City of Cortez

US 160 ACCESS CONTROL PLAN

November 2015

COLORADO Department of Transportation

CORTEZ

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Introduction

The US 160 Access Control Plan (ACP) is a joint effort between the Colorado Department of Transportation (CDOT) and the City of Cortez, in conjunction with Fehr & Peers, (the "Project Team") to develop roadway design concepts and determine the appropriate access to and from US 160. The plan is intended to improve traffic, bicycle, and pedestrian safety and preserve traffic flow capacity of US 160 today and long into the future. This project will preserve reasonable access to properties and businesses adjacent to US 160 and provide safe travel for all people using the corridor.

The result of the study will be an Intergovernmental Agreement (IGA) between CDOT and the City of Cortez. This IGA will supersede the State of Colorado State Highway Access Code regulations. ACPs are traditionally long term planning tools, with the recommendations from the plan being implemented as redevelopment takes place along the corridor and funding for elements of the plan becomes available.

Study Location

The ACP evaluated a 2.5-mile section of the US 160 corridor that travels through the City of Cortez. The western boundary of the study corridor is Maple Street and the eastern boundary is at Patton Street, just east of the junction with US 145. The study corridor was divided into three segments based on similar roadway characteristics to better facilitate analysis:

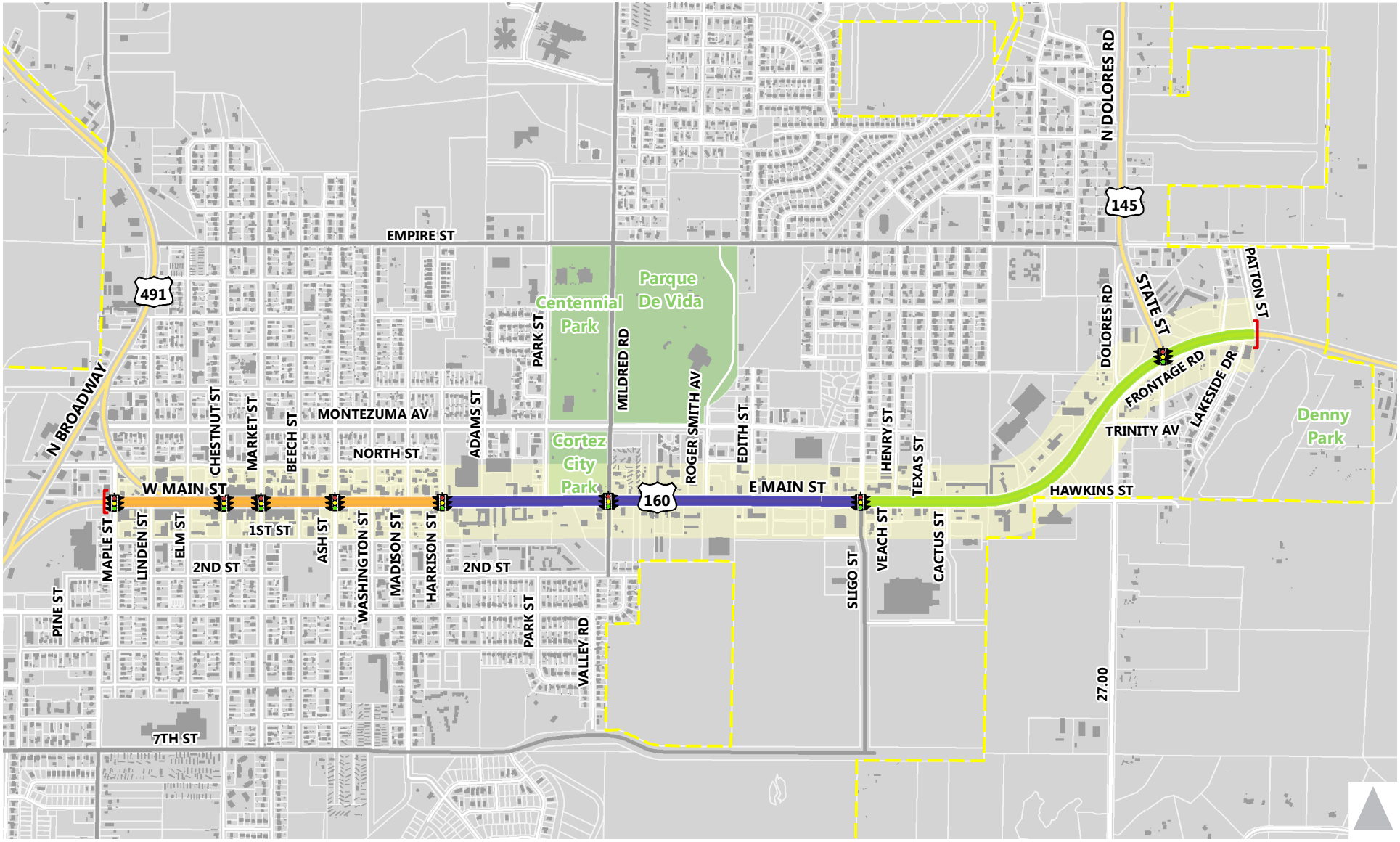
- Downtown segment (Maple Street to Harrison Street)
- City Park segment (Harrison Street to Sligo Street)
- Eastern Gateway segment (Sligo Street to Patton Street)

The study area is shown in Figure 1 on page 5.

Purpose

The purpose of this ACP is to identify the location, type, and basic design elements of future access points within the study limits to provide reasonable access to adjacent properties while maintaining safe and efficient movement of all modes of transportation along US 160.

According to the *State Highway Access Code*, CDOT is required to provide access to individual properties when a reasonable alternative to the general street system does not exist and is not obtainable. CDOT has the ability to modify existing access points for safety and operational reasons and recommend restricting the number of allowable vehicle movements.



Study Corridor Segments

- Downtown (Maple Street to Harrison Street)
- City Park (Harrison Street to Sligo Street)
- Eastern Gateway (Sligo Street to Patton Street)

- Study Limits
- Existing Traffic Signals
- Cortez City Limits
- Area of Influence

Figure 1
Study Area

A dual purpose of this study was to define a roadway design concept for the corridor. This design is meant to achieve the access and safety goals that are part of every ACP, as well as the following goals determined via community outreach: beautification, pedestrian crossings, bicycle facilities, and parking in select areas. The roadway design concept was developed through the ACP process, with community input on all elements and draft designs. The final roadway design concept retains two travel lanes in each direction, adds bicycle facilities throughout the corridor, enhances the pedestrian environment with additional pedestrian crossing locations, provides parking in front of City Park, and provides strategically placed, landscaped medians to enhance the corridor visually and provide pedestrian refuge for those crossing the corridor.

Objectives

Proper application of an ACP will allow traffic to move more efficiently and safely along US 160 by controlling the design, location, and frequency of access points. Specific project objectives include:

- Document existing access locations; evaluate traffic and crash statistics along the corridor
- Evaluate potential changes to US 160 along the corridor including complete streets techniques such as bicycle lanes, pedestrian crossing treatments, medians, intersection bulb-outs and traffic calming methods as well as access consolidation
- Identify potential locations for signalized intersections as the town develops
- Develop recommendations about the roadway design of US 160 and the location, nature, and number of accesses along the corridor.

Access Management Plan Process

The process for developing the US 160 ACP began with data collection. Crash data and traffic volumes were collected and mapped. All existing access locations were identified, described, and mapped. Previously completed and related plans and documents were reviewed to ensure appropriate coordination with other planning studies. After the existing conditions data were collected, access control and complete streets techniques were evaluated for use along the corridor. At this point in the process, the first of two community meetings were held. The community provided feedback on the existing conditions analysis, access control methods, and complete streets techniques. Additional public outreach included a large aerial map that was displayed at the library for two weeks following the first community meeting. The information from the first community meeting and the aerial map was compiled and a set of preliminary recommendations for access reconfiguration and roadway design options were drafted. These preliminary recommendations were brought to the public in the second community meeting. This meeting used keypad polling to evaluate the community response to design elements that could be incorporated into the corridor as well as resulting access changes. Based on the

comments received, the preliminary recommendations were revised to reflect a preferred alternative. The preferred alternative was presented at a city council meeting in November 2015.

The recommended US 160 ACP is contained within this final report. The plan adoption process started during the documentation process and will be completed in December 2015. Materials from the community outreach process, including exhibits, comment forms, and summary notes from one-on-one meetings, are included in the appendices of this document.

Recommendations

Access Reconfiguration and Roadway Design Concepts

ACCESS RECONFIGURATION

Recommended access changes were directly affected by the roadway design concepts outlined in the following section. Conversely, the median configuration design concepts were modified to allow for enhanced access at some business locations along the corridor.

Figures 9A–9S illustrate the access recommendations for all direct access points along the US 160 corridor within the identified project study limits. Each access point recommendation is further described in Table 5.

ROADWAY DESIGN CONCEPTS

Roadway design concepts were developed for the entire US 160 project corridor within the study limits. The design concepts were developed to address the safety, operational, and aesthetic concerns of the public, the City of Cortez, and CDOT. The following descriptions are organized by the three identified study segments: Downtown, City Park, and the Eastern Gateway. The concepts are illustrated graphically in figures 9A–9S.

Downtown: Maple Street to Harrison Street

Proposed design concepts for the Downtown study segment can be viewed in Figures 9A–9E and cross sections can be viewed in Figure 11A. The following roadway design concepts are recommended along the entire Downtown segment:

- Narrow all through lanes to 10.5.'
- Install a 20' tall low height landscaped median curb between intersections while allowing for standard left turn pocket tapers (except between Madison Street and Harrison Street where the two-way left turn lane will be maintained).
- Maintain 12' left turn lanes at all full movement intersections.
- Preserve existing parallel parking on both sides of the roadway.
- Add bicycle sharrows within the right through lanes with 50' – 100' spacing of markings.

Due to the absence of commercial accesses between Linden Street and Ash Street median turn pockets can be striped to mitigate costs (figures 9A – 9D). It is recommended that median turn pockets between Maple Street and Linden Street and between Ash Street and Madison Street use a 20' tall low height median curb to restrict access movements in those areas to right in/right out. Between Madison Street and Harrison Street (Figure 9E) a median will not be installed and the two-way left turn lane will be maintained to provide full access movement to businesses along this block (see Table 5 for descriptions of recommended access changes in this area).

City Park: Harrison Street to Sligo Street

Proposed design concepts for the City Park study segment can be viewed in Figures 9E – 9L and cross sections can be viewed in Figures 11 B – 11C (cross sections D – G). The following roadway design concepts are recommended along the entire City Park segment:

- Narrow all through lanes to 10.5.'
- Install tall curb landscaped medians (median width varies based on location and proposed cross sections) between intersections while allowing for standard left turn pocket tapers. Figures 9F – 9K illustrates the detailed median configuration, which allows for ¾ access at several business along this study segment.
- Maintain 12' left turn lanes at all full movement intersections.
- Stripe 6' bicycle lanes and add bicycle lane markings at 50' – 100' intervals.
- Maintain a 1.5' buffer between the right travel lane and the bicycle lane.

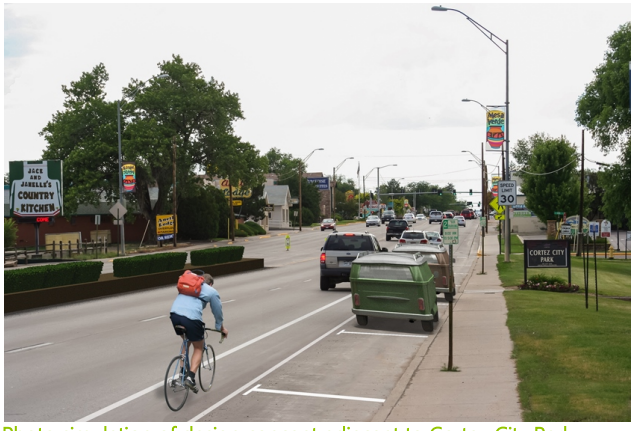


Photo simulation of design concept adjacent to Cortez City Park

Several pedestrian crossing changes and enhancements are recommended for the City Park segment to better facilitate safe crossings. The following changes are proposed:

- Remove striped continental pedestrian crosswalk on the east side of the Park Street and US 160 intersection (Figure 9G)
- Add a mid-block striped continental pedestrian crosswalk with bulb-out on the north side of US 160 between Park Street and Mildred Road. Install a rapid rectangular flashing beacon at this location (Figure 9G).
- Add a mid-block striped continental pedestrian crosswalk between Mildred Road and Roger Smith Avenue. Install a rapid rectangular flashing beacon at this location (Figure 9I).
- Add a striped continental pedestrian crosswalk on the east side of the Edith Street and US 160 intersection. Install a rapid rectangular flashing beacon at this location (Figure 9J).

Additionally, parallel parking is recommended on the westbound side of US 160 between Park Street and Mildred Road directly adjacent to City Park (Figures 9G – 9H and Figure 11B, cross section E).

Eastern Gateway: Sligo Street to Patton Street

Proposed design concepts for the Eastern Gateway study segment can be viewed in Figures 9L – 9M and cross sections can be viewed in Figure 11C (cross sections H and I). The following roadway design concepts are recommended along the entire Eastern Gateway segment:

- Narrow all through lanes to 10.5.'
- Install tall curb landscaped medians (median width varies based on location and proposed cross sections) between intersections while allowing for standard left turn pocket tapers. Figures 9L – 9M illustrate the detailed median configuration, which allows for ¾ access at some businesses along this study segment.
- Maintain 12' left turn lanes at all full movement intersections.
- Transition to a 5' bicycle lane from Sligo Street to Patton Street. Add bicycle lane markings at 50' – 100' intervals.
- Maintain a 1.5' buffer between the right travel lane and the bicycle lane.

Due to narrow sidewalks in the western section of the Eastern Gateway segment, it is also proposed to narrow the curb to curb cross section from Sligo Street to State Street (width varies along the corridor in this location) to allow for widening of the sidewalks to 6' (Figure 11C, cross section H). Although extending the median curb for the left turn pocket is recommended at most locations, striping can be used adjacent to State Street/US 145 to mitigate costs where no access restrictions are needed (Figure 9Q). A gateway treatment is recommended for installation where the median begins east of Patton Street (Figure 9S). Gateway treatment type and aesthetic details will be determined upon redevelopment.

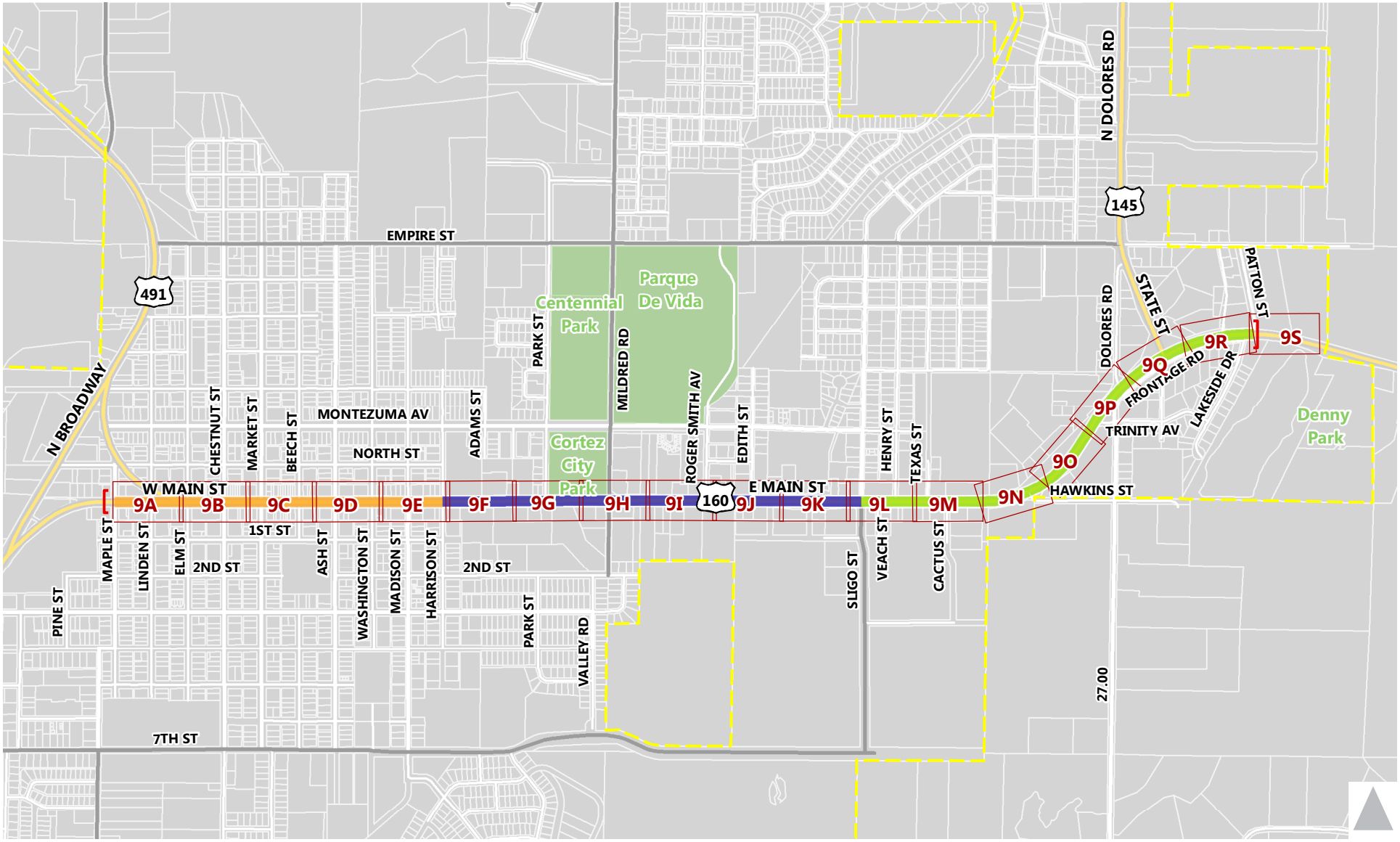
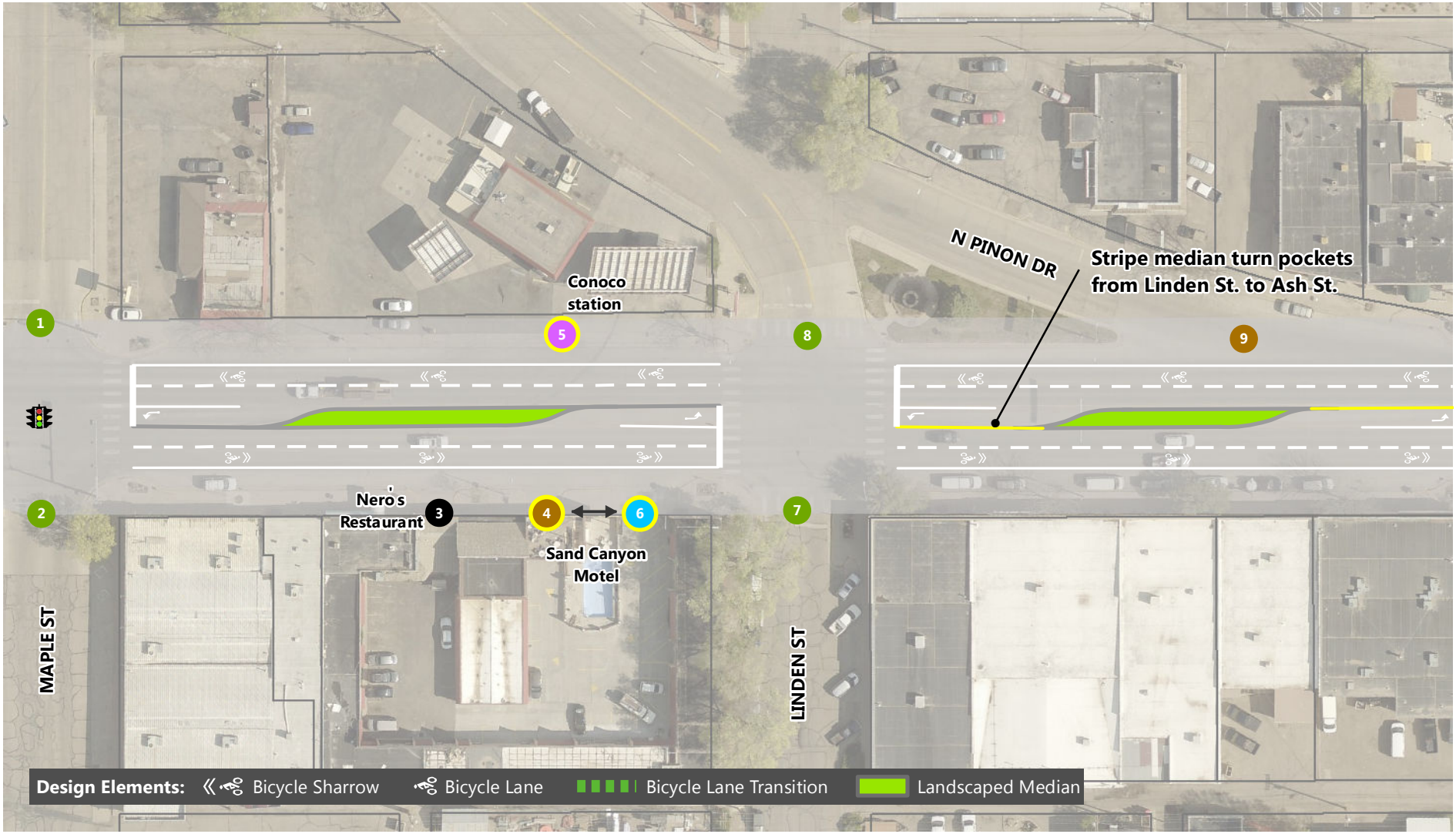


Figure 8

US 160 Access Recommendations and Design Concepts Index Map



Access Recommendations

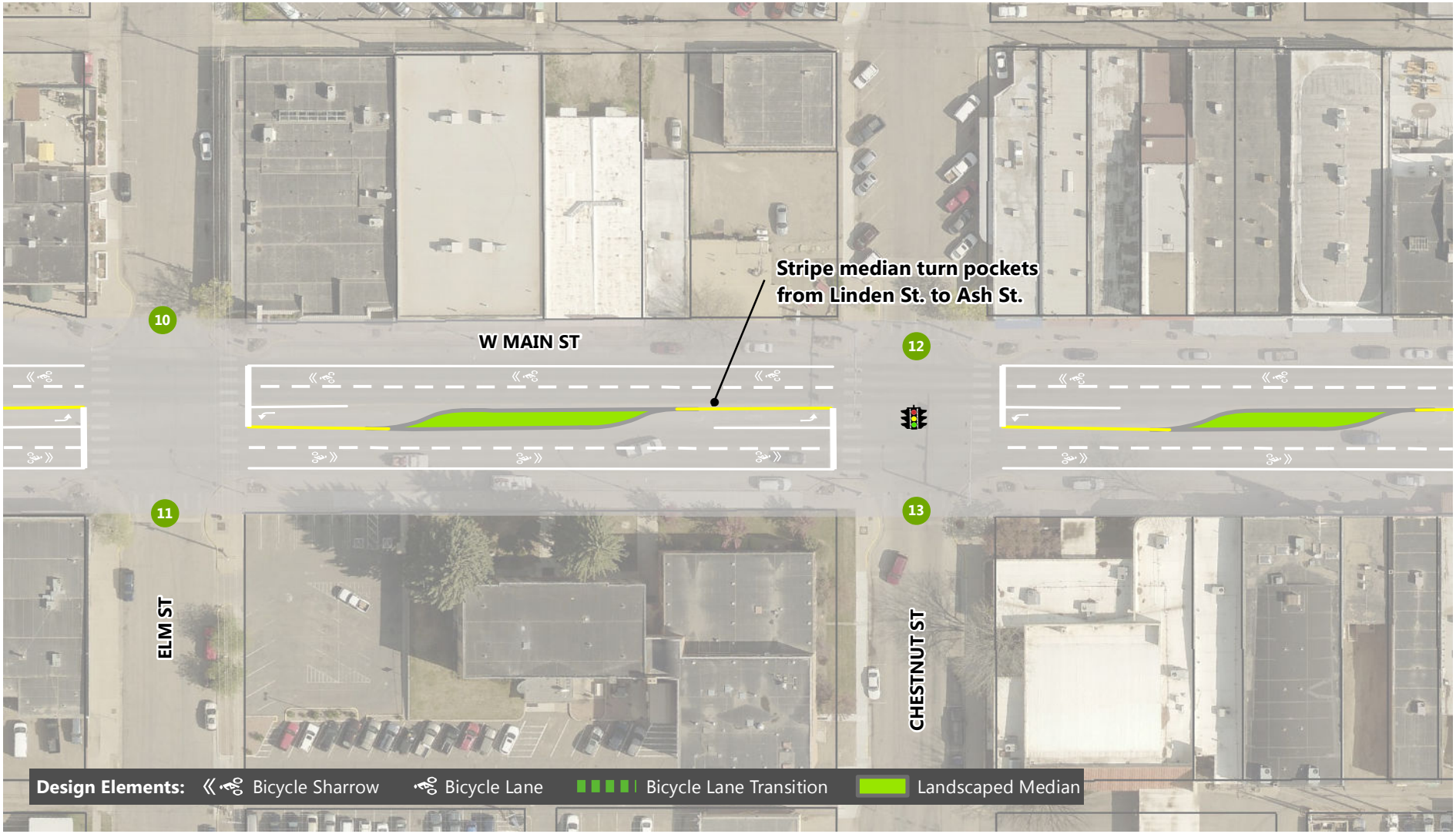
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9A

US 160 Access Recommendations and Design Concepts



Access Recommendations

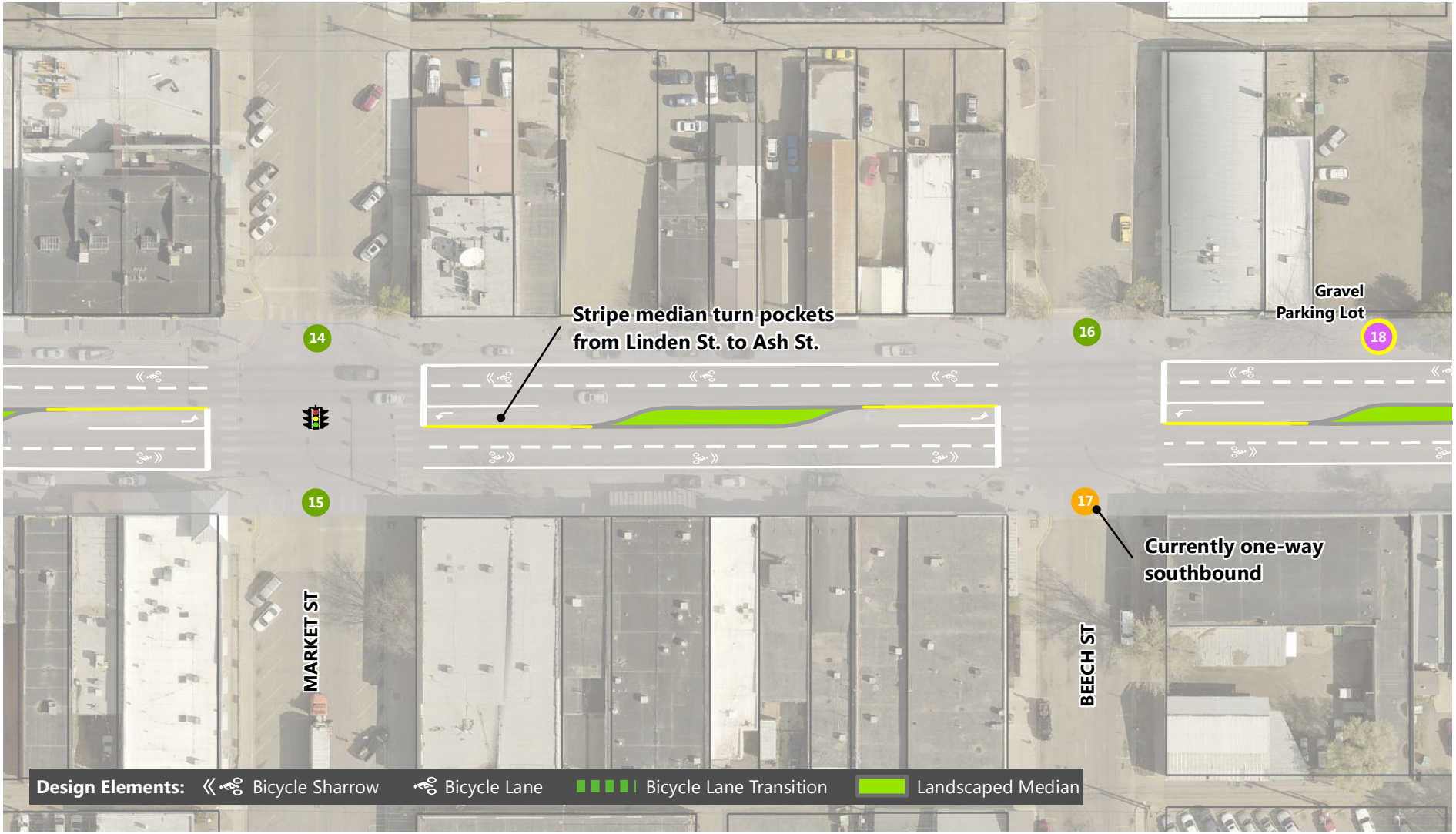
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9B

US 160 Access Recommendations and Design Concepts



Access Recommendations

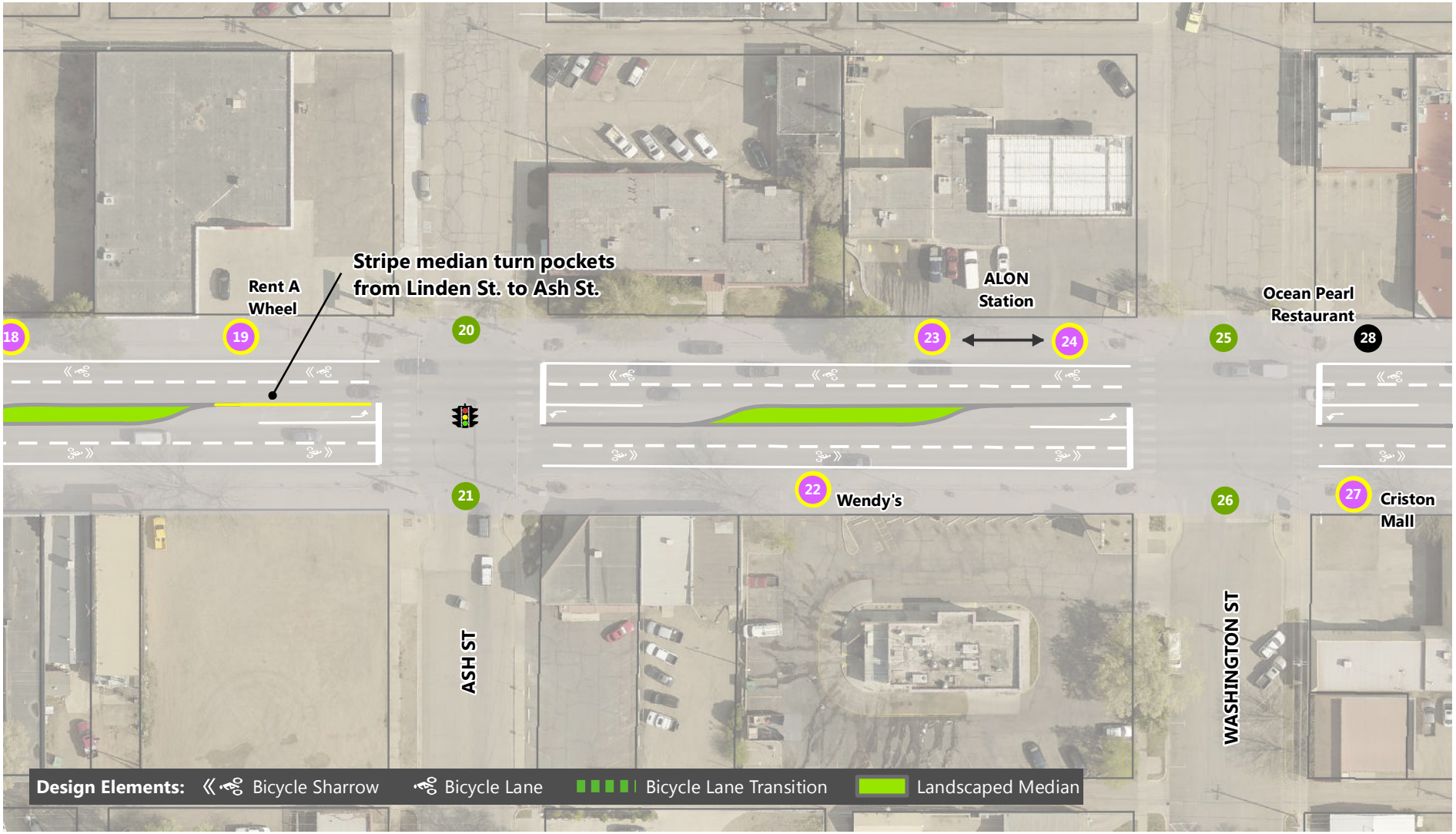
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9C

US 160 Access Recommendations and Design Concepts



Access Recommendations

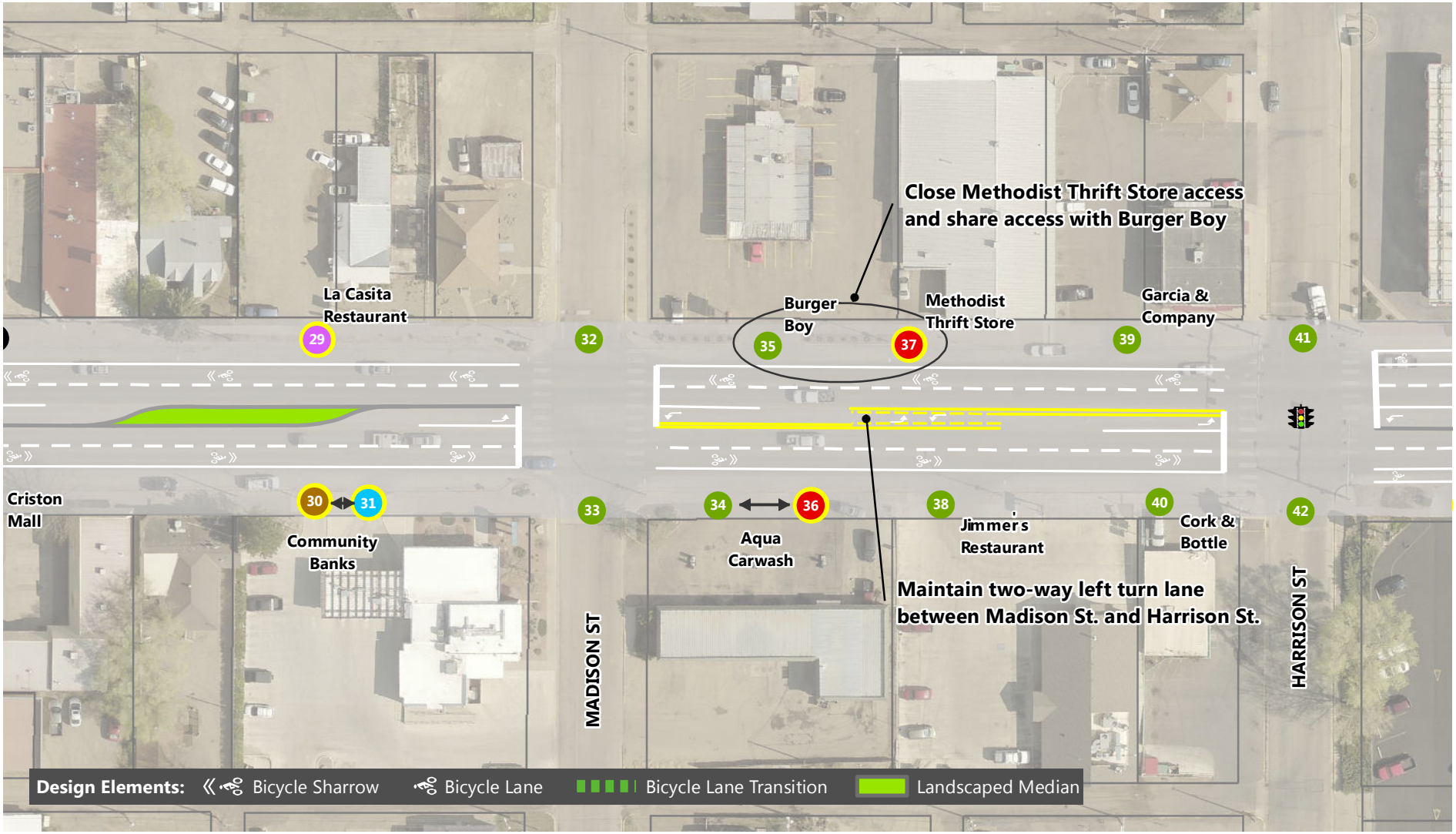
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9D

US 160 Access Recommendations and Design Concepts



Access Recommendations

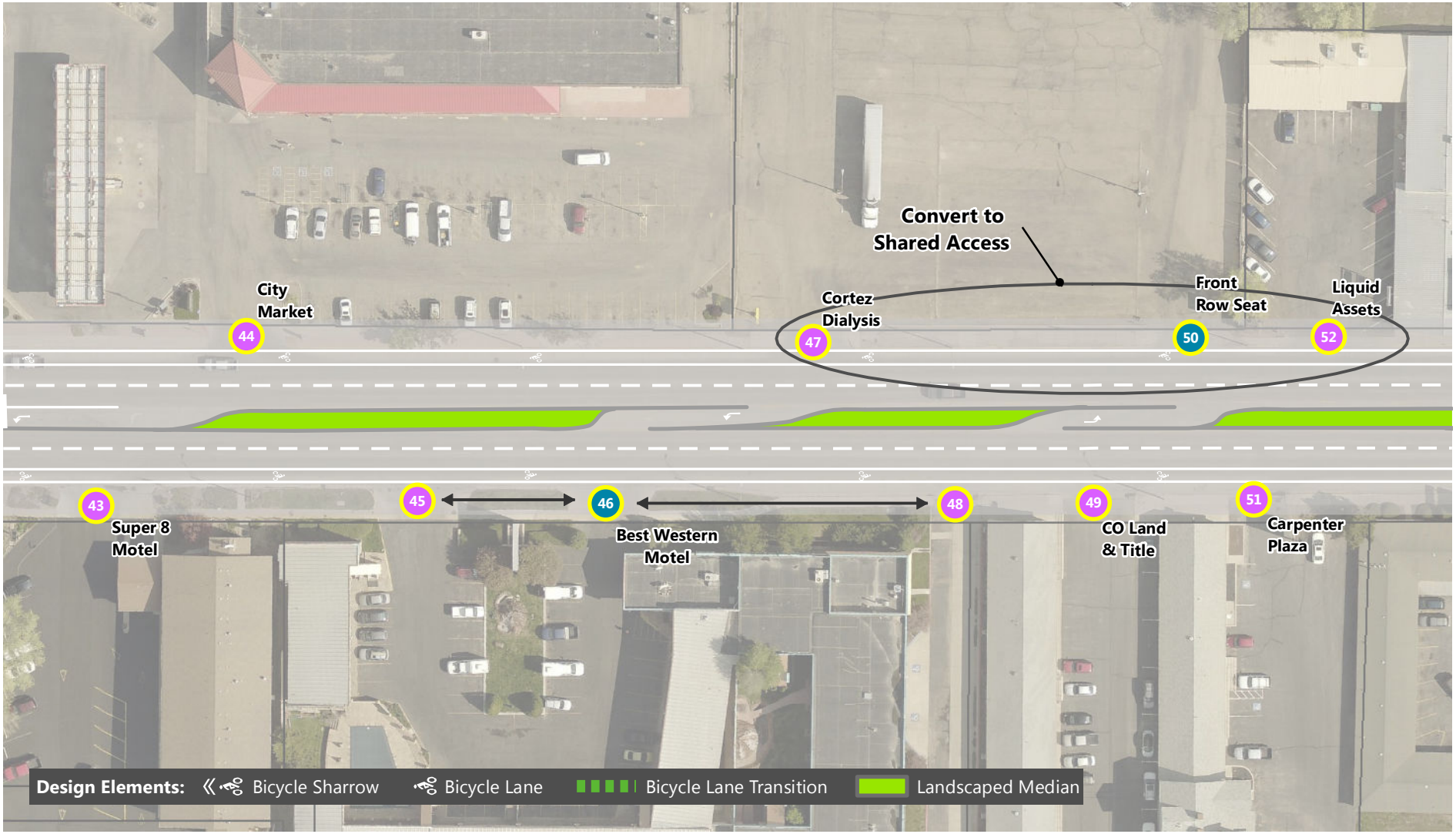
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9E

US 160 Access Recommendations and Design Concepts



Access Recommendations

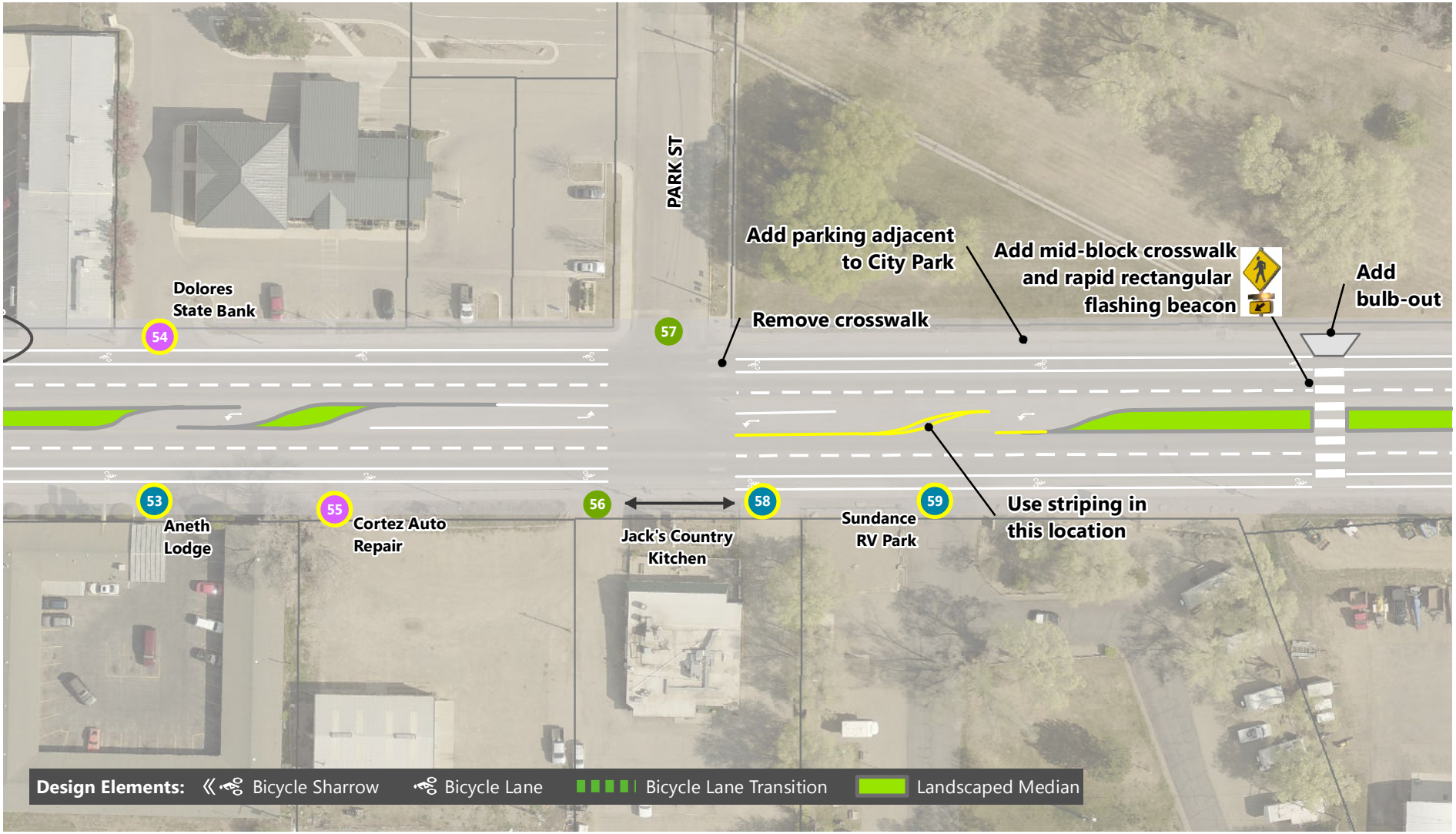
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9F

US 160 Access Recommendations and Design Concepts



Access Recommendations

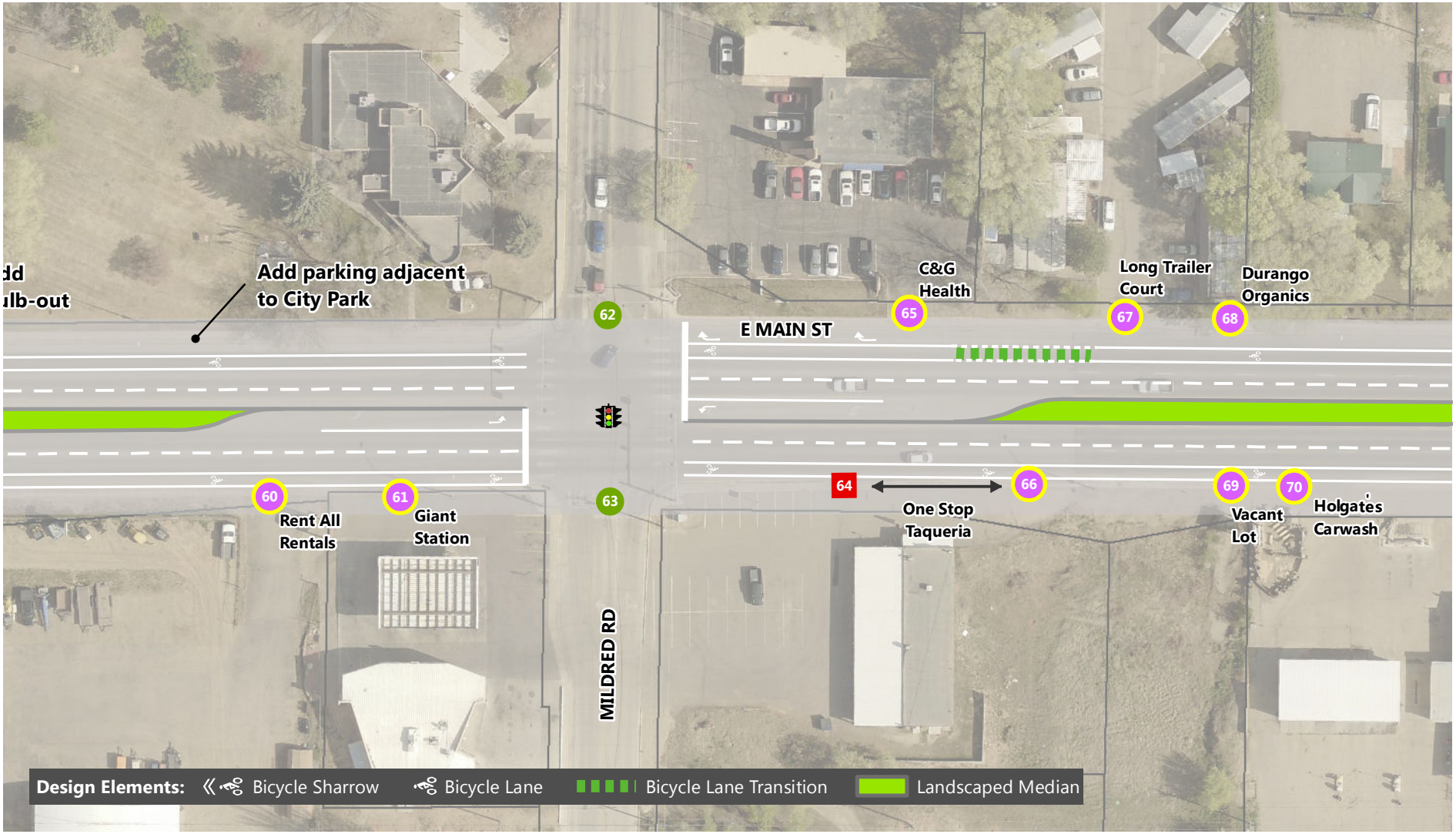
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9G

US 160 Access Recommendations and Design Concepts



Access Recommendations

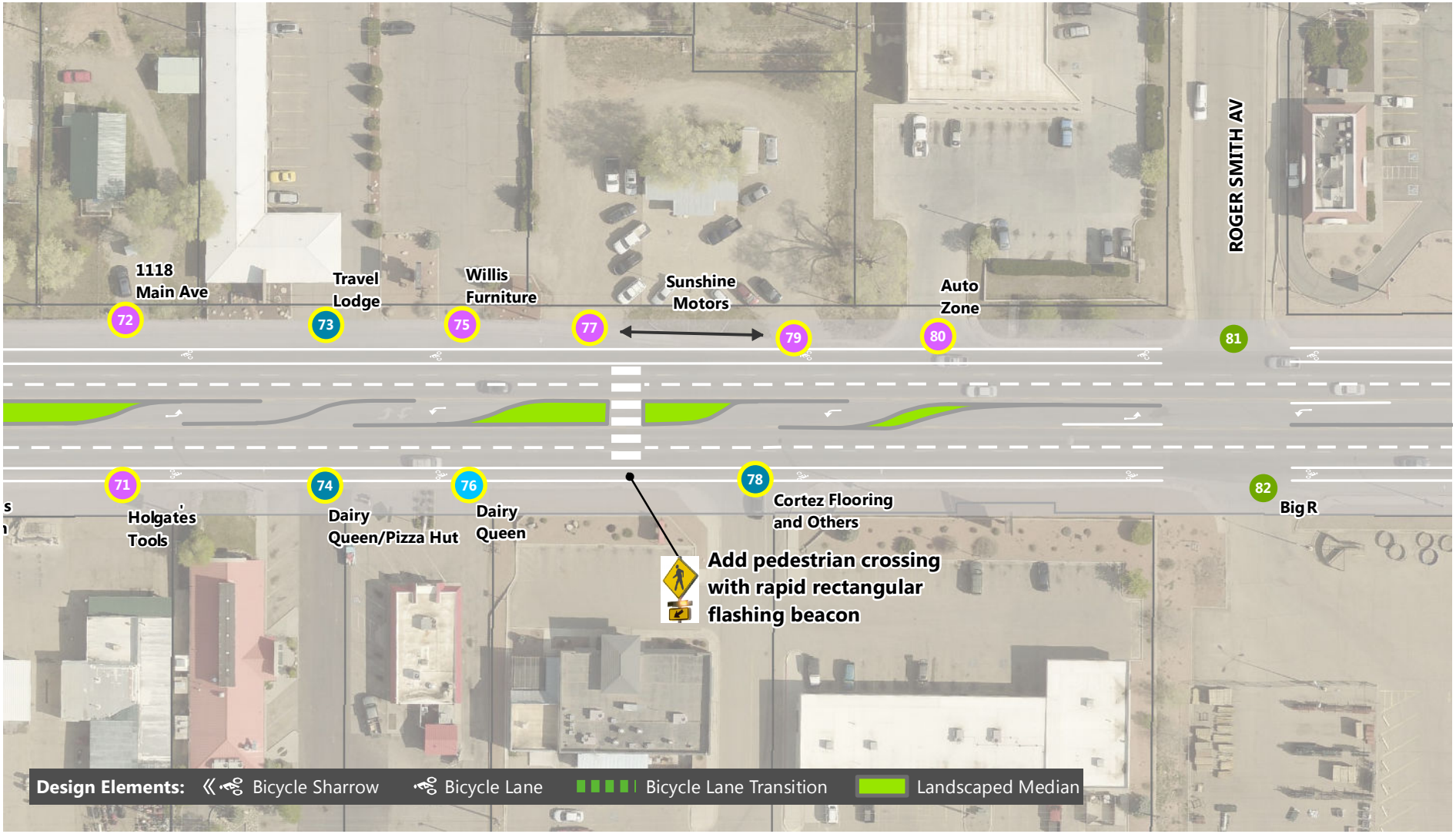
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9H

US 160 Access Recommendations and Design Concepts



Access Recommendations

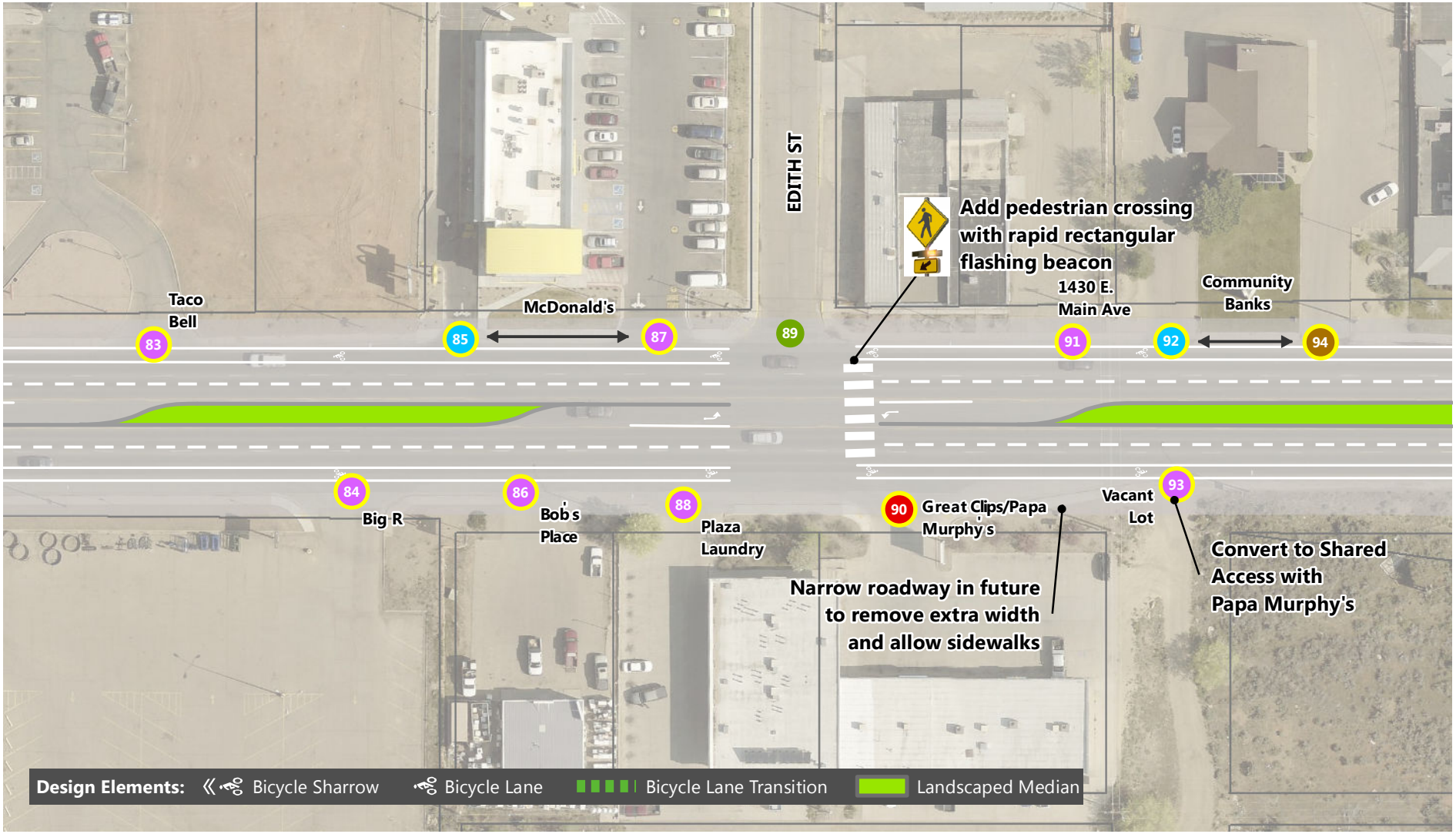
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9I

US 160 Access Recommendations and Design Concepts



Access Recommendations

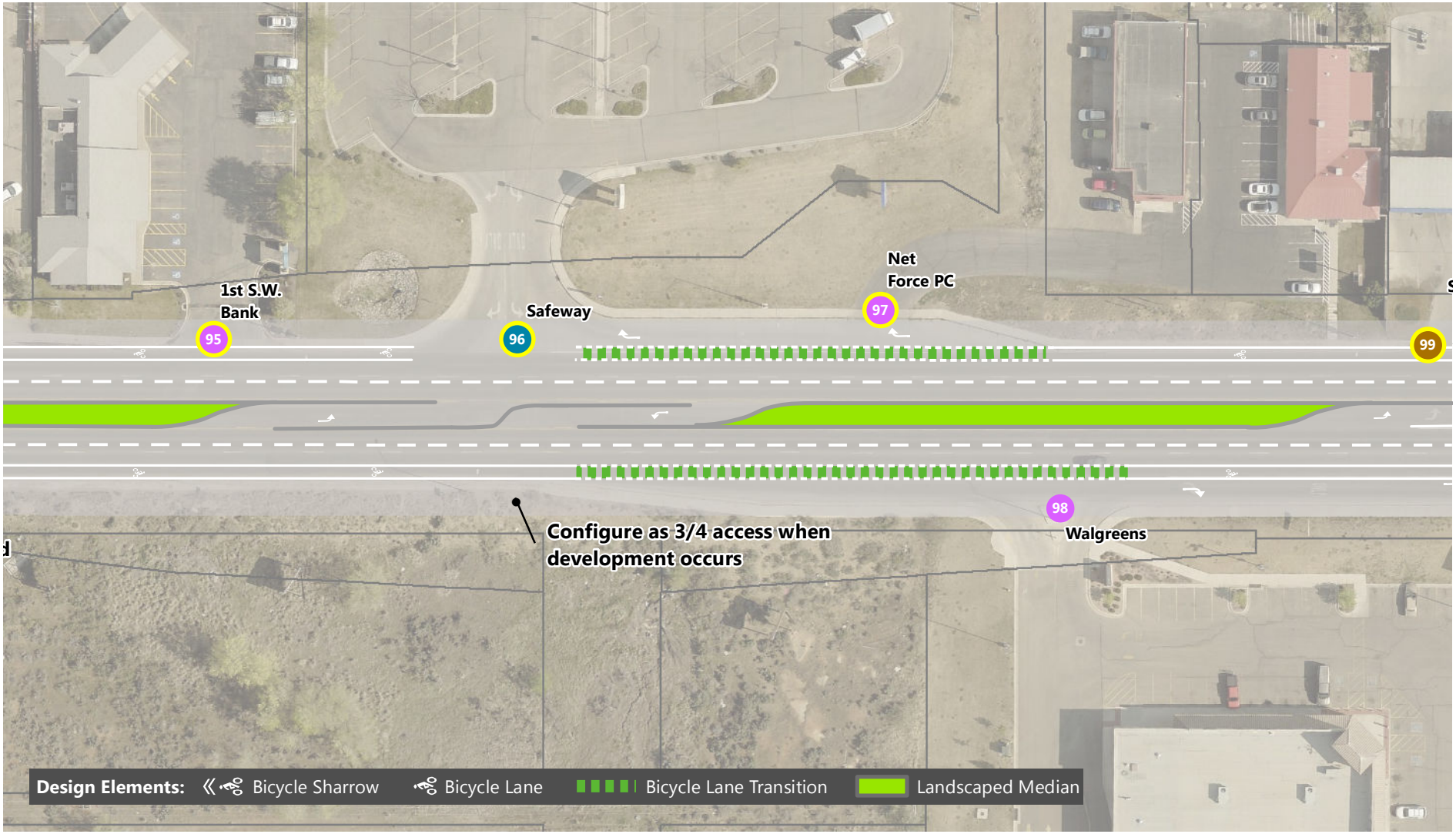
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9J

US 160 Access Recommendations and Design Concepts



Access Recommendations

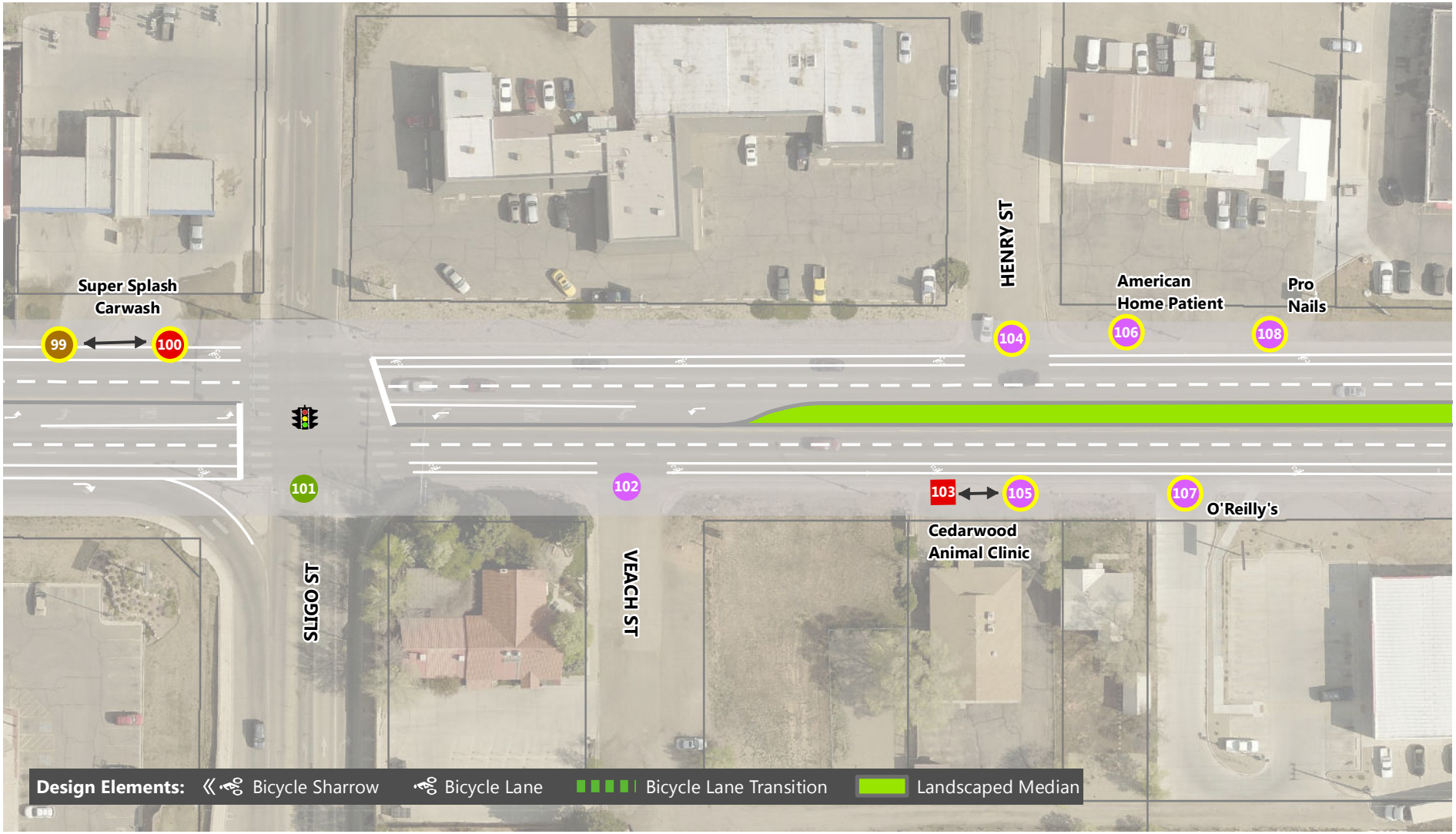
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9K

US 160 Access Recommendations and Design Concepts



Access Recommendations

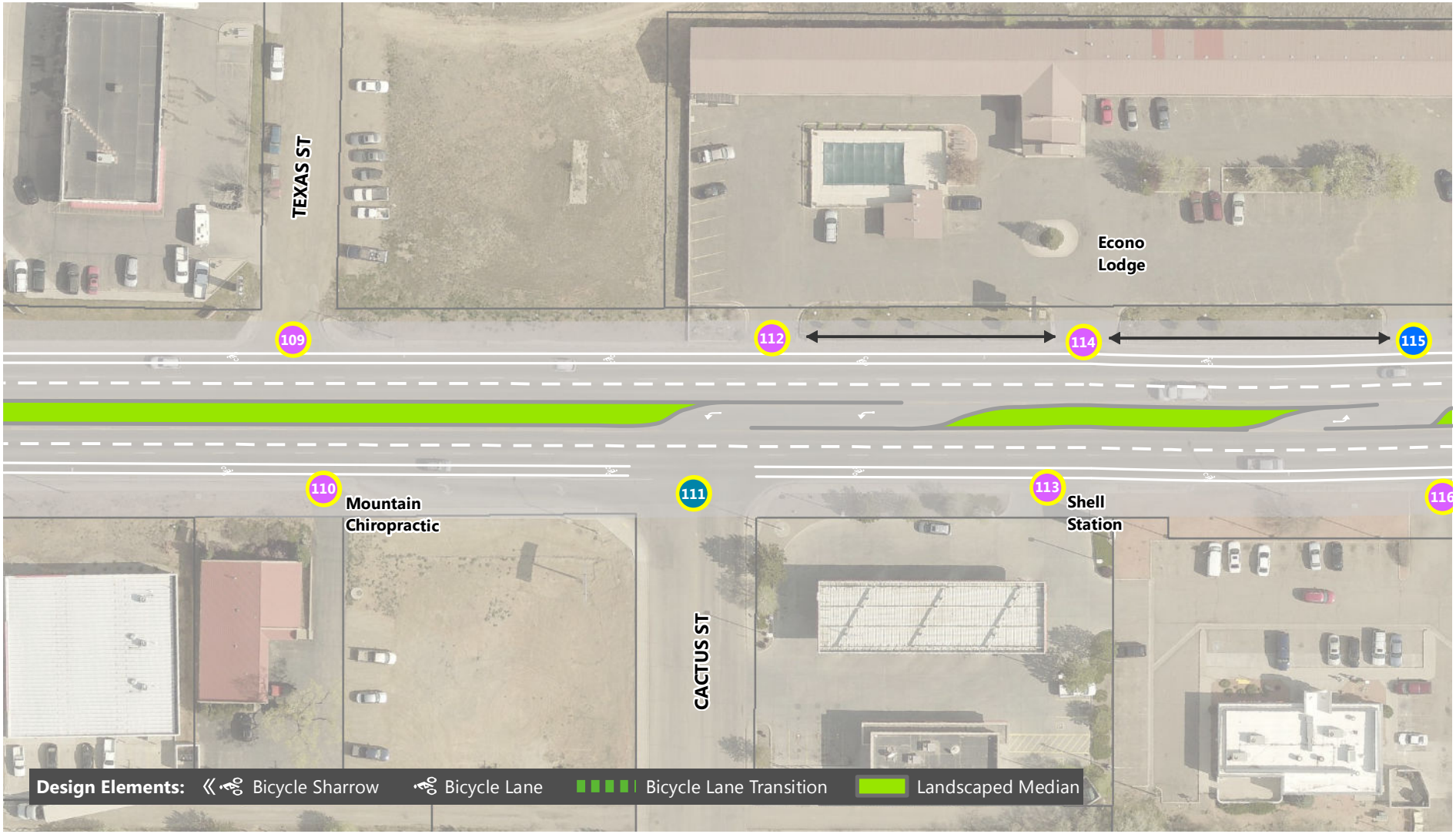
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9L

US 160 Access Recommendations and Design Concepts



Access Recommendations

- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9M

US 160 Access Recommendations and Design Concepts

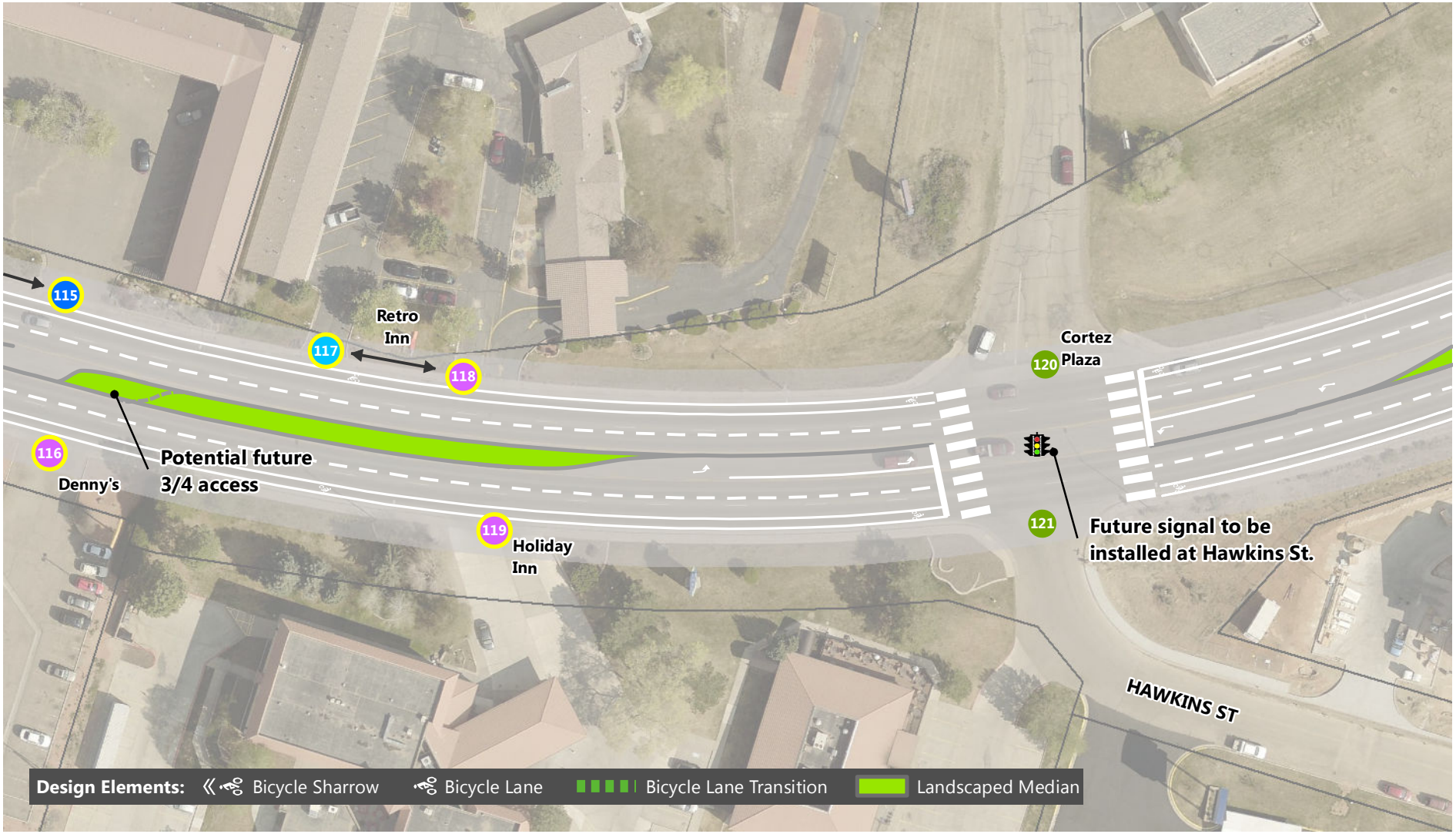


Figure: 9N

US 160 Access Recommendations and Design Concepts

Access Recommendations

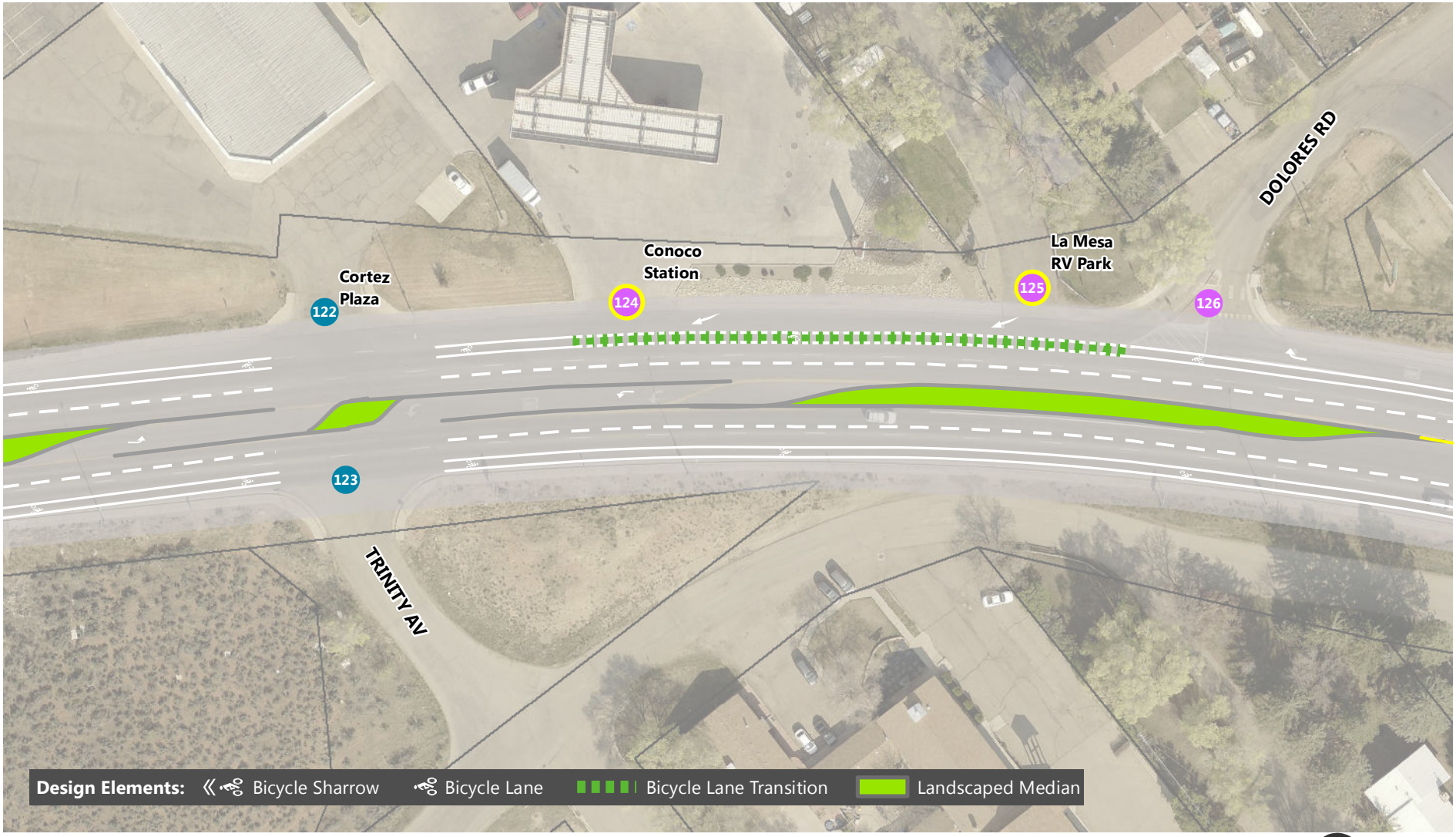
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9O

US 160 Access Recommendations and Design Concepts



Access Recommendations

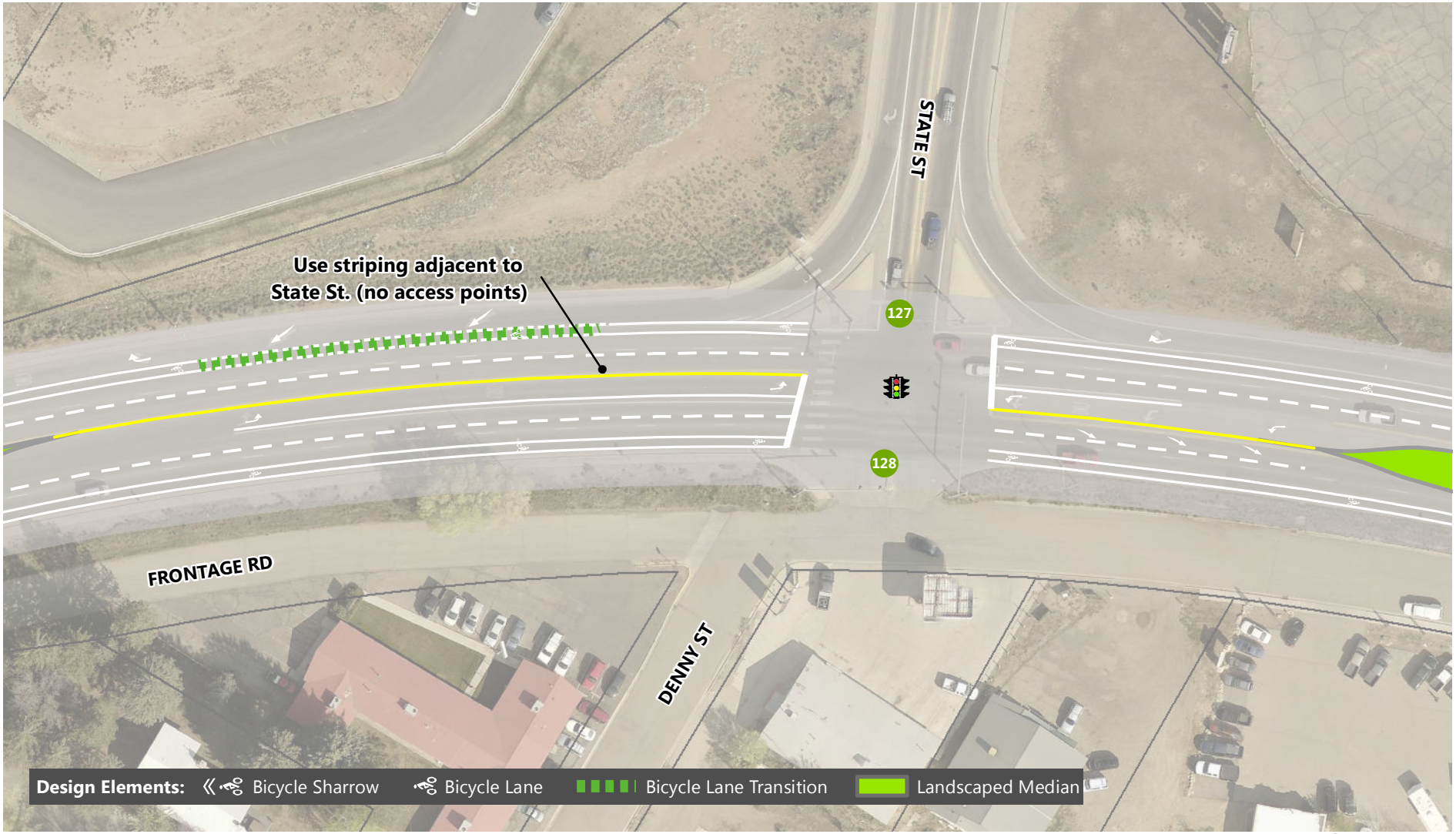
- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9P

US 160 Access Recommendations and Design Concepts



Access Recommendations

- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9Q

US 160 Access Recommendations and Design Concepts

Access Recommendations

- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9R

US 160 Access Recommendations and Design Concepts

Access Recommendations

- Full
- 3/4 Access
- Ingress Only
- Left In Only
- Right In Only
- Right In/Right Out
- Right Out Only
- Recommended Closure
- Planned Closure
- Access Closed
- Access Change
- Traffic Signal
- Multiple Accesses per Business

1 inch = 75 feet

0 25 50 100 Feet

Figure: 9S

US 160 Access Recommendations and Design Concepts

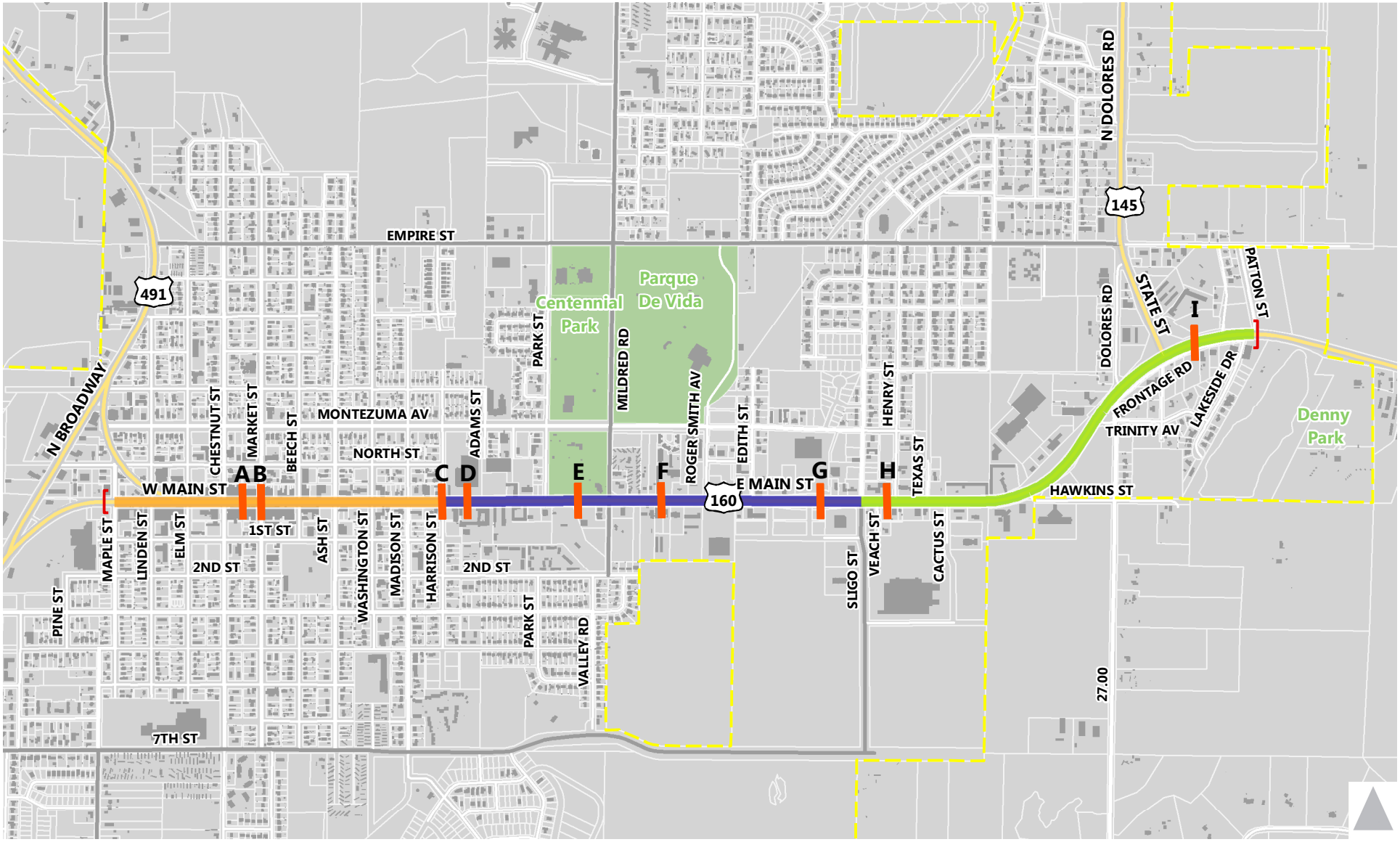
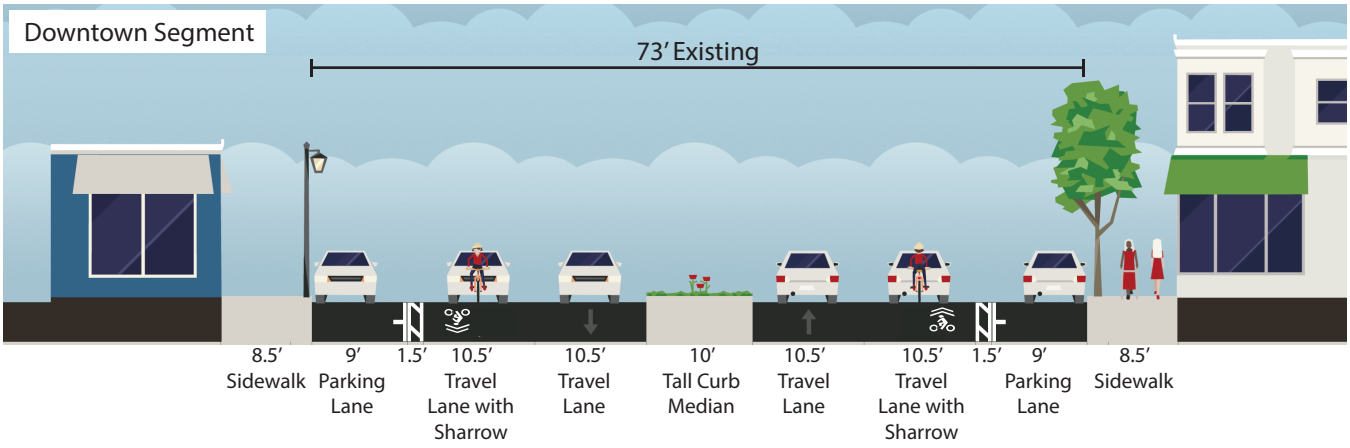


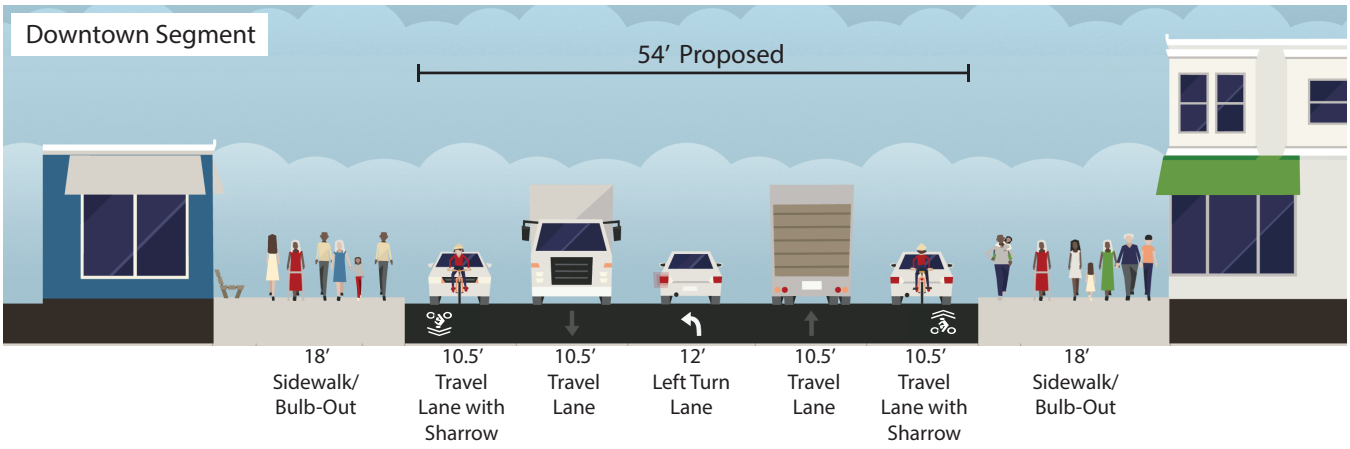
Figure 10

Cross Section Index Map

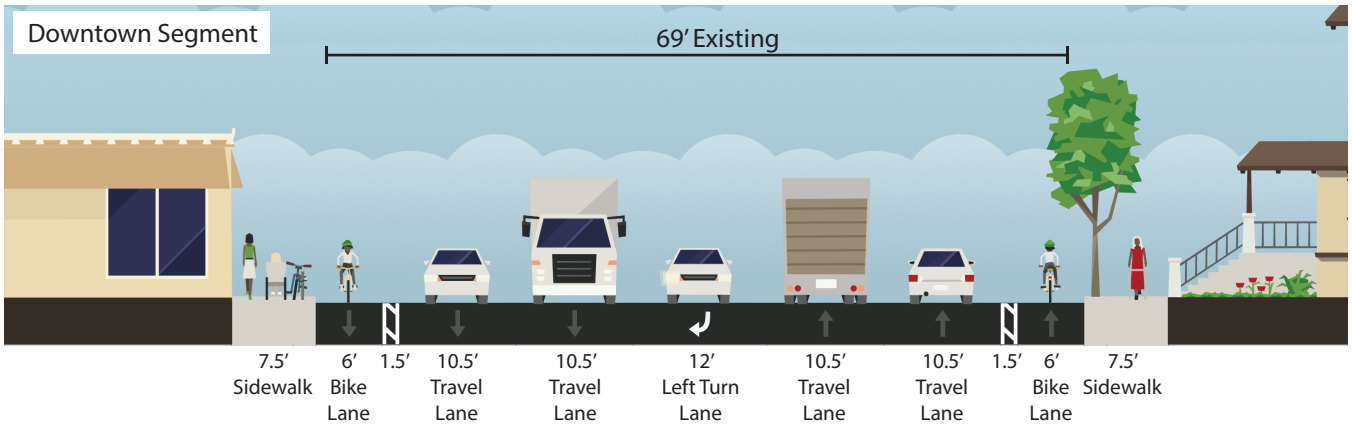
A. Highway 160 between Chestnut Street and Market Street



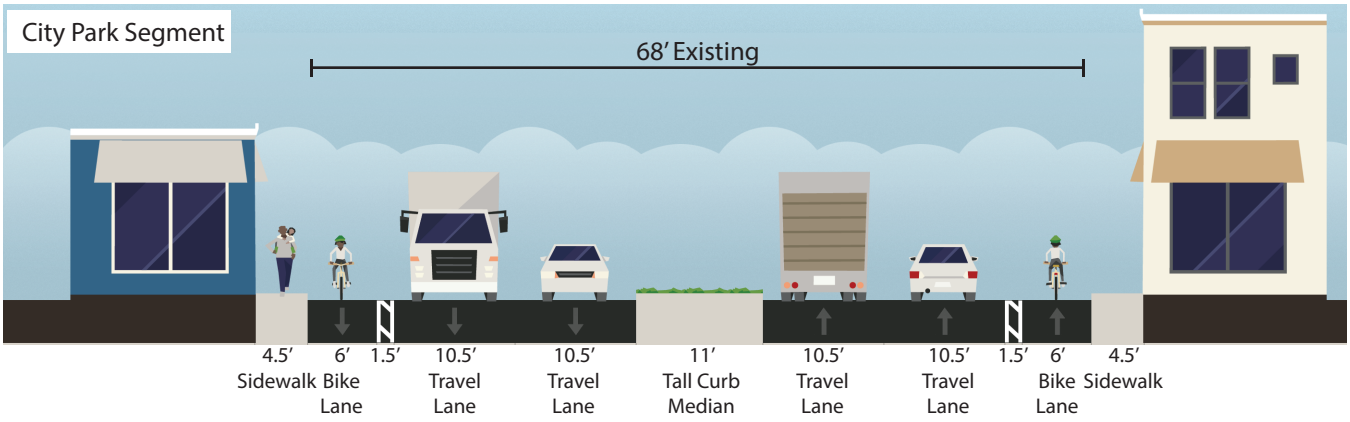
B. Highway 160 at Market Street



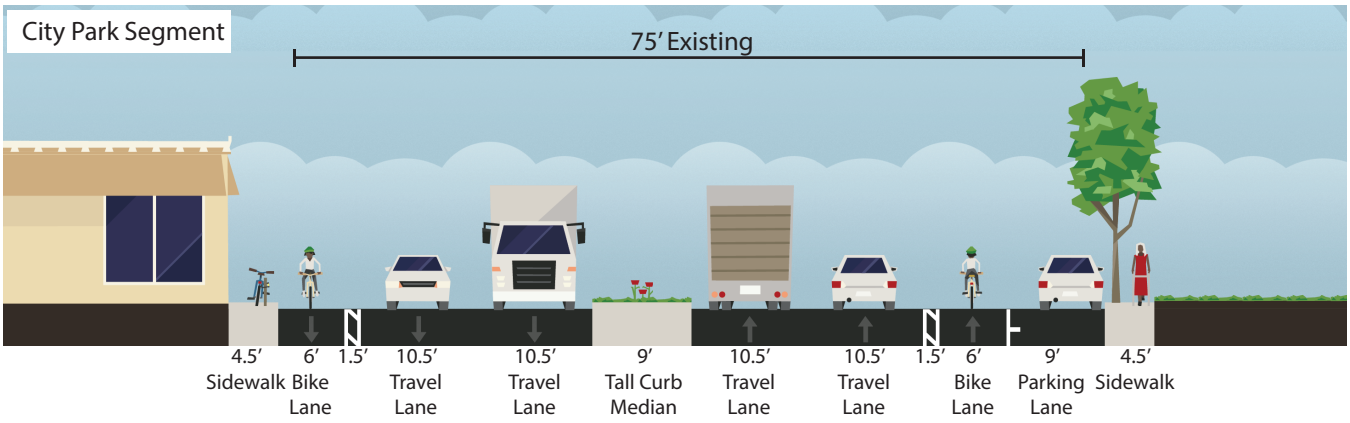
C. Highway 160 at Harrison Street



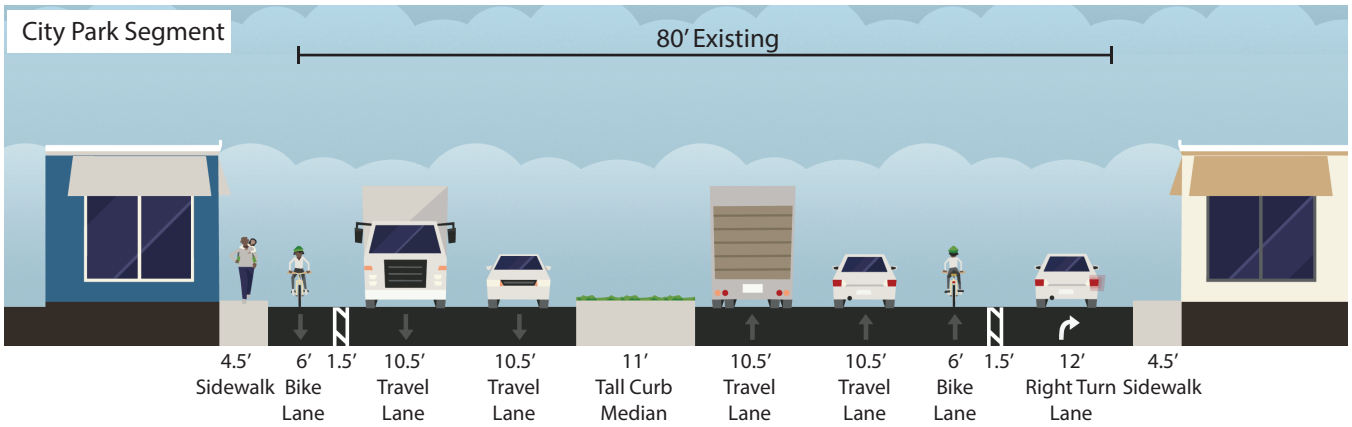
D. Highway 160 between Harrison Street and Park Street



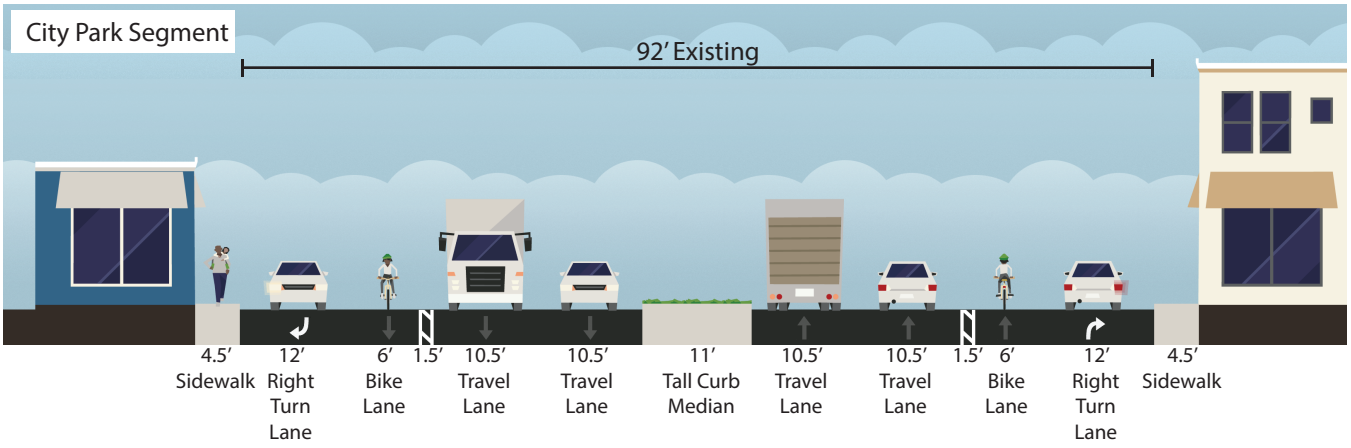
E. Highway 160 between Park Street and Mildred Road



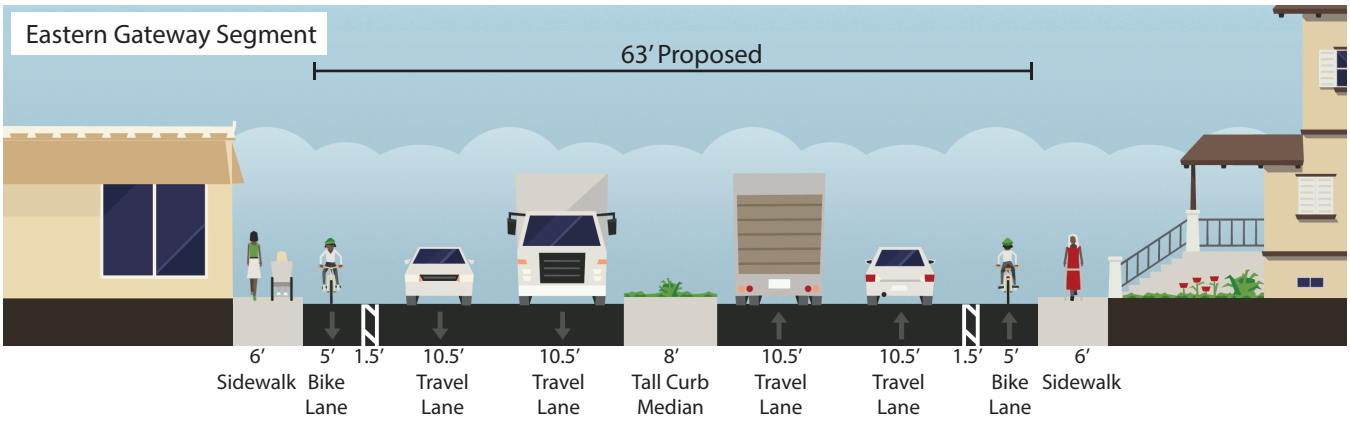
F. Highway 160 between Mildred Road and Roger Smith Avenue



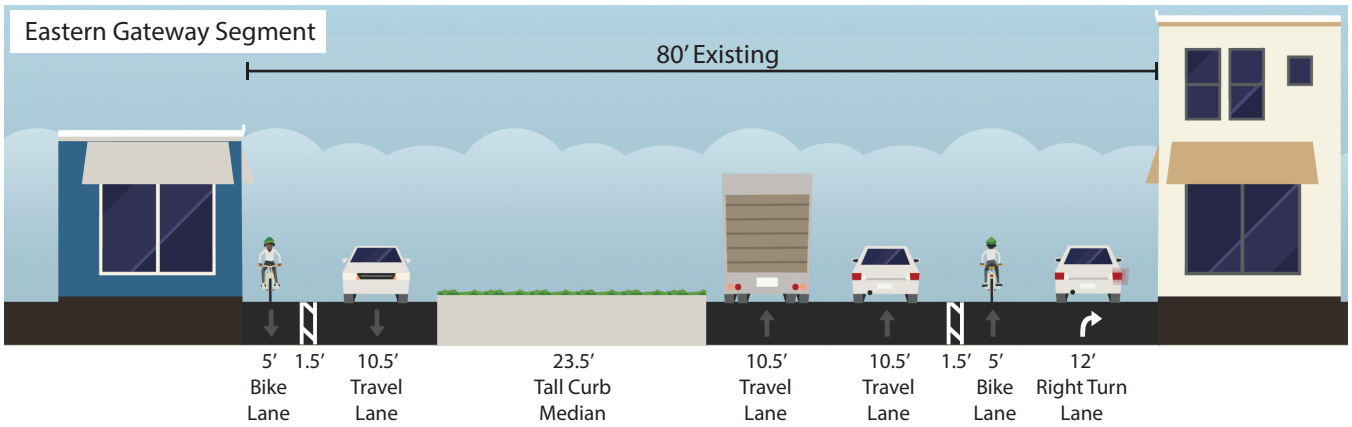
G. Highway 160 between Edith Street and Sligo Street



H. Highway 160 between Veach Street and Henry Street



I. Highway 160 between State Street and Lakeside Drive



Next Steps

This document describes the process of developing the US 160 ACP. There are several important steps that need to occur in the short term and long term to ensure the study roadway realizes the maximum benefit of the recommended ACP. These next steps start with the approval process.

Approval Process

Before the study roadway can begin to benefit from the recommendations of the ACP, a few important events must occur:

- Intergovernmental Agreement (IGA) – All parties must develop and agree to an IGA.
- Plan Approval – The ACP must be approved by and adopted by the City Council.
- Plan Adoption – The City must sign the IGA.

Once the ACP is officially adopted by the City and CDOT, the adopted ACP becomes the basis for future decisions on site access. The current US 160 ACP, as identified in this document, does not have any implementation timing or schedule. Also, the ACP is a living document that can be amended and adjusted as development and redevelopment occurs, traffic growth and traffic patterns change, and visions for the City change. This is not a rigid device that cannot be adjusted.

Plan Implementation

It is important to remember that the ACP is intended to represent a long range plan for the study roadway. Implementation of the full plan can occur as a single project, or over the long term in smaller increments as a phased approach.

Implementation of the full plan at a single time is not likely feasible. Plan implementation could be publicly or privately funded in segments; potentially aided by development or redevelopment. A future public or private project would include the access changes described in the ACP that could be implemented at the time of the project. With the implementation of a roadway improvement project, the government would be responsible for making the access changes to the highway. Even with the planned project, the entire plan will not be implemented at one time because access must still be provided to each property on the corridor. For example, if a property has not redeveloped, it might not be feasible to relocate the driveway, or if the City street network has not been completed, alternative access may not be available. In cases like this, an interim access to the property would be maintained until the ultimate access configuration could be achieved.

When intersections or access points have operational or safety concerns, the City and CDOT will look for ways to address these issues. These projects would most likely incorporate portions of the ACP, such as implementing turn restrictions or improving adjacent intersections/access locations, to improve operations or increase safety along the corridor.

The most common trigger for implementation relates to when a property along US 160 develops, redevelops, or if a driveway experiences a traffic volume increase of 20 percent or more (per the *State Highway Access Code*). Under this scenario, a new CDOT access permit is required, and the City and CDOT would work with the property owner or the developer to make the access changes and highway improvements in the area directly impacted by the development/redevelopment. Coordination through the development process is critical to the ultimate success of the plan. If the ultimate ACP cannot be implemented when a property redevelops, the property should develop in such a way as to not prohibit the plan implementation. For example, buildings should be constructed in such a manner as to use a future access location shown on the plan.

Even if project-related traffic volumes do not warrant the full implementation of the plan, the City should develop a method to collect funds from the owner/developer with the understanding that the changes will be necessary in the future. This may encourage some development to occur now, but the City will have collected funds to help offset the cost of the future improvements. This is especially important in the case where a property simply redevelops, but does not increase the traffic generated by 20 percent or more. If the City does not implement the plan at the same time or collect funds for future implementation, it is unlikely the same property would redevelop again before the changes are necessary, creating a missed opportunity to implement the plan or collect contributions toward the improvements.

Another important aspect of the implementation process is how access is granted to new developments. Each property along the study roadway must be provided with reasonable access. The City and CDOT should work with the owner/developer to ensure projects are designed with consideration to where access will be permitted in the ultimate ACP. Access will be provided to the property as shown on the ACP unless it is not feasible to implement at the time of the development. Then, an interim access will be permitted, which will change once the ultimate access conditions can be achieved. Coordinating with the owner/developer throughout the project development process will ensure the final design of the property does not preclude the implementation of the final ACP configuration on the study roadway.

Plan Modification

The outcome of this study is the US 160 ACP, which identifies the number, location, and type of access points that will be allowed on US 160 within the study limits. Future changes to the plan are allowed based upon the guidelines of the *State Highway Access Code*, according to Section 2.12, "Access Control Plans":

> *The plan must receive the approval of both the Department and the appropriate local authority to become effective. This approval shall be in the form of a formal written agreement signed by the local authority and the Chief Engineer of the Department. After an access control plan is in effect, modifications to the plan must receive the approval of the local authority and the Department. Where an access control plan is in effect, all action taken in regard to access shall be in conformance with the plan and current Code design standards unless both the Department and the local authority approve a geometric design waiver under the waiver subsection of the Code (p. 30, paragraph 3).*