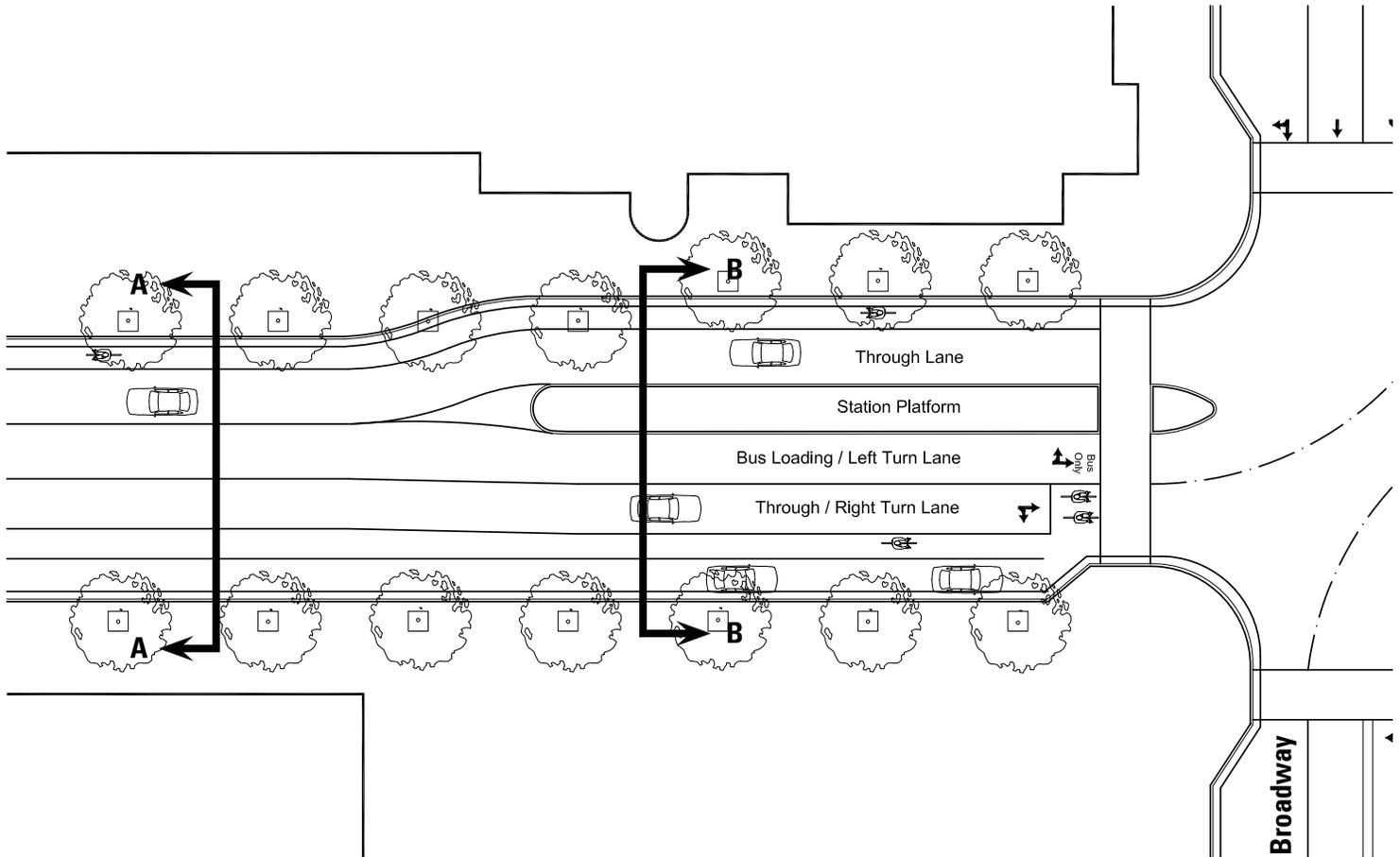


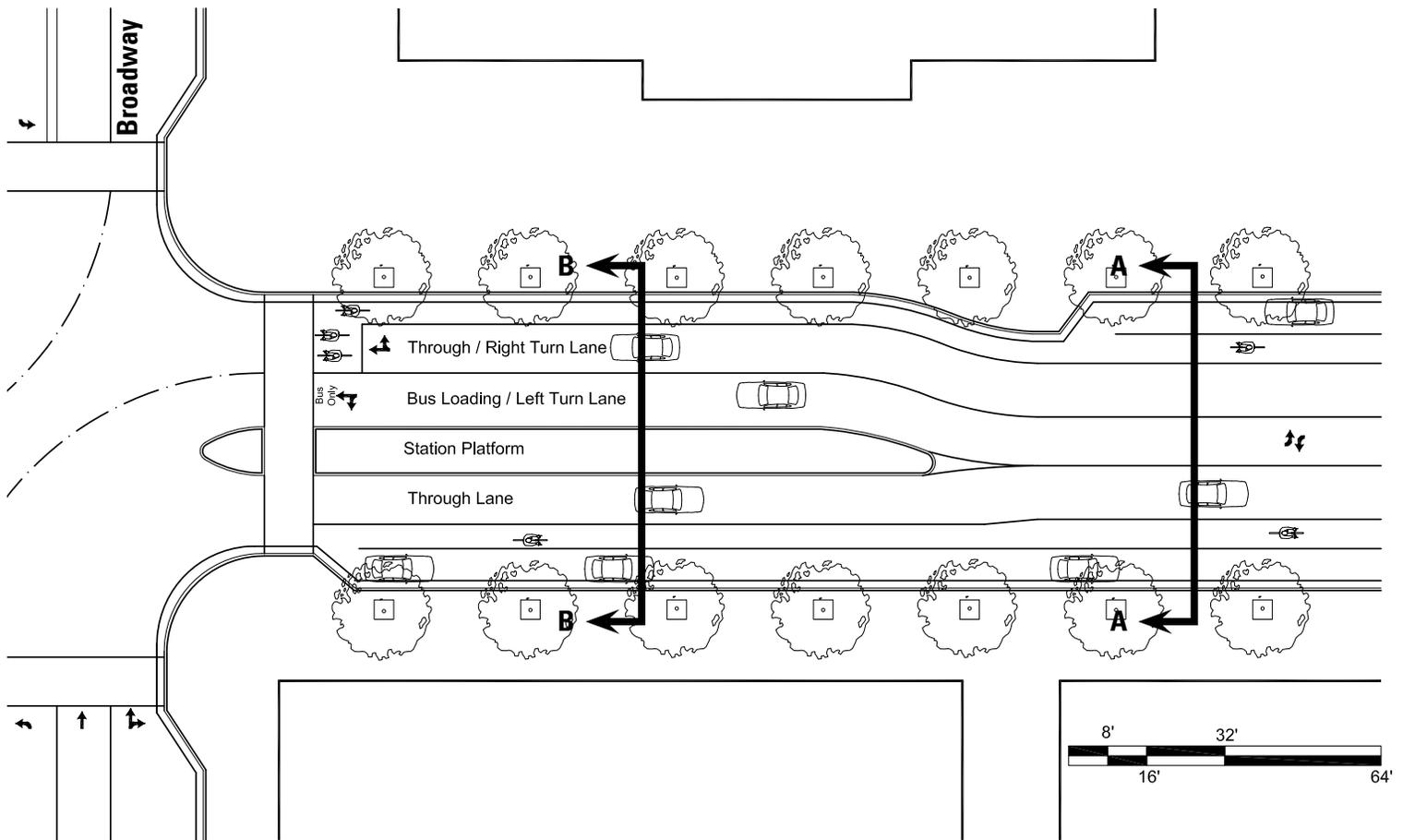
Edo Sub Area Proposed Street Improvements

Proposed Sub Area Improvements

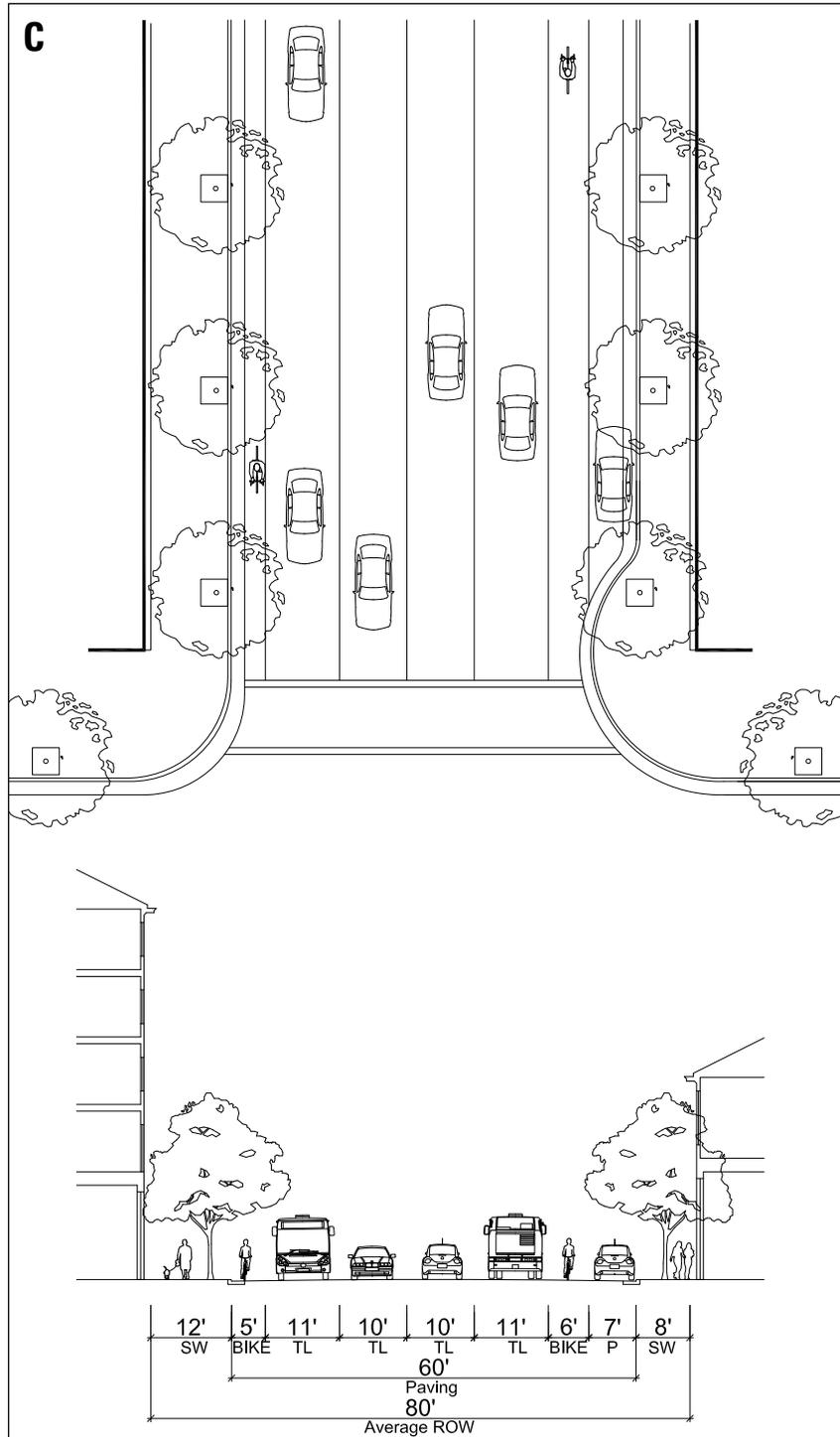


EDo Sub Area – Central Avenue and Broadway Intersection





Hospital Sub Area – Proposed Street Section



Hospital Sub Area Proposed

Proposed Sub Area Improvements

Hospital Sub Area – Recommended Typical Section

Improvements to the Hospital Sub Area are constrained by similar conditions to the EDo Sub Area with the existing right-of-way but the development pattern along Central Avenue remains largely undeveloped. A design involving all modes of transportation is possible in this area, but there are still limitations to the right-of-way and its capacity without increasing the current size.

For this section, we have identified one ideal condition for complete streets improvements:

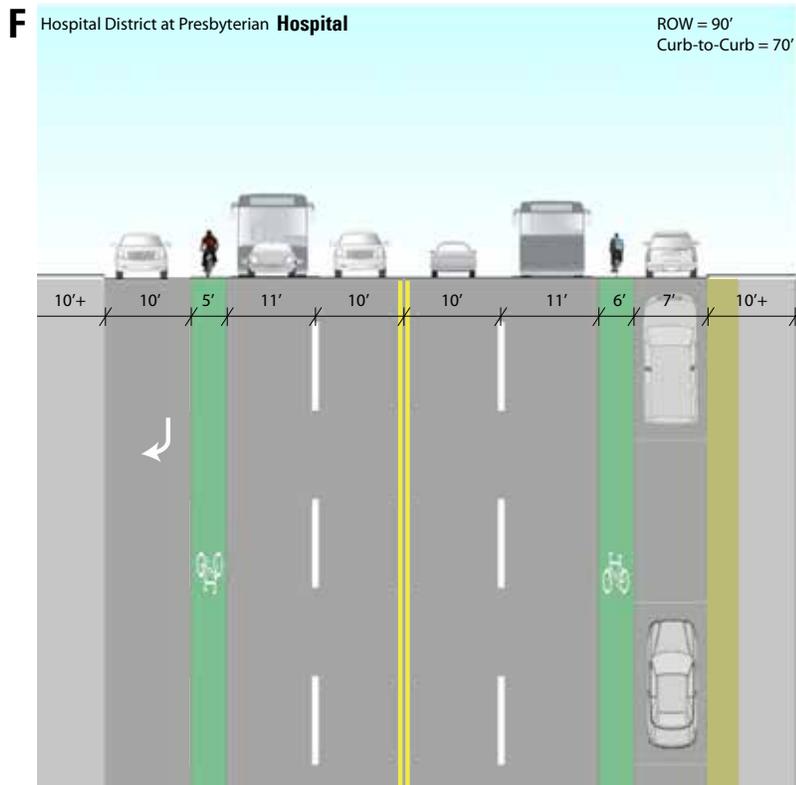
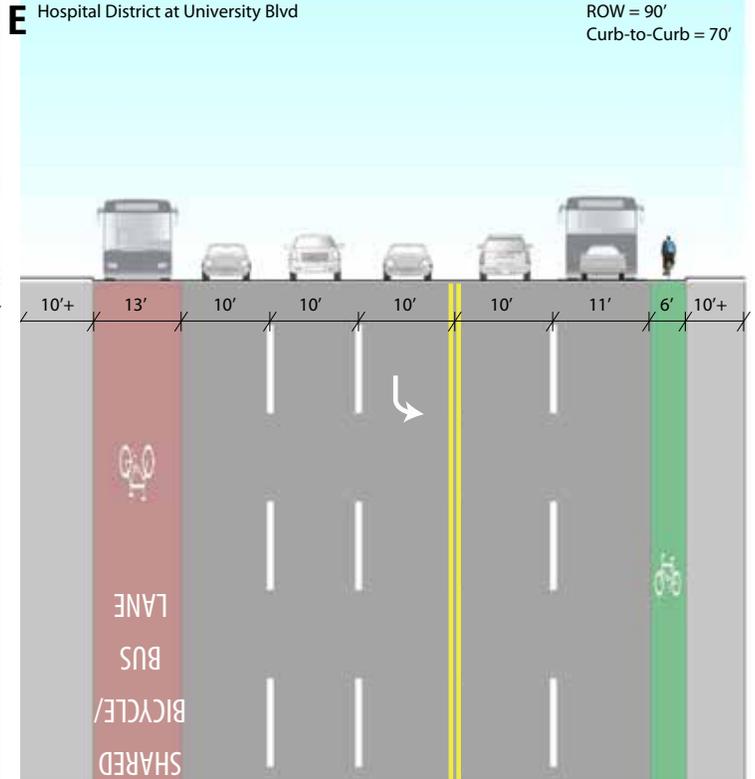
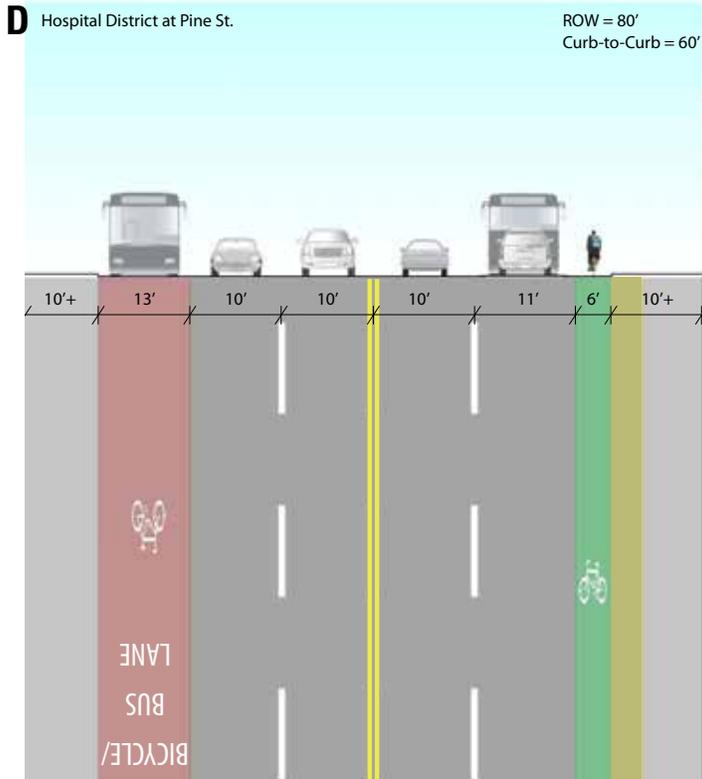
4-Lane Section with Bike Lanes

This condition will allow safe travel for bicyclists and allow transit to continue to share space with general traffic in lanes within the outer two provided travel lanes, while the interior lanes would be limited to just passenger. It would include parallel parking on the north side of the street, to assist existing and potential future retail by allowing on-street parking (when across from Presbyterian Hospital) and allow for parking on both sides, where possible otherwise. In addition, travel lanes have reduced widths to provide the necessary space for the additional modal activities.



Improvement samples from other cities

Hospital Sub Area – Key Moment Sections



Proposed Sub Area Improvements

Hospital Sub Area – Proposed Improvements

The following recommendations are consistent with any of the key moment sections shown on the previous pages. The map shows these recommendations along the Hospital segment.

Sidewalks:

- Sidewalks must be improved for an easier walk
- Where sidewalks cannot be expanded, they should be repaired and leveled for general ADA compliance and an easier walk for the general public
- Stamped concrete is less expensive than brick pavers and can be stained and textured to resemble pavers. They also require less maintenance and are easier to replace when underground maintenance needs to be performed. As discussed above in the EDo section, existing brick pavers should be maintained wherever it is not cost-prohibitive to do so. However, stamped pavement should be considered if the capital and maintenance cost of brick pavers is ever barrier to replacing failed sidewalk sections and/or maintaining all sidewalks in a state of good repair.
- Bulb-outs at intersecting streets will allow pedestrians to be seen clearer, prior to stepping out into the travel lanes, improving vehicle sight distance
- Crosswalks must be enhanced along this segment of Central Avenue to improve connections across and between neighborhoods, at the locations shown on the improvements graphic on the preceding page

Parking:

- On-Street parking must be expanded along Central Avenue at key points to support retail that faces Central Avenue
- Due to the narrow right-of-way, it is recommended that parallel parking be used and not angled parking, except when the adjacent property is being redeveloped and set back from the parcel line to accommodate the necessary sidewalk clear distance
- Bulb-outs on intersecting streets will help identify parking or bus pull-outs and prevent drivers from turning into that area to make right turns, slowing traffic in the meantime
- Off-street parking should be screened with a low wall or vegetative screen to reduce the impact of unsightly parking fields

Public Transportation:

- Public transportation must share lanes with autos in order to efficiently integrate into the narrow right-of-way
- Stops for Rapid Ride or Local 66 bus service are recommended

at Presbyterian Hospital, Sycamore and University, stops should always be placed after the intersection, rather than before and should pull out into protected pull-in areas

Street Trees or Shade Structures:

- Street trees must be replaced with less obstructive species
- Where trees are not available or able to be maintained shade structures should be installed to shade pedestrians along Central Avenue
- Tree wells and grating should account for future growth of the tree and be able to be adjusted or the grating should be supplied with breakout panels to account for growth
- Spacing of trees or shade structures should correspond to entry and display windows of adjacent buildings so they will not block views of shop windows

Wayfinding and Identity:

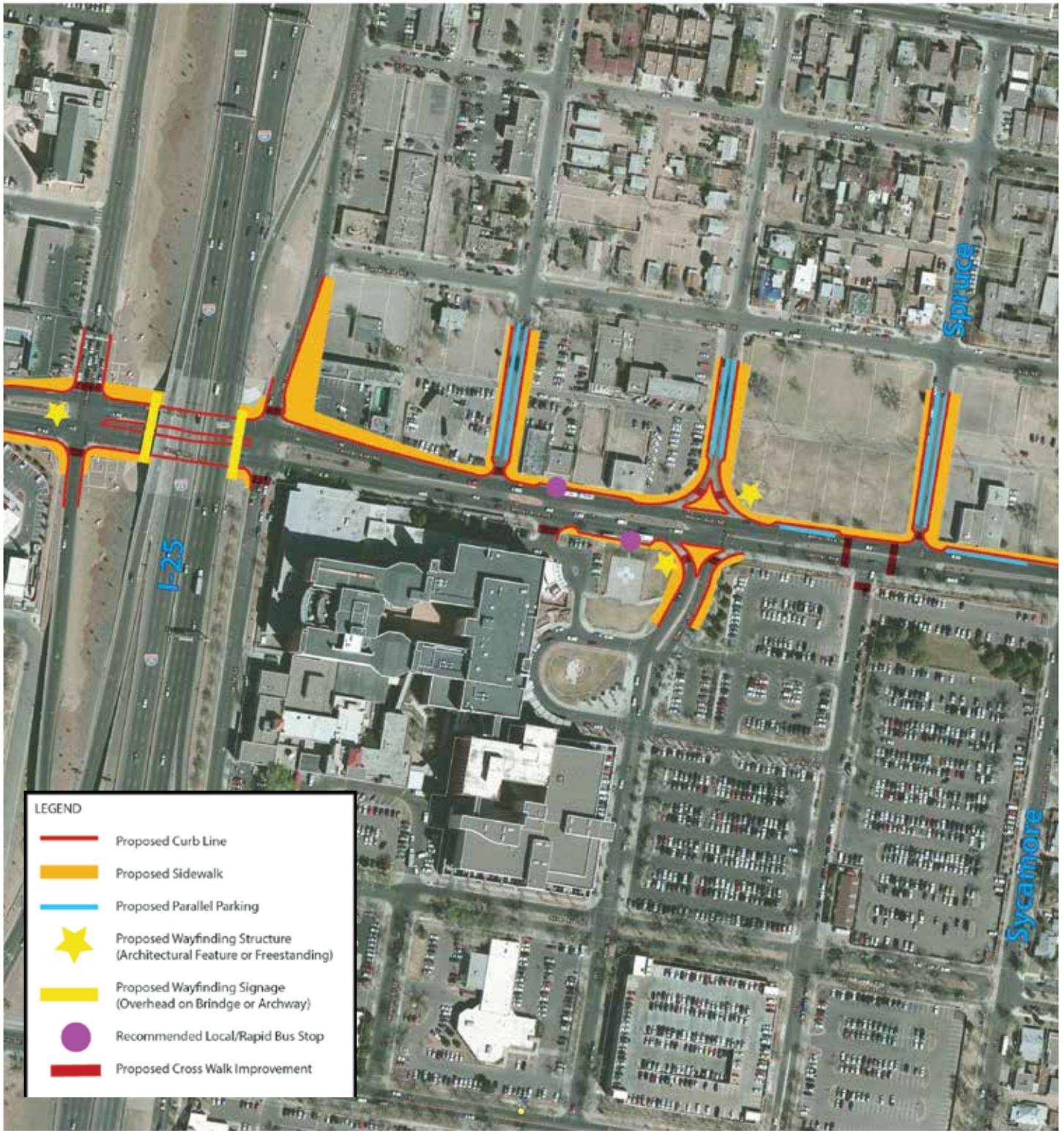
- Wayfinding or district identifiers should be integrated within the right-of-way, especially at key moments, such a bridge underpasses, entry into the sector, and public open space areas

Bridge Underpasses:

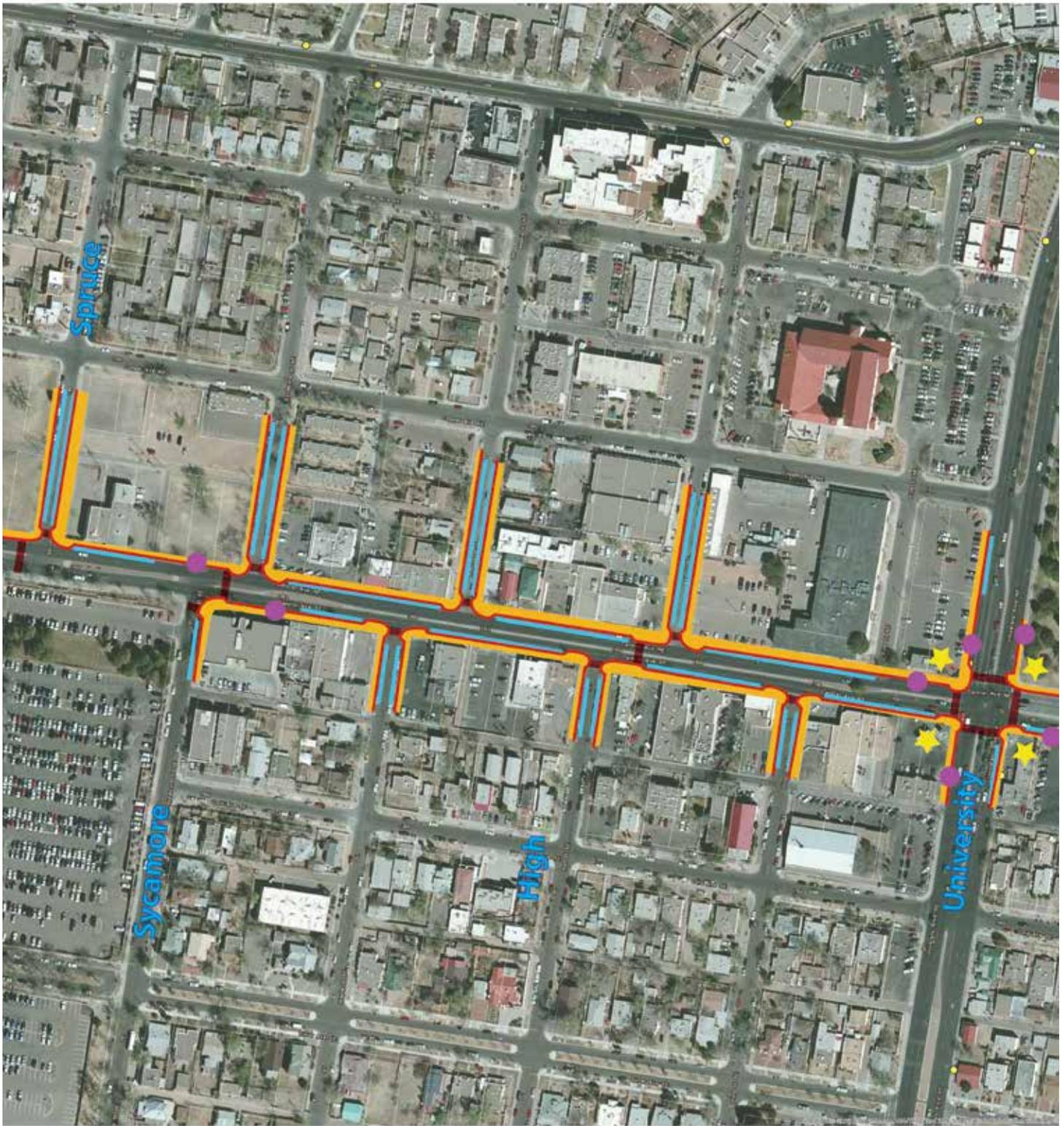
- Lack of lighting and obstructions under IH-25 bridge must be addressed to encourage crossing from East Downtown and the Hospital Area

Utilities:

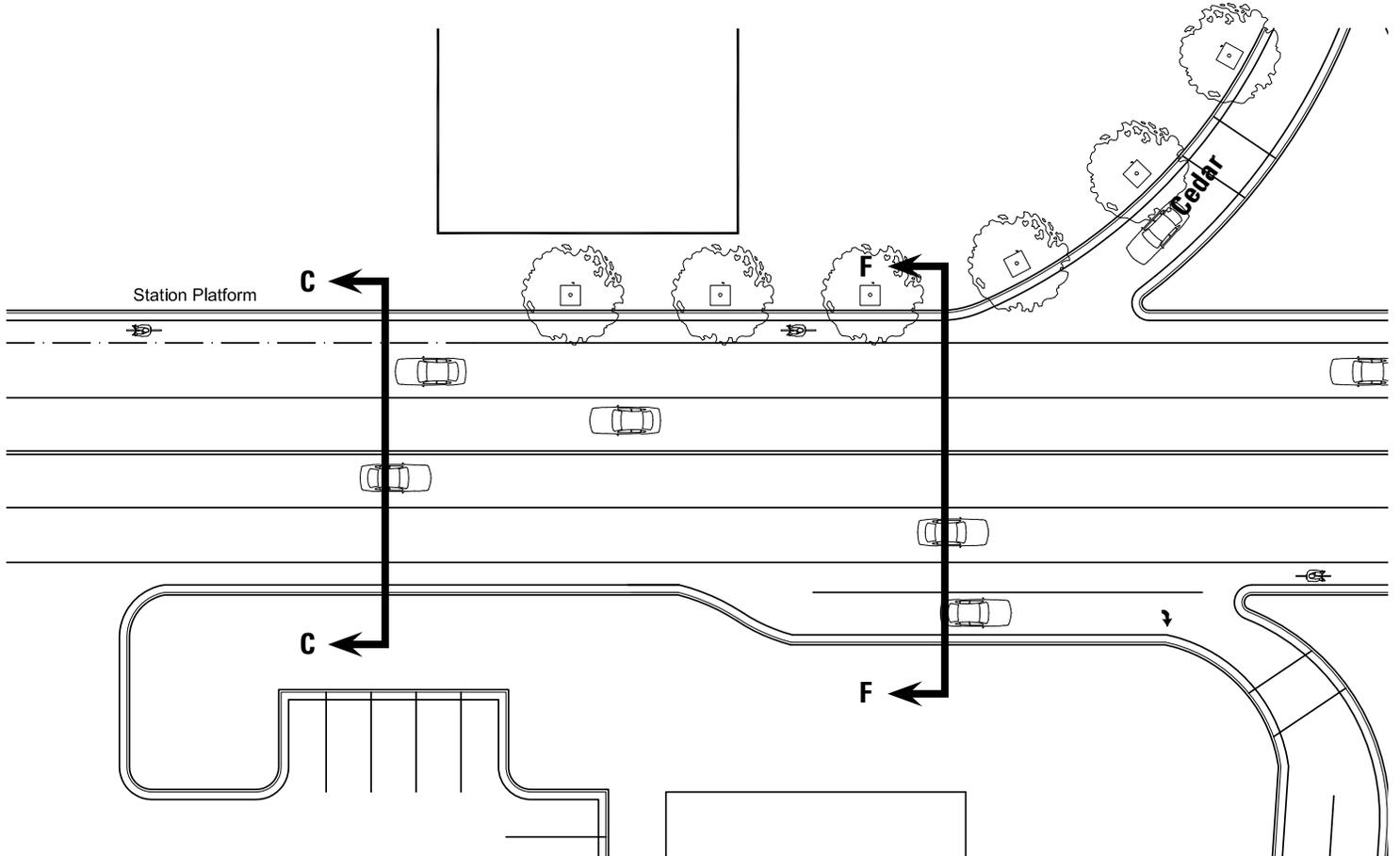
- Any existing utility poles along Central Avenue should be relocated to the rear of lots within alley ROW or through the middle of the block

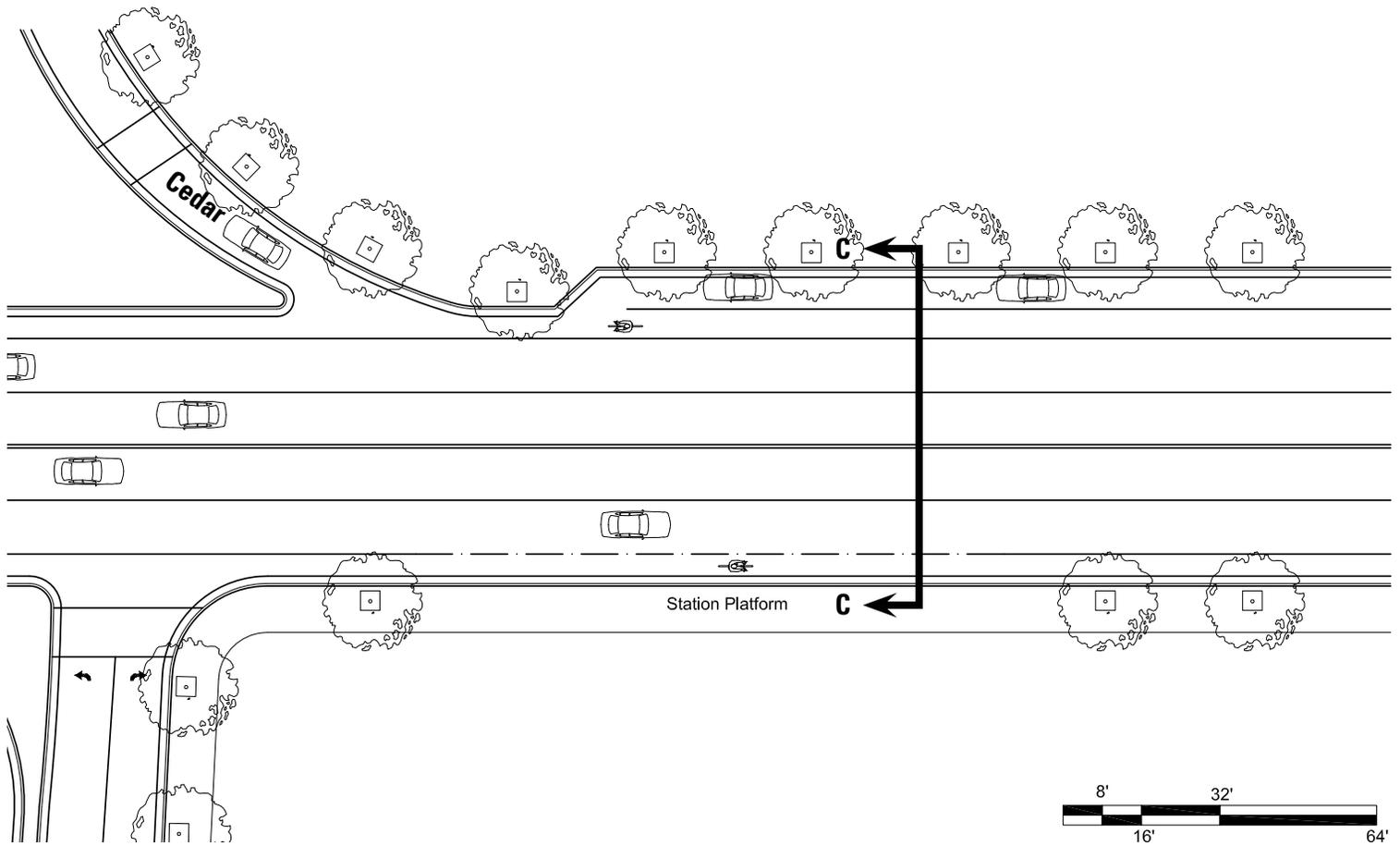


Hospital Sub Area Proposed Street Improvements

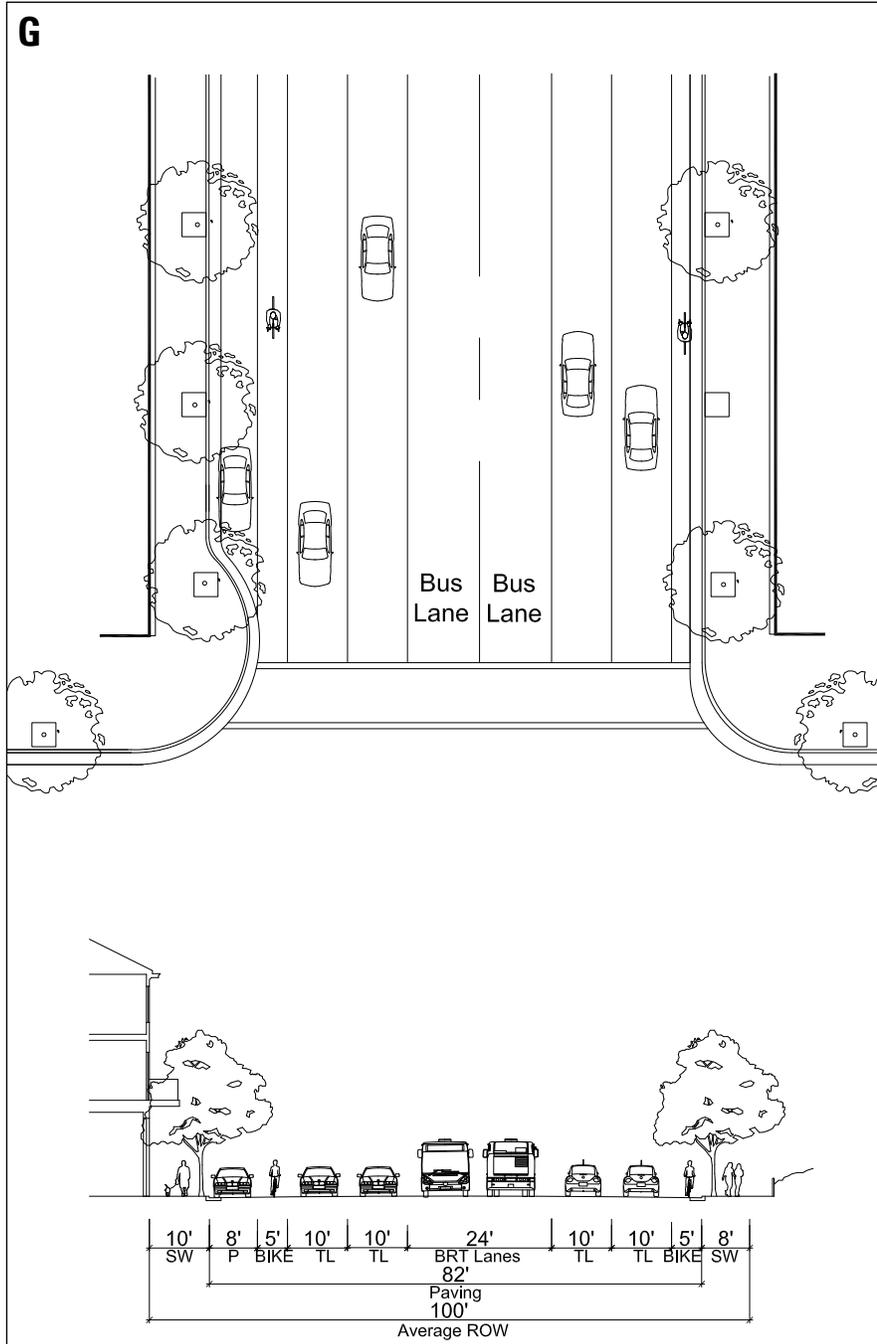


Hospital Sub Area – Central Avenue and Cedar Intersection





EDo Sub Area – Proposed Street Section



University Sub Area Proposed

Proposed Sub Area Improvements

University Sub Area – Recommended Typical Section

Improvements to the University Sub Area are less constrained than the other two sub areas, but no less difficult. The current development pattern has a consistent amount of eclecticism but works together to create a common street frontage. Multi-modal accommodations are essential in this section due to the abundance of student and faculty use of bicycles. This area is notorious for vehicular accidents involving pedestrians and bicyclists. Accommodating and highlighting the necessary North-South crossings for pedestrians and bicyclists are a major recommendation for improvements.

For this section, we have identified one ideal condition for complete streets improvements:

4-Lane Section with BRT Lanes and Bike Lanes

This condition will allow safe travel for bicyclists and allow transit to continue to operate in its own central travel lane. Parallel parking is dedicated to the South side of the street for retail use, as there are no uses requiring on-street parking from the University of New Mexico on the North side of Central Avenue.

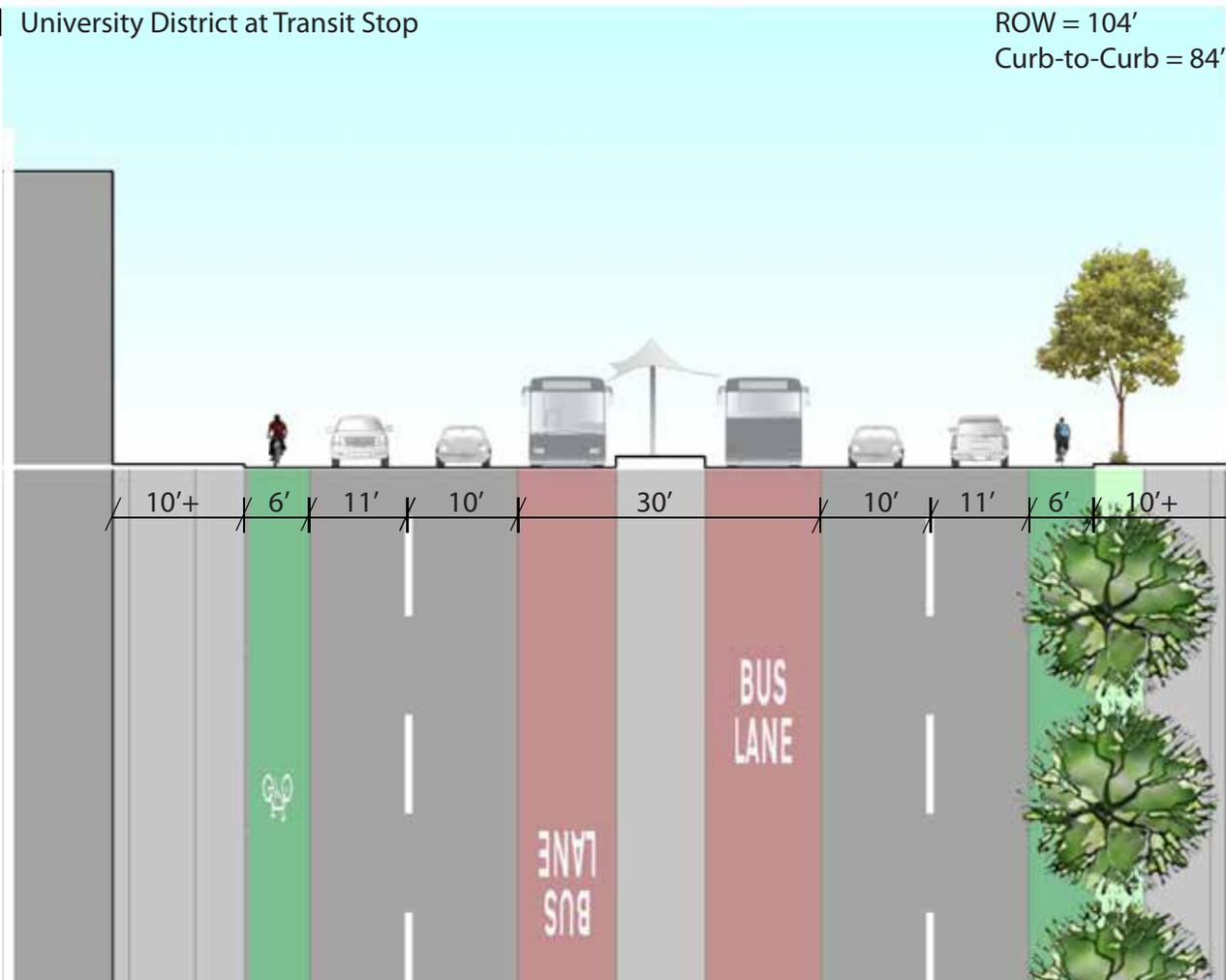


Improvement samples from other cities

University Sub Area – Key Moment Sections

H University District at Transit Stop

ROW = 104'
Curb-to-Curb = 84'



Proposed Sub Area Improvements

University Sub Area – Proposed Improvements

The following recommendations are consistent with either of the typical sections provided on the previous pages. The map shows these recommendations along the Hospital segment.

Sidewalks:

- Sidewalks must be improved for an easier walk
- Where sidewalks cannot be expanded, they should be repaired and leveled for general ADA compliance and an easier walk for the general public
- Stamped concrete is less expensive than brick pavers and are able to be stained and textured to resemble pavers. They also require less maintenance and are easier to replace when underground maintenance needs to be performed. As discussed above in the EDo section, existing brick pavers should be maintained wherever it is not cost-prohibitive to do so. However, stamped pavement should be considered if the capital and maintenance cost of brick pavers is ever barrier to replacing failed sidewalk sections and/or maintaining all sidewalks in a state of good repair
- Bulb-outs at intersecting streets will allow pedestrians to be seen clearer, prior to stepping out into the travel lanes, improving vehicle sight distance
- Crosswalks are currently faded or unnoticeable; they should be stained a bright color and widened to allow appropriate awareness for automobile drivers, at the locations shown on the improvements graphic on the preceding page

Parking:

- On-Street parking must be expanded along the Southern face of Central Avenue to support retail that faces the corridor
- Due to the narrow right-of-way, it is recommended that parallel parking be used and not angled parking, except when the adjacent property is being redeveloped and set back from the parcel line to accommodate the necessary sidewalk clear distance
- Bulb-outs on intersecting streets will help identify parking or bus pull-outs and prevent drivers from turning into that area to make right turns, slowing traffic in the meantime

Public Transportation:

- Public transportation must share lanes with autos in order to efficiently integrate into the narrow right-of-way
- Stops for Rapid Ride or Local 66 bus service are recommended at University, Yale, Cornell, Princeton and Girard, stops should always be placed after the intersection, rather than before and should pull out into protected pull-in

areas

- Stops for BRT should be centrally located within the right-of-way, within a median, and the stop should be adequately sized to allow waiting passengers to congregate on the station platform.

Street Trees or Shade Structures:

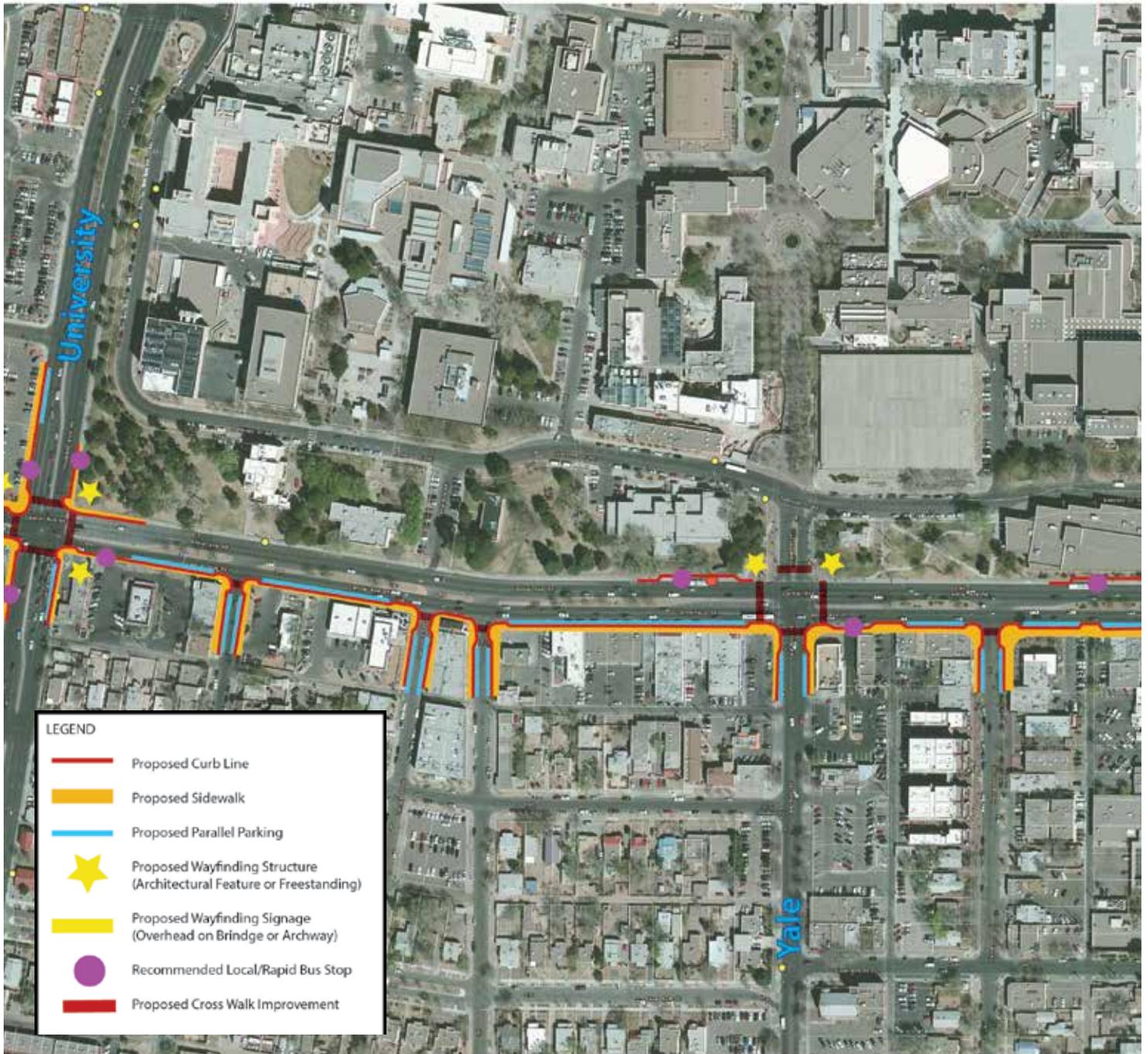
- Street trees must be replaced with less obstructive species
- Where trees are not available or able to be maintained shade structures should be installed to shade pedestrians along Central Avenue
- Tree wells and grating should account for future growth of the tree and be able to be adjusted or the grating should be supplied with breakout panels to account for growth
- Spacing of trees or shade structures should correspond to entry and display windows of adjacent buildings so they will not block views of shop windows

Wayfinding and Identity:

- Wayfinding or district identifiers should be integrated within the right-of-way, especially at key moments, such as entryways to UNM, entry into the sector, and public open space areas

Utilities:

- Any existing utility poles along Central Avenue should be relocated to the rear of lots within alley ROW or through the middle of the block



University Sub Area Proposed Street Improvements



University Sub Area – Central Avenue and University Intersection

