

UNIVERSITY AVENUE STREETSCAPE

FEASIBILITY REPORT EXCERPT

DECEMBER 2023



IDEAL STREETScape

IN AN IDEAL WORLD, an urban area streetscape such as University Avenue would accommodate pedestrians, bicyclists, transit users, motorists, patron parking, and delivery vehicles. To create an inviting and lively streetscape, sidewalks need to be wide enough to accommodate outdoor dining and merchant's products while allowing two people to walk side by side. Having street trees, lights, benches, and waste receptacles along the corridor are also important elements. The ideal sidewalk is almost 20 feet wide.

To improve comfort levels for less experienced bicyclists, streets often have Class IV bikeways. These facilities offer bicyclists a physically separate path from vehicles. Typically, these are about 7 feet wide and have a raised buffer that is about 3 feet wide.

The street should provide an area for motor vehicle traffic as well as on-street parking. In general, travel lanes range in width from 10 to 12 feet with parking stalls from 7 to 8 feet. According to the Fire Code and City of Palo Alto Ordinance Number 5563, the clear street width must be a minimum of 20 feet. In addition, the 2022 California Fire Code requires that for buildings more than 30 feet tall, there must be a fire

apparatus access road that has an unobstructed width of not less than 26 feet. However, this requirement does not necessarily need to be on the main street and can be accomplished by alleys and side streets.

To accommodate all these features, a street would require a right-of-way of about 94 feet as shown in **Figure 11**. However, as an older, established community, University Avenue's right-of-way is only 75 feet wide. As it is impossible to provide all these features on University Avenue, the streetscape will need to balance these competing interests.

STREETSCAPE OPTIONS As previously noted, the streetscape improvements are generally located between High and Webster Streets. Based on the results of the engagement phase, we evaluated three options for University Avenue. Common to all options includes the following:

- ◇ The segment between Ramona and Cowper Streets could be closed for special events such as the Festival of the Arts event in August 2023 as shown in **Figure 10**.
- ◇ All sidewalks would be replaced with concrete, pavers, and related surfacing as described in



Figure 10: Palo Alto Festival of the Arts, August 2023

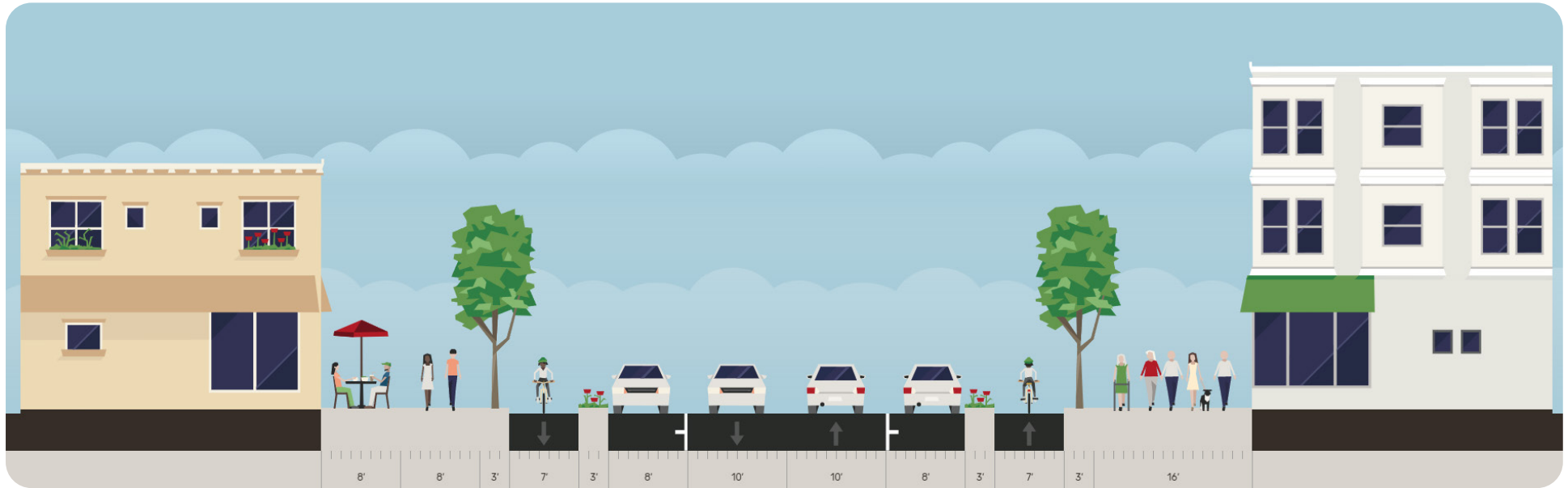


Figure 11: Ideal Streetscape

the Streetscape Features section of this report.

- ◇ New pedestrian scale lighting would be installed along the corridor.
- ◇ At each intersection, the sidewalks would be widened into parking lanes to narrow the crosswalk. These “bulb-outs” can feature planting, seating, and other elements as described in the Streetscape Features section of this report.

OPTION 1 – PROTECTED BICYCLE FACILITY

The first option establishes a Class IV cycletrack along the corridor as well as travel lanes in each direction.

Figure 12 illustrates the option with a loading zone

and/or parking along the corridor. With on-street parking, the sidewalk would only be about 9.5 feet wide. Without parking, the sidewalk would be almost 18 feet wide. The estimated implementation cost for this option excluding municipal bond and assessment district is \$35 million.

The bike buffers could be raised planters that would be moved when University Avenue is closed to provide greater area for street events. To achieve this option while providing on-street parking, the sidewalk widths would be less than 10 feet and the existing trees along the corridor would need to be removed. This alter-

native would not provide for the fire code's 26 feet of clear access. As this option does not align with City Council's direction nor that of most of the stakeholder input, we do not recommend advancing this alternative.

OPTION 2 – PEDESTRIAN PASEO

The second option is pedestrian focused by widening sidewalks to as much as 20.5 feet wide while maintaining travel lanes in each direction and providing Class II bicycle lanes. While this option generally removes on-street parking, it could add parking and/or loading zones strategically along the corridor. If parking is added, the sidewalk's width reduces to 11.5 feet as shown in **Figure 13**. The estimated implementation cost for this option excluding municipal bond and assessment district is \$43 million.

This option creates a generous sidewalk width, which can accommodate outdoor dining, retail racks, furnishings, and street performances. However, the removal of all on-street parking may cause an increase in vehicle speeds along the corridor as drivers typically perceive less "friction" with parked cars. In addition, the removal of all on-street parking is unpopular with businesses operators and owners along University Avenue.

OPTION 3 – ACTIVATION FLEX (PREFERRED OPTION)

As noted in the engagement section, the elimination

of on-street parking is a critical concern to retail operators, business owners, and landowners along University Avenue. Urban planners note that people will walk much further along an interesting street to get from their parking space to the store or restaurant they are going to rather than walking from a parking lot. This is sometimes defined as "**Pedestrian Propulsion**" as noted by architect and town planner Steve Mouzon, cofounder of The Urban Guild. The term defines the characteristic of a street that entices you to walk further than you otherwise would on streets with less visual interest or interactive features, as though literally propelling you along your way.

Stakeholders asked the team to evaluate alternative parking configurations to maximize sidewalk width. In the current configuration, University Avenue has about 18 stalls per block. **Figure 14** illustrates alternative parking concepts for University Avenue. To maximize on-street parking, the project could convert both sides of the street to 45-degree stalls, providing 24 stalls per block. But this would reduce the sidewalk widths to only 4 feet. If we reduced the angle to 20-degrees, we could increase sidewalk width to about 10 feet, but reduce parking count to about 10 per block. Converting all the stalls to parallel, the project could achieve about 14 stalls per block with sidewalks that are about 16.5 feet in width.

We refined this option known as Activation Flex as shown in **Figure 18**. In this option, the street would

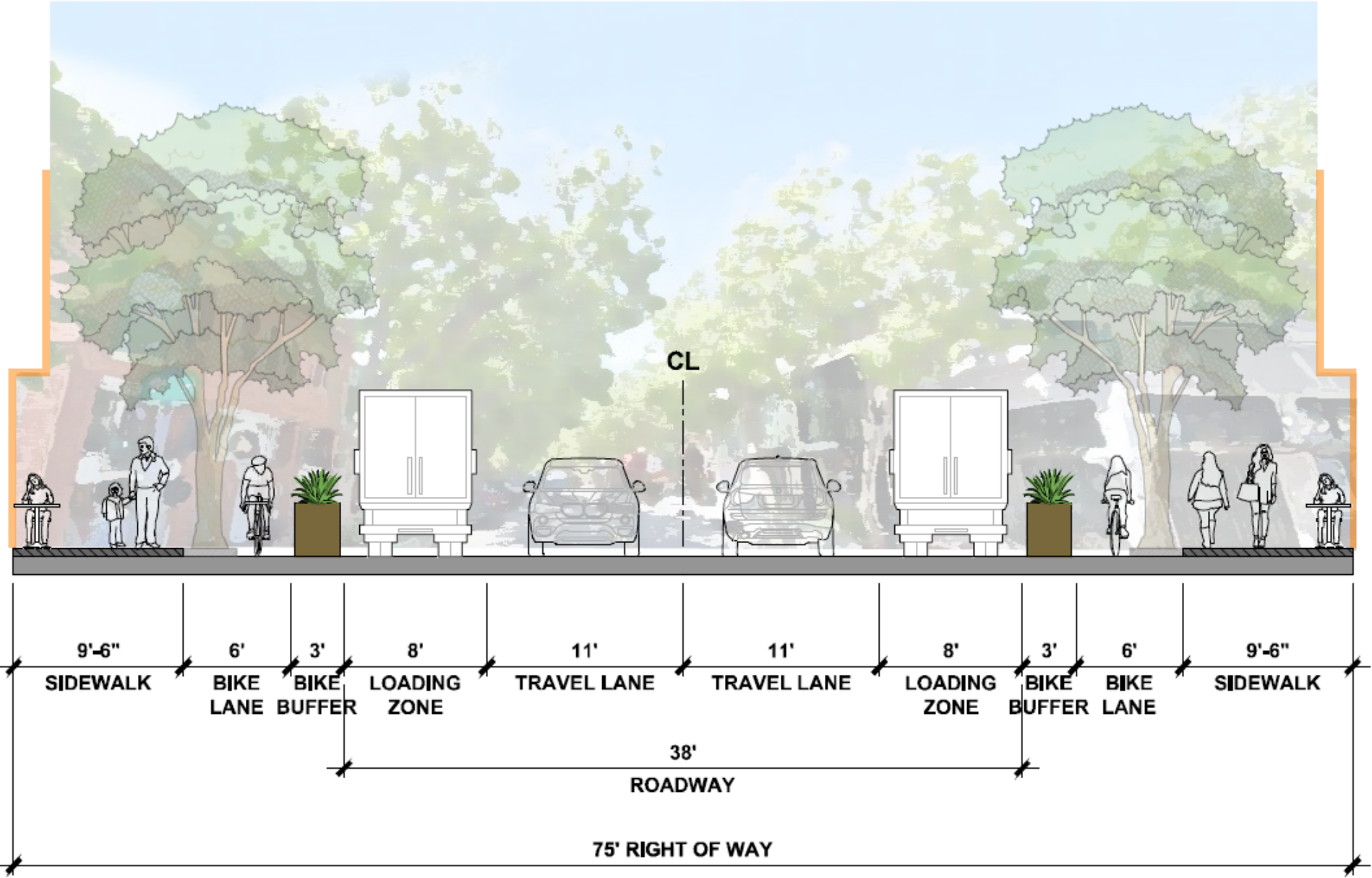


Figure 12: Option 1 Bikeway

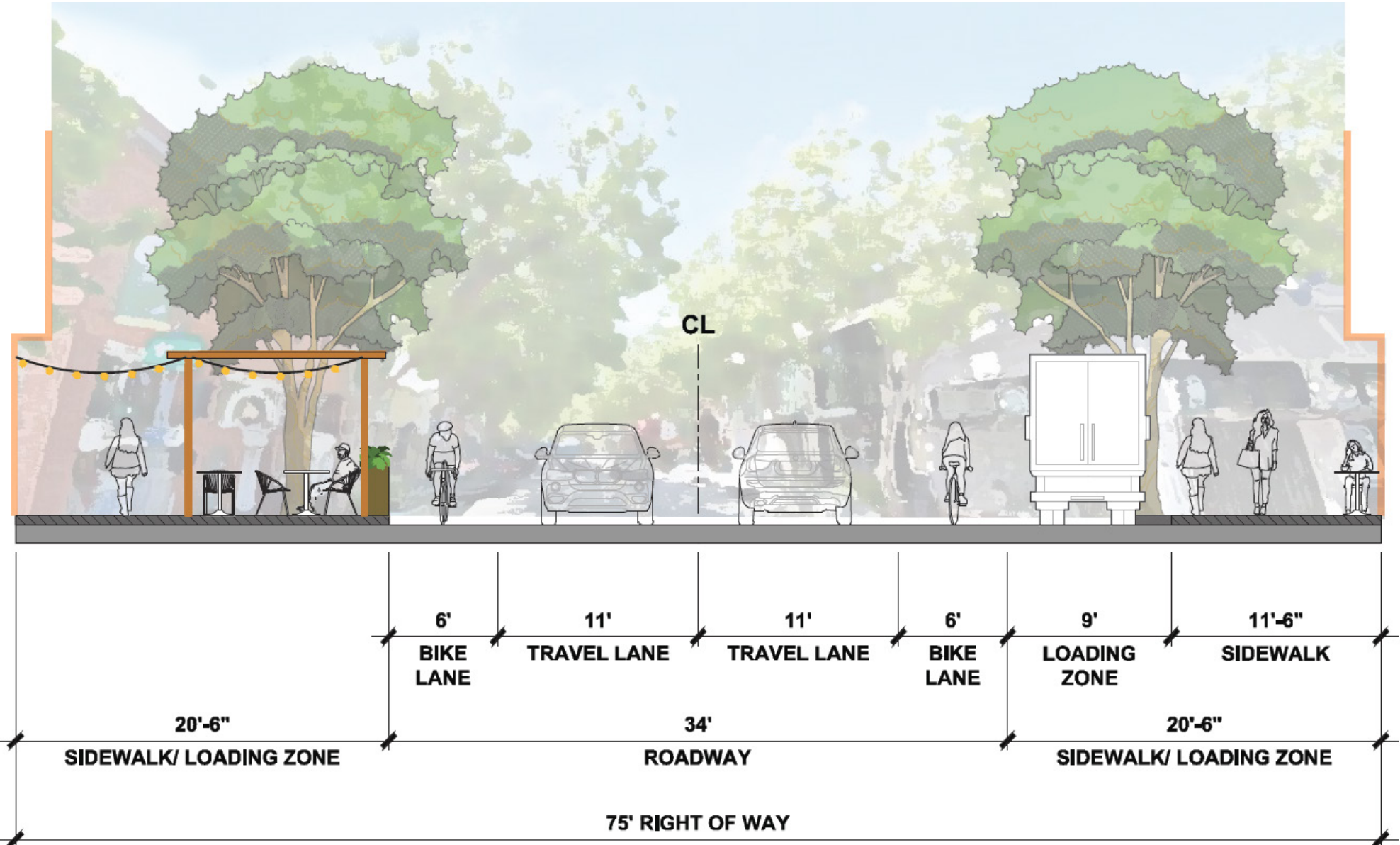
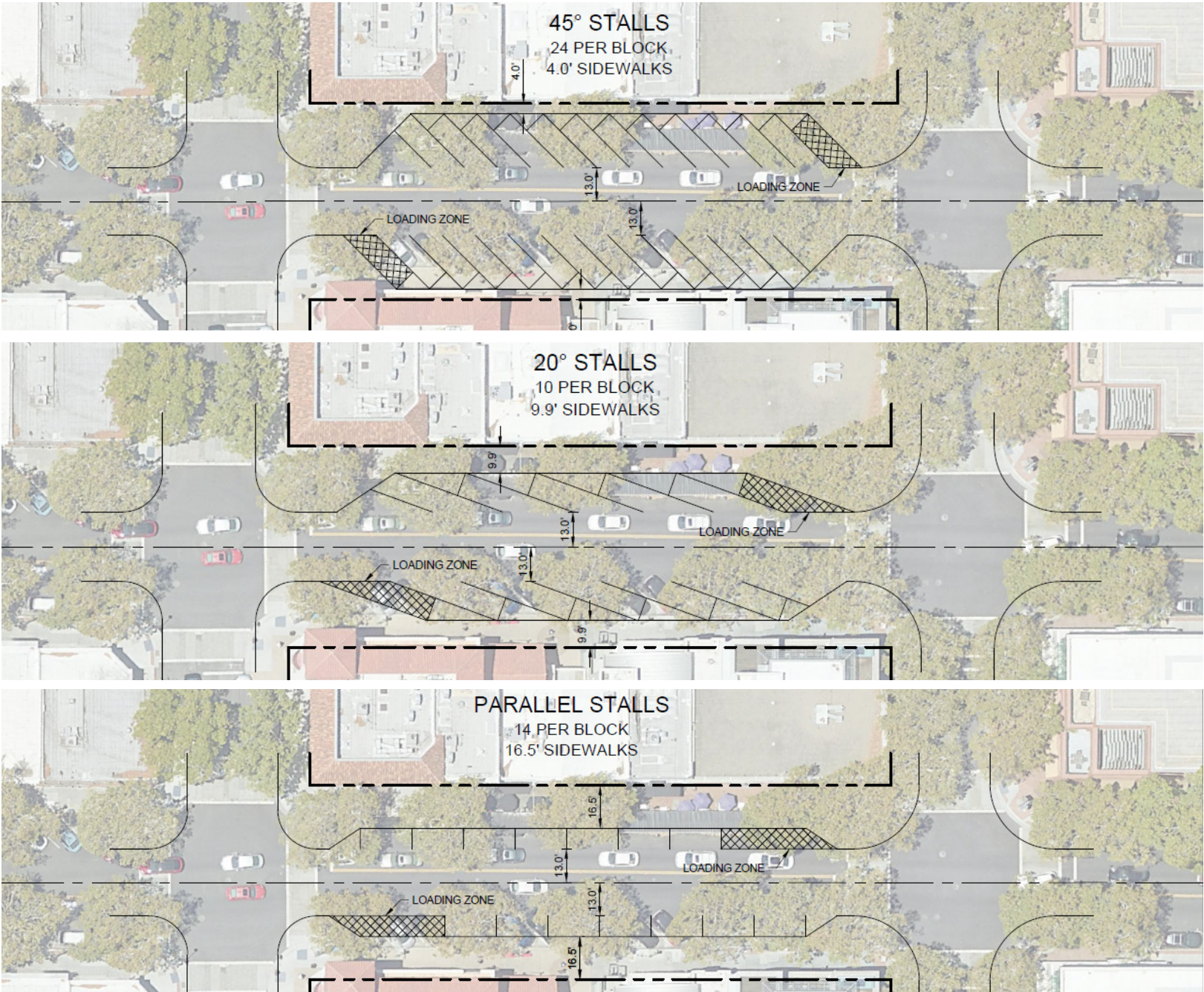


Figure 13: Option 2 Paseo

Figure 14: On-Street Parking Options



maintain two travel lanes in each direction with an overall minimum width of 26 feet between curbs. Given the low travel speeds on University Avenue, this width would allow for bicyclists to share the road with vehicles. The option preserves all street trees by either expanding the landscape areas or adding decking as shown in **Figure 15**. These decks would replace standard concrete sidewalks in areas that would conflict with tree roots.

The Activation Flex option provides three zones in the 17.5 feet wide sidewalk area noted as follows:

Commerce Zone Retail and restaurants along the corridor could use this zone to provide outside dining or racks for merchandise. Establishments that serve alcoholic beverages would need to secure permission from the State of California's Department of Alcoholic Beverage Control. This would require some form of barrier separating the dining area from the sidewalk. The width of this area could be about 6.5 feet wide. An example of a typical four-top table configuration is shown in **Figure 16**.

Pedestrian Zone The streetscape seeks to maintain a clear area for two pedestrians to walk side by side. Thus, the pedestrian zone should be no less than 8 feet wide.

Amenity Zone The amenity zone would provide

streetlights, waste receptacles, news racks, and seating. It should be no less than 3 feet in width including the curb.

Within these zones, the streetscape will feature furnishings, landscaping, and materials as illustrated in **Figure 19**. These items will be refined during the detail design phase.

It is important to note that the streetscape will likely not be uniform along the corridor and small variances in the above dimensions will be required. This will be determined in the final design of the streetscape.

Figure 20 is a preliminary layout of the streetscape along University Avenue. This option removes 48 of the existing 193 stalls, providing 145 parking spaces. In compliance with the ADA Accessibility Standards for the public right-of-way, the project would provide a total of five accessible parking spaces, including one designated for vans within the project area. **Figure 17** illustrates a proposed accessible parking stall.

In addition to the proposed parking along University Avenue, the project proposes to add loading/ unloading zones along the side streets as shown in **Figure 20**. Note that the streetscape plan will follow parking regulations currently under review by the City's Office of Transportation.

As shown in **Figure 18**, this option narrows the



Figure 15: Decking at street trees



Figure 16: Outdoor Dining Dimensions

Figure 17: Typical Accessible Parking

roadway at the crosswalks by “bulbing-out” the sidewalks into the street. The narrowing of the roadway would shorten the crosswalk distance as well as slow down vehicle speeds enhancing pedestrian safety. This configuration would require fire trucks to turn into the opposing lane, which is similar to the existing condition. **Appendix H** illustrates the existing and proposed fire truck turn.

This option is consistent with stakeholder’s top 3 desired improvements as defined in the survey that includes the following features:

#1 Outdoor Dining

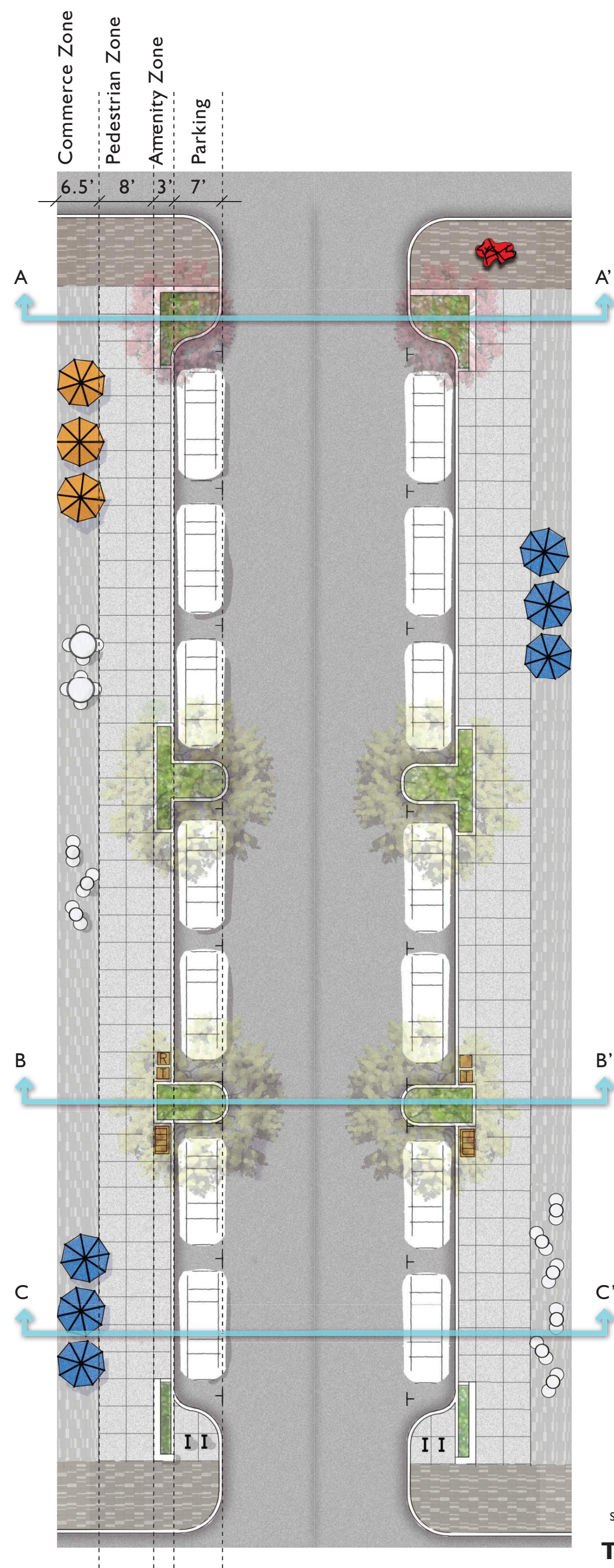
#2 Expanded sidewalks and enhanced pedestrian pathways

#3 Social gathering areas and seating notes

The Activation Flex option provides businesses along University Avenue with the opportunities for outdoor dining and retailers to display their goods within the sidewalk area without the development and maintenance of parklets. This option preserves approximately 75% of the on-street parking and offers traffic calming features to allow bicyclists to share the road with vehicles. The bulb-out areas at the intersection can provide additional area for plantings and furnishings allowing for “people-focused” activities voiced during the public engagement process.

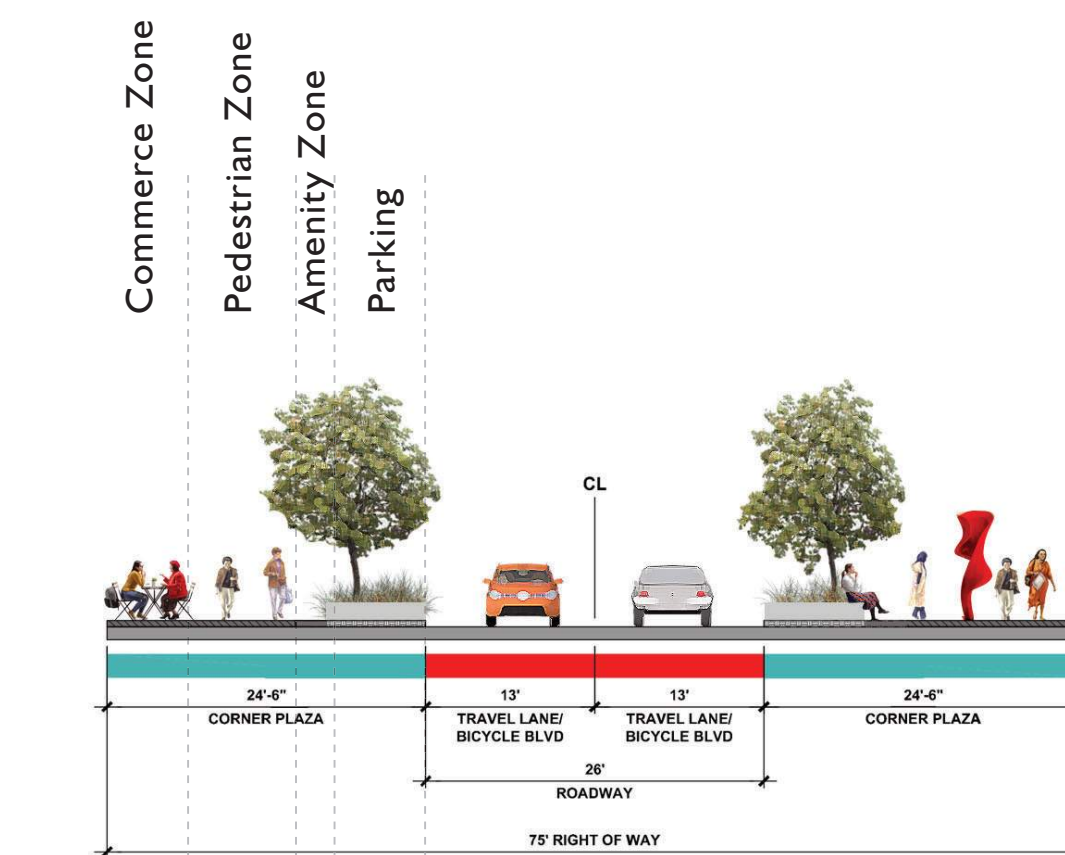
(page 31) **Figure 18:** Preferred Option 3 “Activation Flex”

(page 32) **Figure 19:** Furnishings, Materials, and Palettes

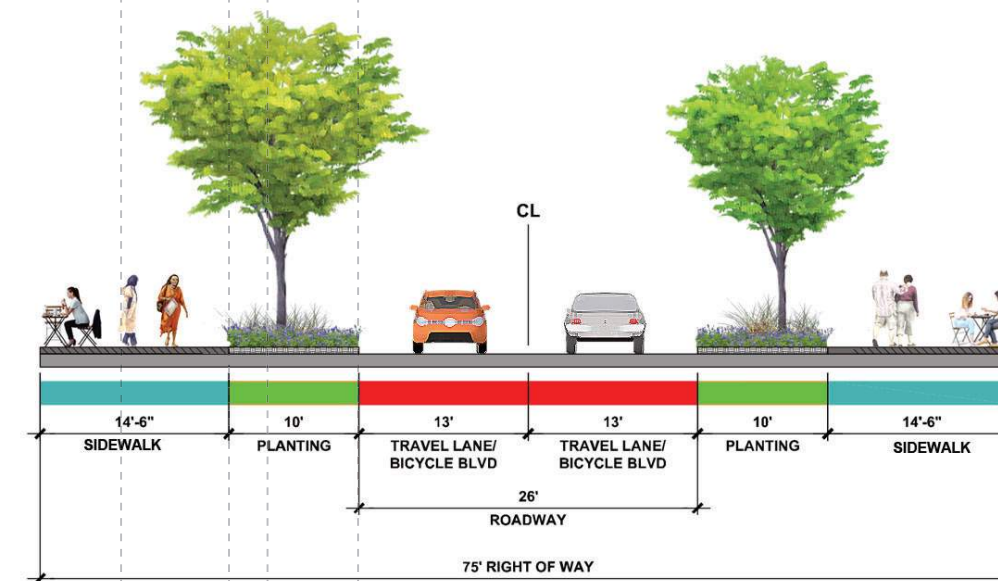


Scale 3/16" = 1'

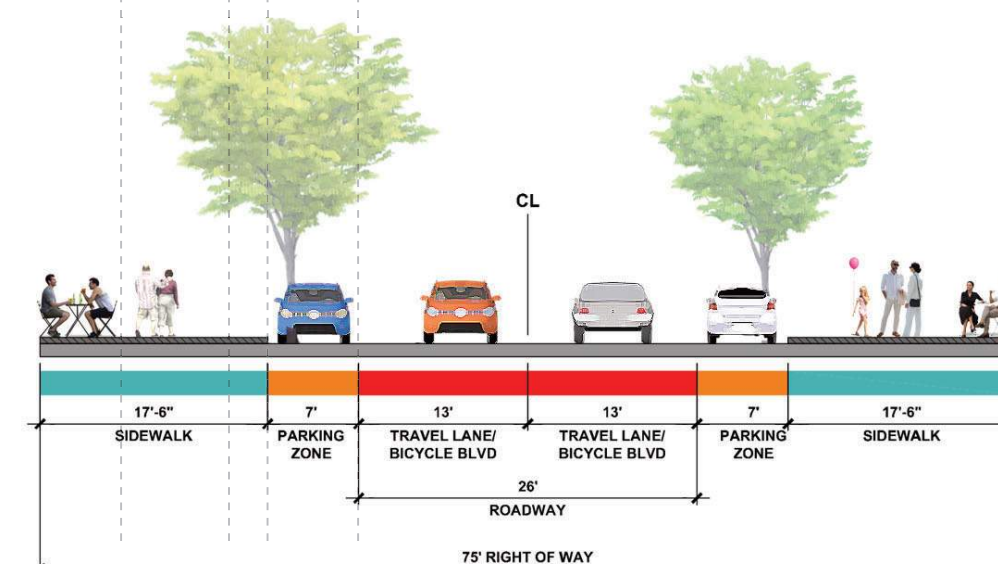
TYPICAL BLOCK PLAN



Section A - A': Corner Plaza



Section B - B': Mid-Block with Existing Tree



Section C - C': Mid-Block

TYPICAL SECTIONS



CHARACTER IMAGES

PAVING

Enhanced Non-Vehicular Paving
| Integral Color Concrete



Enhanced Vehicular Paving
| Stamped Asphalt
Color: Std Brick
Pattern: Offset



Concrete

BENCHES



Landscape Forms | Melville



Maglin | 970 Series



Victor Stanley | Freesia

BIKE RACKS



Landscape Forms | Key Bike Rack



Maglin | MUG Bike Rack



Victor Stanley | BRQS Bike Rack

LITTER RECEPTACLE



Landscape Forms | Petosky Littler



Maglin | Lexicon



Victor Stanley | SD-45

LANDSCAPE



Bulbine frutescens 'Tiny Tangerine'
Stalked Bubline



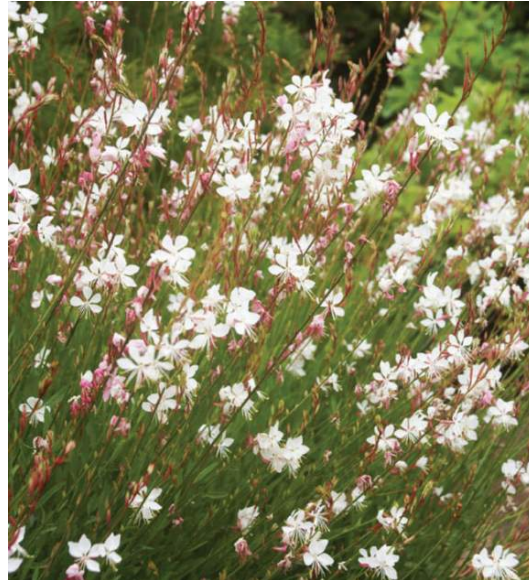
Rhipsolepis indica 'Ballerina'
Ballerina Indian Hawthorn



Muhlenbergia dubia
Pine Muhly



Epilobium canum
Hummingbird Trumpet



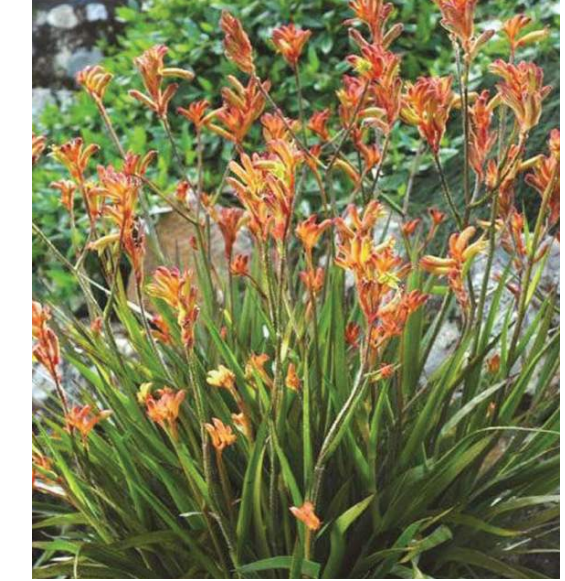
Gaura lindheimeri
Gaura



Dymondia margaretae
Silver Carpet



Lavandula angustifolia 'Hidcote'
Hidcote Blue Lavender



Anigozanthos
Kangaroo Paw



Myoporum parvifolium 'Pink'
Trailing Myoporum



Mimulus 'Jelly Bean Orange'
Orange Monkeyflower



Dietes grandiflora
Fortnight Lily



Teucrium fruticans 'Azureum'
Bush Germander



Salvia microphylla 'Hot Lips'
Baby Sage



Lomandra longifolia 'Breeze'
Breeze Mat Rush



Figure 20: University Avenue Activation Flex