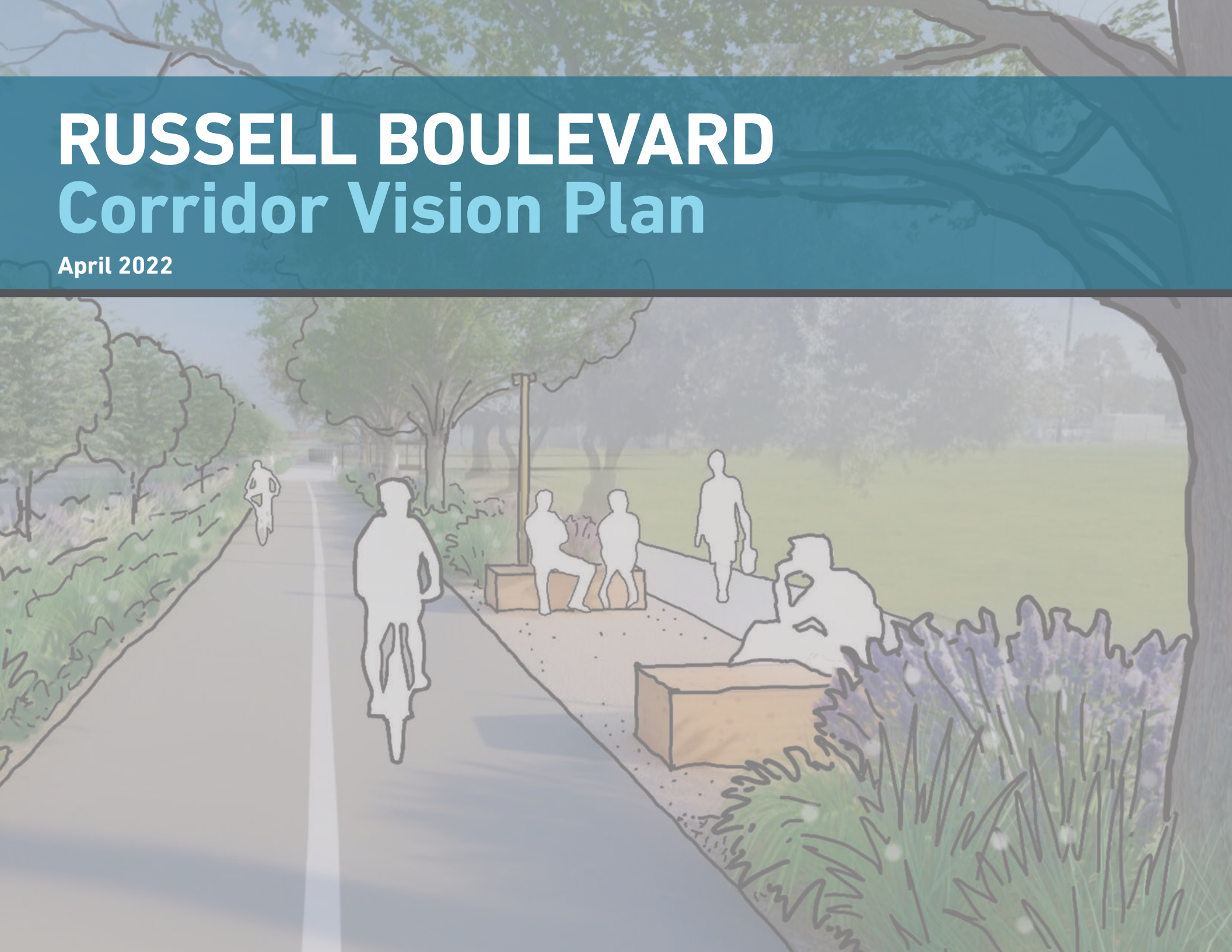
RUSSELL BOULEVARD
Corridor Vision Plan

April 2022



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UC Davis Land Acknowledgment

We would like to acknowledge the land on which this project is located. For thousands of years, this land has been the home of Patwin people. Today, there are three federally recognized Patwin tribes: the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Kletsel Dehe Wintun Nation, and Yocha Dehe Wintun Nation. The Patwin people have remained committed to the stewardship of this land over many centuries. It has been cherished and protected, as elders have instructed the young through generations. We are honored and grateful to be present on their traditional lands.

Project Acknowledgments

- City of Davis staff
- UC Davis staff
- Yolo County staff
- Community Steering Committee Members
- Bicycle, Transportation and Street Safety Committee
- Technical Advisory Committee Members

Thank you to the 350+ people who attended and/or directly participated in the Community Workshops throughout the Reimagine Russell project. Your input, guidance, and ideas during the visioning process has been a critical step towards defining what Russell Boulevard can become in the future.

Consultant Team

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Table of Contents

Appendicies

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Executive Summary

Reimagine Russell Boulevard is a joint planning and visioning effort by the City of Davis, the University of California, Davis (UC Davis), and Yolo County, addressing the three mile corridor of Russell Boulevard from B Street to County Road 98.

Through extensive analysis of the Boulevard's operations, physical landscapes, and cultural significance, the Reimagine Russell Boulevard team has developed the following Vision Plan and design concepts, proposing an accessible, multimodal, and sustainable future for this critically important arterial. This is a community-driven vision, guided by a diverse group of Boulevard neighbors and stakeholders who provided invaluable insight into the issues, assets, and potential of Russell Boulevard. Community guidance and design direction will continue to be essential to this project in future phases of refinement and implementation.

Reimagine Russell Boulevard is structured around three key components of the corridor, reflecting concern for equitable mobility, ecological sustainability, and a welcoming public realm.

Multimodal mobility is the heart of this work: designing the roadway for comfortable, safe, intuitive use by people walking and rolling, biking, taking the bus, and driving. It entails a process of reevaluation and rebalancing of the roadway, ensuring safe spaces for all modes, and making it accessible to people of all abilities.

Green infrastructure offers opportunities to reduce the negative ecological impacts of the roadway while enhancing the beauty and vitality of the corridor. A reminder of the connectedness of this corridor to its ecological context, green infrastructure represents new possibilities for the design of our transportation spaces.

Placemaking describes practices of celebrating and affirming local cultures, histories, and people, through distinctive, inviting spaces and landscape features. Furnishings, public art, plantings, lighting, events, monuments, and signage may all play a role in amplifying the unique spirit of a place.

The integration and interplay of these three principles have shaped the Vision for Russell Boulevard. No doubt with the innovative spirit of the City of Davis, UC Davis, and Yolo County, these ideas and their manifestation in the built environment will continue to grow, evolve, and enrich the communities in which they are implemented.

Section 1
Introduction

01

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Project Introduction

In 2021 the City of Davis, UC Davis, and Yolo County launched "Reimagine Russell Boulevard" a collaborative, community-driven planning and conceptual design effort to address safety and accessibility along a 3-mile stretch of Russell Boulevard from B Street to County Road 98. Initially, the project limits were from B Street to the western City limit, but this was extended to County Road 98 when the benefits of adding Yolo County to the team were identified, including incorporating the County's plans for a roundabout at the intersection of Russell Boulevard and County Road 98.

Anticipating potential community impacts, UC Davis, the City of Davis, and Yolo County agreed to a memorandum of understanding (MOU) on a series of shared goals and commitments to improve collaboration and partnership. Among the commitments made by UC Davis was a contribution for traffic improvement projects for a number of areas, including the Russell Boulevard Corridor.

The purpose of the Russell Boulevard Corridor Vision Plan is to determine a comprehensive and community-based vision for the corridor that will help guide future corridor improvements to mitigate community and campus growth and address demand for travel on the corridor. This vision includes best practices in multimodal and multifunctional street design and is meant to set the stage for how the corridor can be improved as the City and UC Davis look toward the future. Ultimately, the Corridor Vision Plan includes ways the City, University, and County can address safety concerns, adapt to future climate conditions, and enhance a sense of place along the corridor.

Land Use Context

Project Background

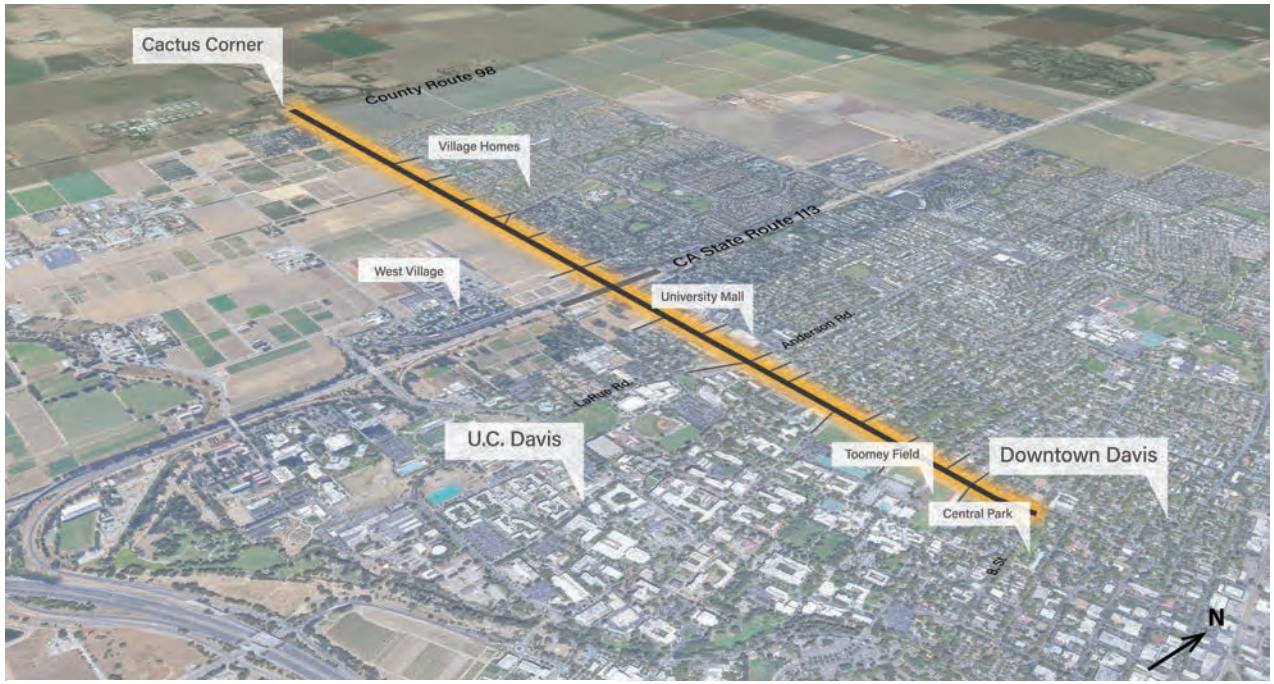
This project is a Long-Range Transportation Planning and Visioning Effort focused on:

- Accommodating future community & campus growth and demand for travel on the corridor.
- Addressing existing safety, circulation, and multimodal transportation needs.
- Strengthening the visual identity and sense of place along the City/Campus interface.
- Integrating sustainable design into the corridor (stormwater management, heat-mitigation, climate resiliency, etc.).

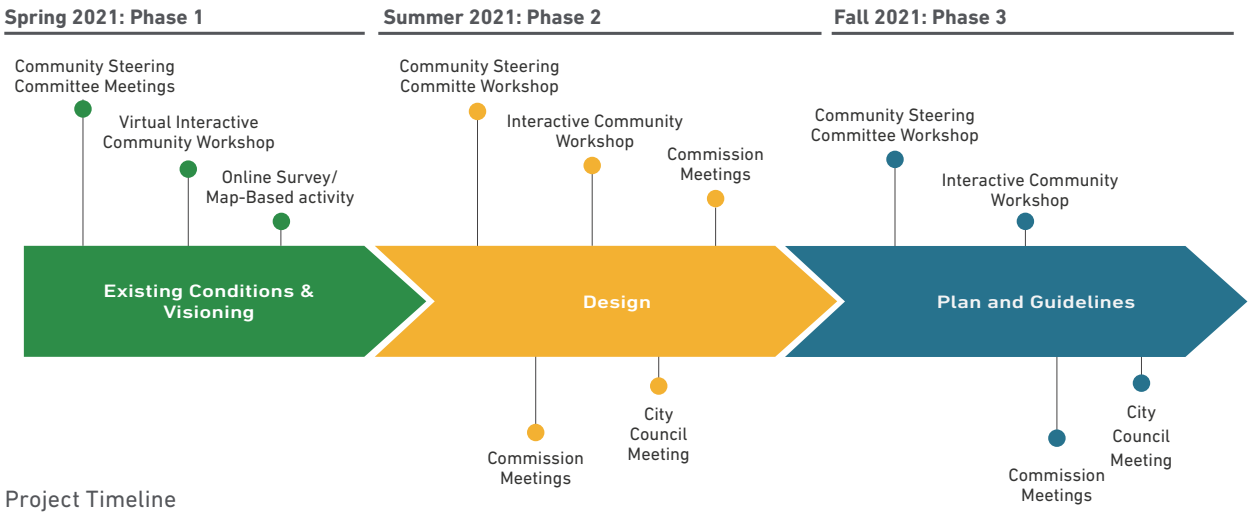
The Reimagine Russell Boulevard Process

The Reimagine Russell Boulevard process launched in the Spring of 2021 with a series of community steering committee meetings and virtual community workshops focused on engaging with a broad range of stakeholders in an effort to gather input on peoples' experiences, concerns, and desires for the Russell Boulevard corridor.

The project's final outcome is a Corridor Vision Plan that includes conceptual design from B Street through County Road 98 (Cactus Corner) intended to help prioritize and coordinate between the jurisdictions' future projects along the corridor.



Project Extents and Surrounding Context



Project Timeline

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Section 2
Existing Conditions

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Existing Conditions

The following section provides an overview of Russell Boulevard, its cultural context, history, and current condition, including anticipated future development along the corridor.

Cultural Context

This project is a joint effort of three jurisdictions: the City of Davis, UC Davis, which is an independent constitutional entity and regulatory body in the State of California, and Yolo County. Together, the City, University, and County have defined goals and parameters for improvements to Russell Boulevard, which acts as a key connector between University and City spaces and is essential for multimodal access for the County, UC Davis, and city centers.

The City of Davis is a place of strong and distinctive local character, broadly defined by agriculture, the presence of the University, and family-friendly neighborhoods and greenbelts. A long-term leader in bike transportation, Davis is the site of the United States' first bike lane, which was implemented in 1967. Sustainable transportation remains a key priority for both the City and the University.

Founded in 1905 as the agricultural branch of the University of California system, and now a prestigious doctoral university, UC Davis is a national leader in agricultural and environmental sciences, agricultural economics, veterinary medicine, biology, and ecology education and research. With over 40,000 students, faculty, and staff from around the world, UC Davis is a diverse academic community, enriching the cultural life of the region. The University prioritizes sustainability, as is evident in the UC Policy on Sustainable

The first bike lane in the United States, 1967 (*City of Davis*)

Practices. The focus on sustainability is also integral to campus planning efforts, which emphasize designing for walking and rolling, biking, and transit access.

Agriculture

Agriculture has been at the heart of Davis since its incorporation as a city in the early 20th century. In 1905, Davis (then known as Davisville) was selected as the site of the University of California's University Farm, after the initial farm location in Berkeley was deemed inadequate for the desired scope of research and practice. Today, UC Davis agriculture is a major part of the Davis area landscape. It is also a highly visible part of the Reimagine Russell Boulevard study area; people traveling the boulevard can enjoy expansive south and westward views of UC Davis research fields from beneath the historic walnut trees that line the road. In the western end of the corridor, near Cactus Corner, the roadway passes through commercial orchards, typical of this region of the state.

The agricultural legacy is evident in the City's architecture, and quintessential local events, such as the renowned Davis Farmers' Market. Some new development, such as The Cannery, use agrarian forms and materials in a contemporary context, emphasizing the ongoing importance of farming and sustainability in Davis.

UC Davis Research Fields seen from Russell Boulevard *(Google)*

Davis Farmers' Market at Central Park (*The California Aggie*)

Evidence of Farming Activity along Russell Boulevard

Agrarian-inspired Housing and Landscape at The Cannery

Sustainable Transportation

Comprehensive planning documents produced by both the City of Davis and UC Davis include objectives around reducing carbon emissions from transportation. The City's General Plan and the University's Long Range Development Plan (LRDP) and transportation planning report, *Transportation Tomorrow,* recommend design and policy to encourage walking and rolling, transit, and biking in place of private car use. The importance of biking is made clear by policy goals such as the following from the City's General Plan:

Performance Objective #1.1:

Achieve at least the following mode share distribution for all trips by 2035 :

- *10% of trips by walking*
- *10% of trips by public transportation*
- *30% of trips by bicycle*

and:

Goal #4: Davis will strengthen its status as a premier bicycling community in the nation by continuing to encourage bicycling as a healthy, affordable, efficient, and low-impact mode of transportation accessible to riders of all abilities, and by continuously improving the bicycling infrastructure

The University's Long Range Development Plan expresses similar values around transportation, and emphasizes sustainable stormwater management as an integral component of street design:

Expand active transportation infrastructure: Expand campus infrastructure to support active transportation; improve safety for both bicyclists and pedestrians; consider roadway intersection reconfigurations to minimize distance of crosswalks; consider roadway reconfiguration to reduce vehicle speed; clearly articulate the transitional spaces between bicycle oriented core campus and the public streets on the periphery.

Biking is a key mode of transportation for the UC Davis community (*UC Davis*)

Unitrans buses at Russell Boulevard and Howard Way (*UC Davis*)

CREATE GREEN STREETS: Foster a healthy, vibrant and resilient urban forest and tree canopy along all roadways; integrate storm water facilities within adjacent landscapes to treat surface runoff from roadways.

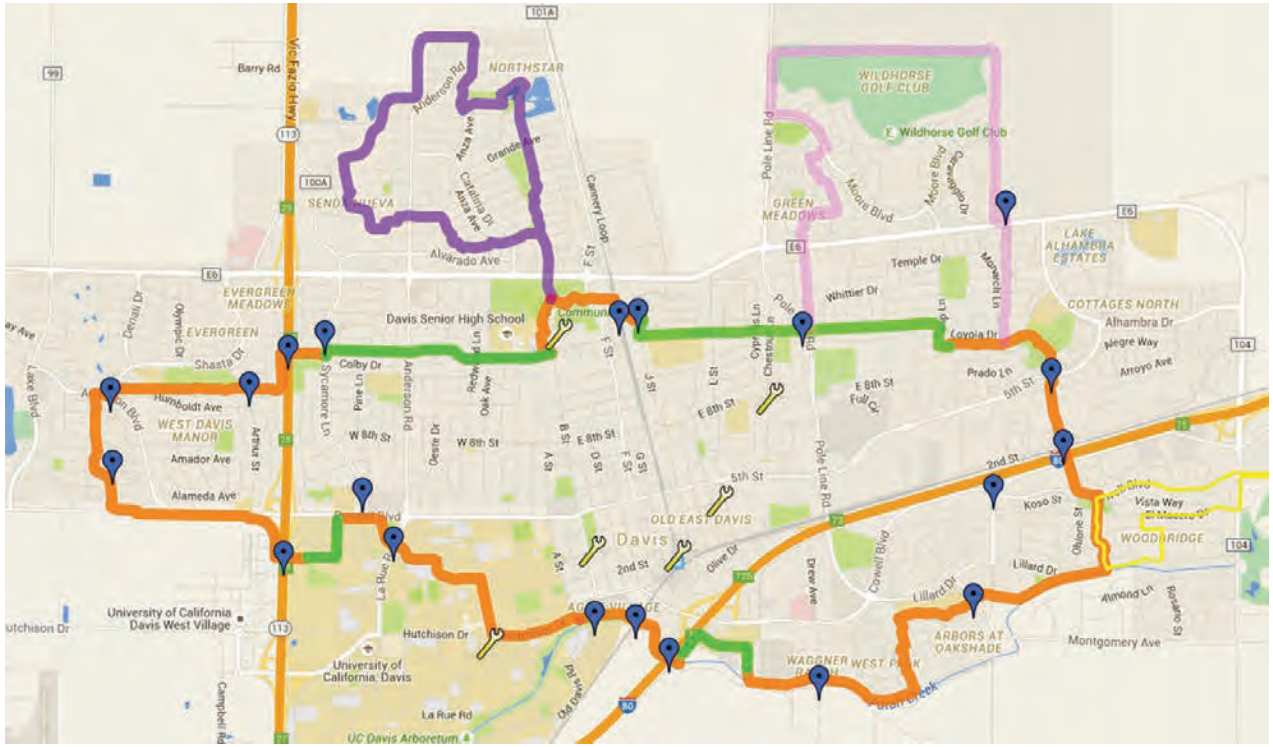
(from "Streetscapes and Roadways Planning Objectives", LRDP, p. 81)

For *Transportation Tomorrow*, the University conducted a two-year study focused on a more sustainable future. The resulting report provides ten recommendations to achieve sustainability goals, including incentivizing preferred modes of transportation, leveraging new and emerging mobility services, strengthening active transportation programs, and improving the campus transportation network.

The UC Sustainable Practices Policy (University of California 2020), applies to all campuses and contains the following goals related to reducing vehicle travel.

- The University recognizes that single-occupant vehicle (SOV) commuting is a primary contributor to local greenhouse gas emissions.
- By 2025, each location shall strive to reduce its percentage of employees and students commuting by SOV by 10 percent relative to its 2015 SOV commute rates.
- By 2050, each location shall strive to have no more 40 percent of its employees and no more than 30 percent of all employees and students commuting to the location by SOV.

All parties behind "Reimagine Russell Boulevard" understand and emphasize that high-comfort, safer, attractive facilities for biking, walking and rolling, and accessing transit are essential to achieving the desired modeshare and reducing carbon emissions; such facilities make alternative modes of transportation appealing and convenient, facilitating a natural shift away from private cars as the default option.



Davis Bike Loop

Green Infrastructure Designed and Built by UC Davis Students Captures Stormwater Runoff from the Roadway on California Avenue (*Urban Rain Design*)

Family-Friendly Town: Neighborhoods and Landscapes

Davis is known as a livable, family-friendly city, due in no small part to its acclaimed "Greenbelt": a nearly 60-mile network of bike paths and parks throughout the City. This open-space resource includes sports fields, pedestrian paths, and mapped bike routes (such as the Davis Bike Loop) as well as ample opportunities for exploration, walking, rolling, and running, and passive recreation. Many Davis residents use the Greenbelt to commute to school or work. The Greenbelt also helps connect the City and the University. For example, the Davis Bike Loop is an important connector to UC Davis, with a significant stretch of the path running through campus land (Figure 8).

In addition, many of Davis' neighborhoods, such as Village Homes, were planned to include integrated green spaces, community gardens, and paths. Planned and in-construction UC Davis residential developments at Orchard Park Drive and Route 113 also emphasize active transportation in their design. "Reimagine Russell Boulevard" can build on this urban planning legacy by creating a "people-first" multimodal corridor that welcomes people using all modes of transportation and situates the roadway in a sustainable and inviting landscape.

Covell Greenway in West Davis (*City of Davis*)

Village Homes landscapes and communal facilities (*photo credits: Wayne Senville, D. Dingemans*)

UC Davis and Student Life

Russell Boulevard runs along the northern edge of the UC Davis campus through the majority of the "Reimagine Russell Boulevard" study area. The following aspects of University life are especially relevant to the operations and future redevelopment of Russell Boulevard:

University Schedules

UC Davis schedules are a key factor in the patterns and levels of activity along Russell Boulevard. From annual academic year schedules, vacations, exam periods, move-in days, to daily schedules of classes and athletics, to public arts events, festivals and games, the life of the University shapes the boulevard.

Activation Rhythms

Russell Boulevard is shaped by multiple rhythms of use and activation that vary throughout the day, week, and year. The levels of vehicular, pedestrian, and bicycle traffic on the street vary based on these rhythms, along with the types of activities that may take place along the corridor. By studying and responding to these activation rhythms, the design of Russell Boulevard can better serve all the different users and uses. For example, for an event like Picnic Day in April, Russell Boulevard hosts a large influx of people, so the corridor needs to be able to accommodate those large crowds, alongside functioning well on more typical days.

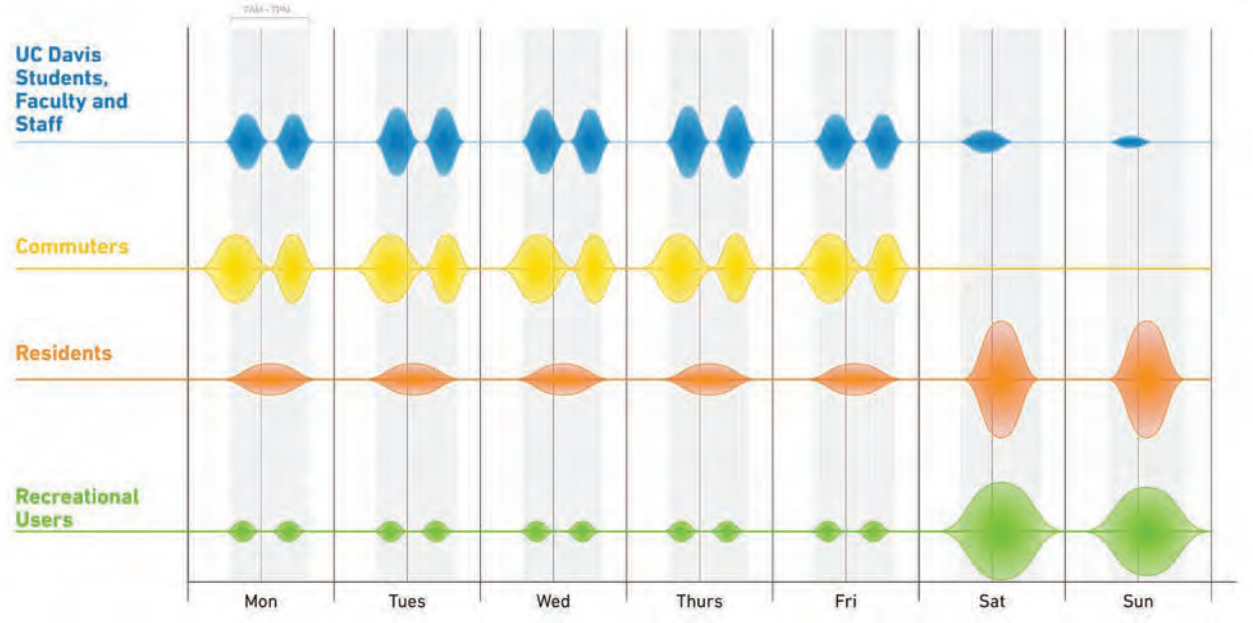


Diagram Studying the Rhythms of Various Users of Russell Boulevard Throughout the Day and Week.

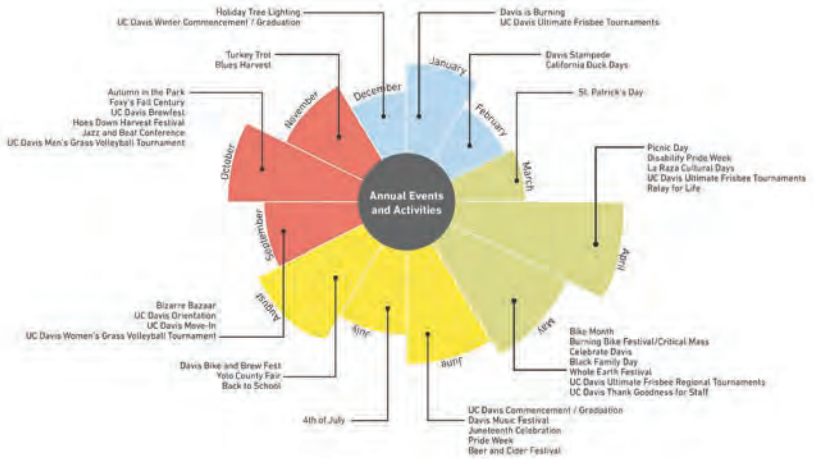


Diagram Showing the Activities and Annual Events in Davis.

Campus Transportation

UC Davis is known for being an extremely bike-friendly campus, and bike riding is not only a practical means of transportation, but a cherished part of campus culture. UC Davis had the first green-painted bike lane in North America. Jointly, the City and the University were early pioneers of dedicated bike facilities in the continent. This legacy is both a point of pride and a practical part of daily life.

Formed by the Associated Students of UC Davis (ASUCD) in 1968, the Unitrans bus service continues to be student-driven with over 90% of employees being undergraduate students. Unitrans is also partially funded by the City of Davis and serves both UC Davis and the City of Davis.

Yolobus provides regional bus service throughout Yolo County with several routes that connect at the UC Davis Memorial Union Bus Terminal on Howard Way.

Sustainability Leadership and Stewardship

UC Davis is a recognized institution for its leadership in sustainability, not only by its academic offerings but also by its stewardship and application of sustainable practices throughout campus. This project offers opportunities to extend principles of sustainable landscape and transportation design into the broader community.

Bike Racks and Unitrans Bus on UC Davis Campus (*Unitrans*)

Biking is an Important Part of University and Campus Culture (*UC Davis*)

Stormwater Basin Between Russell Boulevard and the UC Davis International Center (*UC Davis*)

Existing Roadway Design, Condition, and Experience

Russell Boulevard is an east-west arterial that serves as the western gateway to the City of Davis and the UC Davis. The 3-mile study area for Reimagine Russell Boulevard extends from B Street (where Russell becomes Fifth Street) through County Road 98 or "Cactus Corner". With UC Davis to the south, and a mix of residential and commercial uses on its north side, Russell Boulevard is not only a gateway to the City and the University, but the threshold between the City and campus, it is an important part of the experience of the County, City, and UC Davis.

Russell Boulevard is one of three east-west arterials in Davis, and it is one of two main access routes to the UC Davis campus from SR-113. The study area for Reimagine Russell Boulevard was part of Highway 40 (Lincoln Highway), the United States' first transcontinental highway. This road has been of critical importance to the City and the University for over a century: a key piece of transportation infrastructure, and a key connector between downtown Davis, the University campus, and points west.

The following pages include cross sections illustrating existing allocation of space within the right of way.

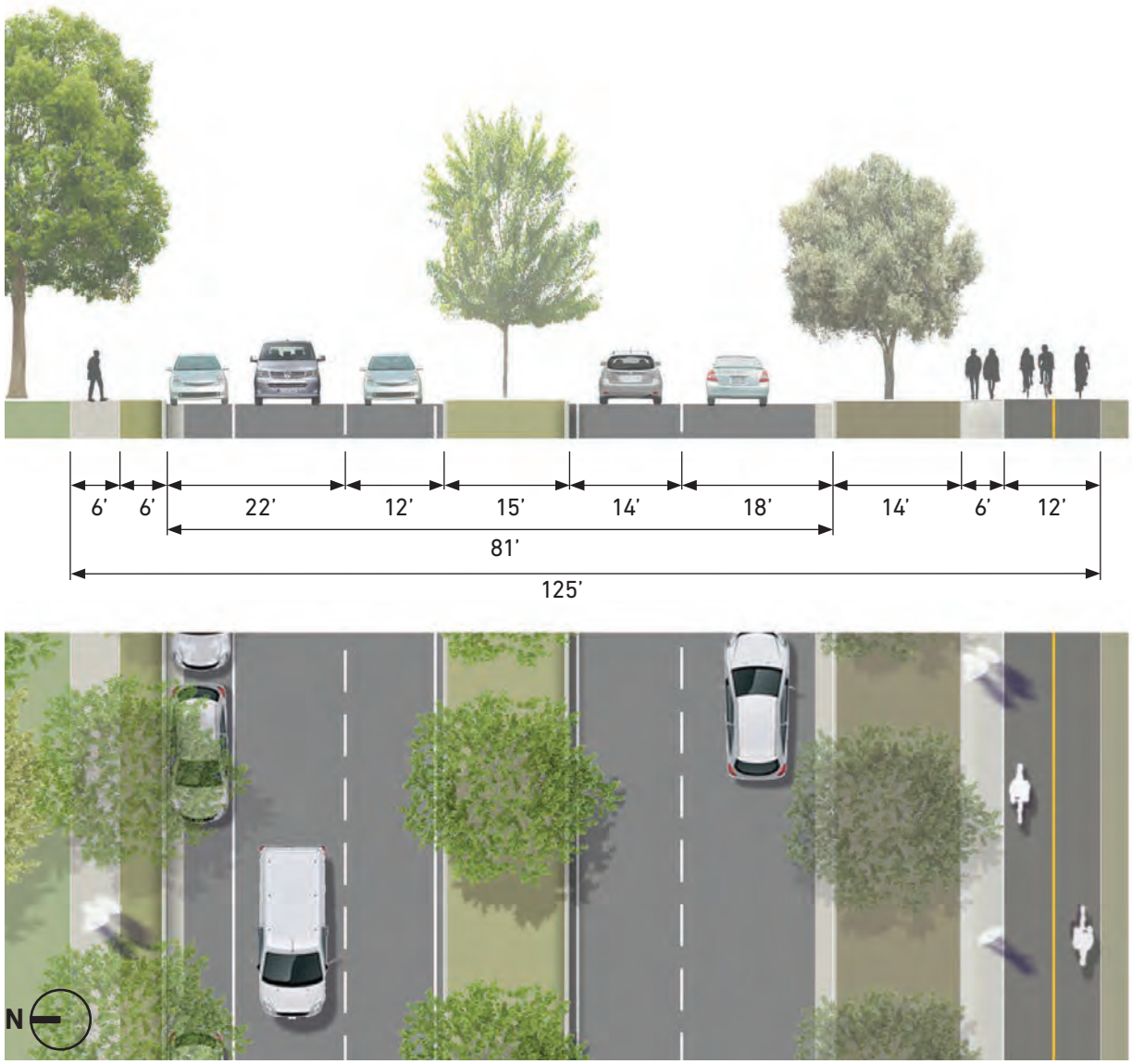
Russell Boulevard Looking East, ca. 1960-1965 (*UC Davis Special Collections*)

Lincoln Highway Marker *(Davis Wiki)*

Russell Boulevard Looking East at La Rue

Existing Typical Cross-Section: Study Area East of State Route 113

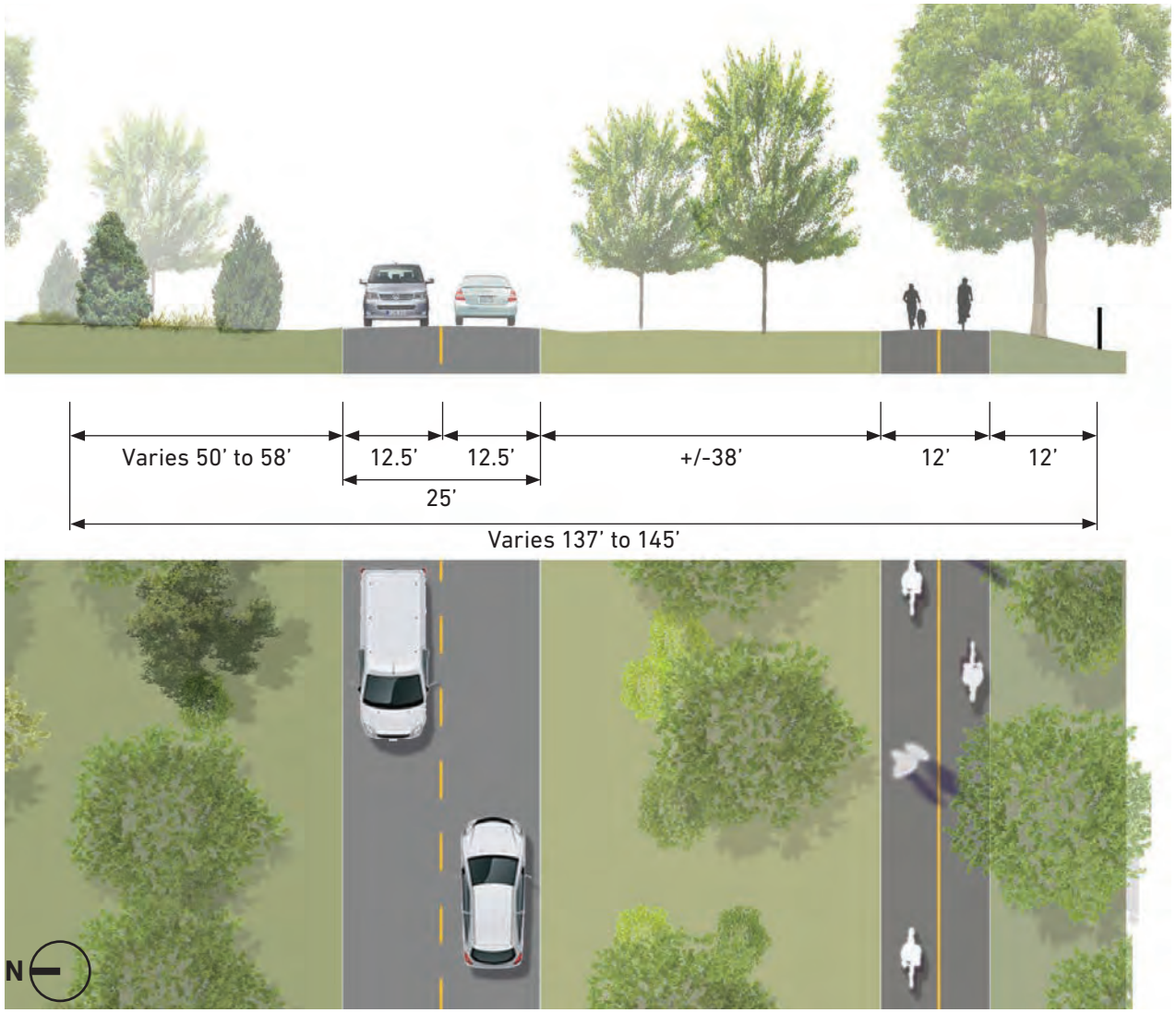
- 4 lane arterial with median
- Continuous shared use path along the south side with separate path for people walking and rolling, and biking in some locations
- Pedestrian conditions vary on north side. There is a continuous sidewalk between B Street and Sycamore Lane, and a shared use path from Sycamore to SR-113.
- Parking lane present in some locations on north side
- No on-street bike facilities except between B Street and A Street



Typical Cross-Section Near Sycamore Lane

Existing Typical Cross-Section: Study Area West of State Route 113

- 4 lane arterial with intermittent medians between Arlington Boulevard and SR-113
- 2 lane arterial, no median from Arlington to the west
- Continuous shared use path along south side
- Wide landscape strip between roadway and shared use path
- No on-street parking
- No on-street bike facilities
- Pedestrian conditions vary on north side including no walkway, sidewalks, and shared use paths.



Typical Cross-Section Near Portage Bay Road

Driving Experience

From B Street to Arlington Boulevard, Russell Boulevard is a four-lane roadway, and throughout most of this section of roadway, a landscaped median/left turn lane is present. The western project area from Arlington Boulevard to County Road 98 is a two-lane rural roadway with limited shoulders and no curbs. Speed limits within the study area are 35mph from County Road 98 to the Orchard Park development, and 30mph from Orchard Park to B Street. Community members report that speeding is common along the study corridor and the wide travel lanes that currently exist help enable high speed driving. On-street parking is intermittently present along the north side of Russell Boulevard from State Route 113 (SR-113) to A Street except in areas where left turn transition space is needed. The parking zone is well utilized given that the north side of Russell Boulevard has a high proportion of residential housing. This portion also has several higher-density student oriented housing units (greek houses, special interest religious-based group housing, etc) as well as other destinations including the Islamic Center of Davis

Travel lanes

Due to the importance of Russell Boulevard as an east-west arterial, a major bus route, and a main access route to the UC Davis campus, there can be no reduction in the number of vehicular travel lanes at the time of this study. Multimodal improvements proposed in this plan are made by repurposing existing excess space in the right-of-way by narrowing travel lanes or removing parking.

Average Motor Vehicle Daily Traffic (ADT) Taken From City GIS Portal

Looking West From Lake Boulevard *(Google)*

Looking West at Eisenhower Street *(Google)*

Looking West From Campus Way *(Google)*

Walking and Rolling Experience

The walking and rolling experience along Russell Boulevard varies greatly throughout the corridor. The following describes the experience along the north side, south side, and crossing Russell Boulevard for people walking and rolling.

North Side

Gaps in the existing sidewalks in some places along Russell Boulevard make parts of the north side of the boulevard impassable for people walking and rolling. In areas where sidewalks are present, they can be quite narrow, or are obstructed by street trees or utilities. The north side sidewalks east of SR-113 vary greatly in width, ranging from four to eleven feet. In most blocks, the sidewalk is flanked with mature street trees. This provides a well-shaded environment for people walking and rolling during hot daytime conditions. However, in some areas the trees or tree pits encroach on the pedestrian path, making it inaccessible to people using mobility devices or pushing strollers. In addition, tree roots from mature street trees are buckling the sidewalks at multiple locations creating potential trip hazards for all users, but particularly those that are mobility challenged.

South Side

For the majority of the study area, people walking, rolling, and biking along the south side share a 12-foot wide shared-used path. The shared condition can create conflicts between people walking and rolling, and people bicycling, especially when there are high volumes of people using the path. Shade is sporadic along the path on the south side, creating a challenging experience during warmer months. Additionally along the south side, the fruiting olive trees are a nuisance and create a slick condition for those walking and rolling. The south side shared use path west of Orchard Park Drive was recently updated, and is a good example of the collaboration between City and University.

Crossings

The study area includes 16 marked pedestrian crossings of Russell Boulevard, of which 8 are signalized. There are also signalized intersections at the entry and exit ramps for SR-113, but these do not include marked pedestrian crossings of Russell Boulevard.

Pedestrian crossings east of SR-113 consist of large-span signalized crossings (often needing a two-part connection through vehicular slip lanes), unsignalized crosswalks, and unmarked desire line crossings at multiple locations. In addition, many east side crossings—especially those near the UC Davis campus—are not currently ADA compliant and/or lack sufficient space to queue large numbers of pedestrians needing to travel to and from the University.

Peak Volumes

For intersections at key UC Davis access points, AM and PM peak pedestrian volumes likely do not represent a full picture of pedestrian activity. People cross throughout the day to attend classes on campus, and surges in pedestrian volumes follow university schedules, rather than a morning/evening commute pattern.

Existing pedestrian facilities along Russell Boulevard

Crossings west and east of SR-113

Sidewalk issues on north side. From left to right: long gap in sidewalk, narrow sidewalk next to high speed traffic, trees blocking sidewalk. *(Google)*

Biking Experience

The shared use path along the south side of the Boulevard provides a consistent bicycling facility for the majority of the corridor. The shared use path extends almost the full length of the study area, and in the area where the shared use path is not present, 7-foot bike lanes are present on either side of Russell Boulevard. Similar to the walking experience, biking along the shared use path is generally enjoyable, though when busy with people walking and bicycling, it is challenging, and conflicts arise. The City of Davis' Complete Streets policy and General Plan Transportation Element requires bike lanes on major arterials, and Russell Boulevard does not currently meet these standards. In particular, the shared use path is less than ideal for the contingent of confident "vehicular" cyclists in Davis who ride at high speeds and prefer on-street dedicated bike facilities.

Peak Volumes

For intersections at key UC Davis access points, AM and PM peak bicyclist crossing volumes likely do not represent a full picture of cyclist activity. People cross throughout the day to attend classes on campus, and surges in bike crossing volumes follow university schedules, rather than a morning/evening commute pattern.

On-Street Bike Lanes at City Hall

Existing Bicycle Facilities Along Russell Boulevard

Shared use path near Sycamore Lane

Shared use path between Arthur and Eisenhower Streets

Transit Experience

Unitrans bus service operates on Russell Boulevard from Lake Boulevard into downtown Davis, while Yolobus provides regional bus service on Russell from Anderson / La Rue Streets to the east. All bus routes that serve Russell connect at the UC Davis Memorial Union Bus Terminal. This makes Howard Way a critical component of the transit system, and the site of transit and traffic delays as buses turn onto Russell Boulevard, particularly in the evening when people driving are leaving the parking garage. Arlington Farm/Olive Tree Lane has the highest amount of boardings and alightings, Sycamore lane has the second highest.

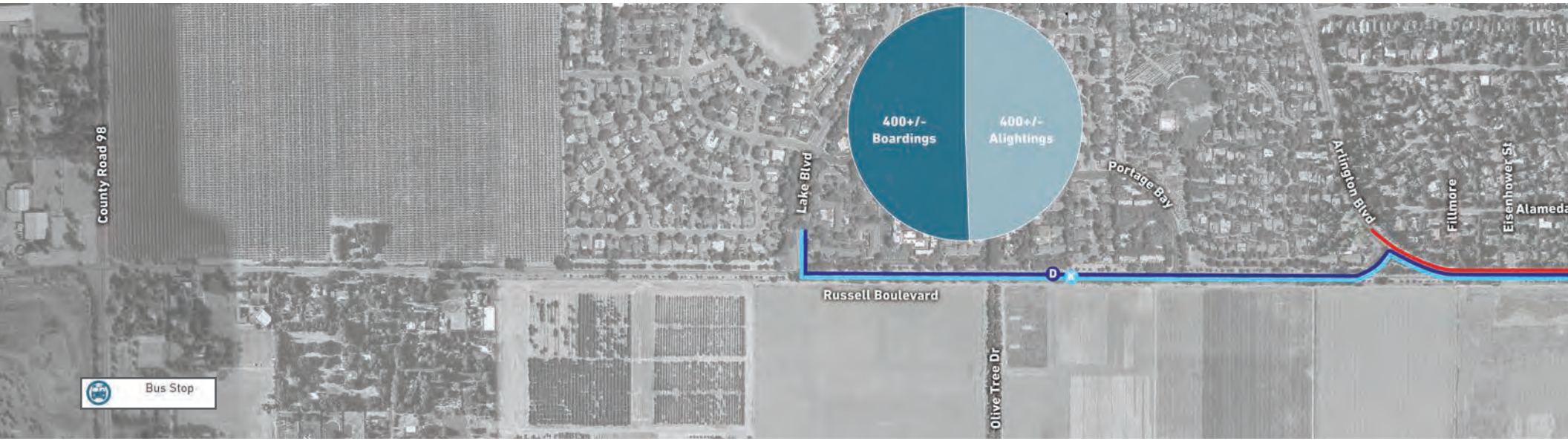
Davis Community Transit provides complementary paratransit service for individuals with qualifying disabilities for all Unitrans routes and local Yolobus routes.

There are five bus stops within the study area, at the following locations from east to west:

- A Street/City Hall
- California Avenue
- Sycamore Lane/Orchard Park Drive
- Arthur Street
- Arlington Farm/Olive Tree Lane (westbound only)

Bus waiting shelters are provided at three stops:

- A Street (westbound)
- Arthur Street (westbound)
- Arlington Farm/Olive Tree Lane (westbound)



2019 Unitrans Transit Routes and Average Weekday Ridership by Stop

Bus stop at Arlington Farm/Olive Tree Lane

Bus stop at City Hall

Bus stop at Arthur Street

Multimodal Interactions

Intersections and Crossings

While difficult pedestrian crossings are a concern throughout the study area, a few locations are of highest priority for safety improvement; the area around Arlington Boulevard/Eisenhower Street intersection and the La Rue/Anderson intersection.

Right turn slip lanes at intersections throughout the corridor create undesirable conditions at intersections for people walking, rolling, and biking.

Community members who participated in the workshops and responded to the online survey expressed dissatisfaction with pedestrian crossing signal operations, especially at the busy crossings along the UC Davis campus.

Shared use path conflicts

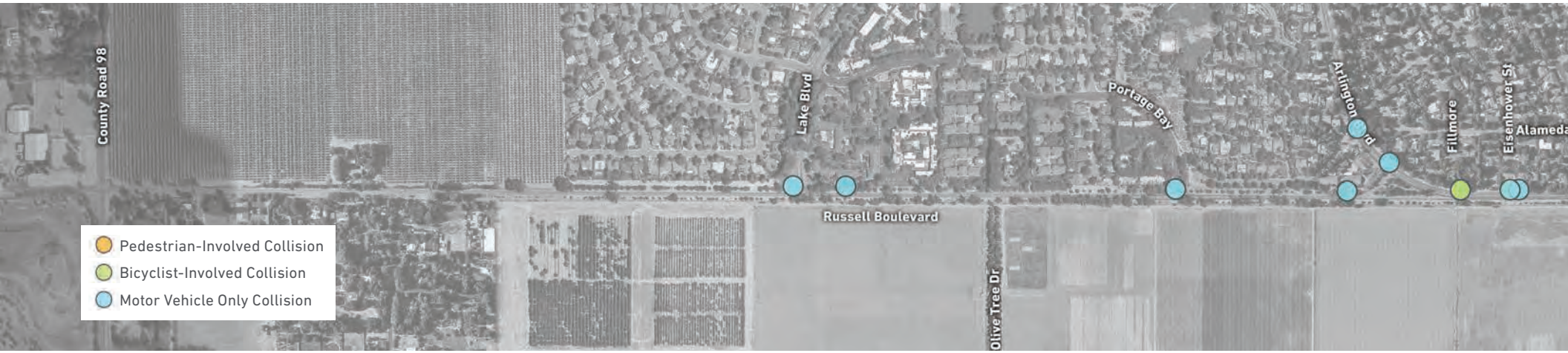
People biking, rolling, and walking on the shared use path come into conflict due to differing speeds and ways of using the facility.

Bikes in the road

People driving and people biking in the road also come into conflict at times. Without on-street bike facilities, these modes must negotiate all aspects of sharing the road on a busy commuter and campus access route.

Collisions

The intersection with Anderson Road/La Rue Road has the highest number of collisions in the study area. Of the 30 collisions documented at this intersection between 2014 and 2019 from the City of Davis GIS, 25 involved a person biking or walking. Bicyclist-involved collisions have been documented at every intersection east of SR-113 between 2014 and 2019.



Collisions by Mode Along Russell Boulevard from January 2014 to August 2019 (City of Davis GIS, accessed February 2021)

Mid-block Crossing West of Arlington

Signalized Intersection at Sycamore

On-Street Bike Lanes at City Hall

Stormwater Management

The amount of stormwater runoff along Russell Boulevard is dependent on location along the corridor. West of SR-113, there is far less stormwater runoff generated than further eastward towards UC Davis and into the downtown core. This is simply because there is more impervious roadway surface eastward past Arlington Boulevard. However, the combined street, sidewalk, and pathway runoff along the entire corridor, adds up to over 26 acres of stormwater runoff area. To put that in perspective that much impervious area runoff could fill UC Davis' Toomey Field to a depth of almost 13 feet. Even during small rain events, this stormwater runoff has little opportunity to soak into the ground as it would naturally before the area was developed.

The majority of Russell Boulevard's stormwater runoff is captured within the City's underground storm drain system and is ultimately conveyed to nearby stormwater detention basins or local waterways. There are locations where it's unclear whether the stormwater drains to City or to Campus infrastructure, demonstrating the complexities of the system. Russell Boulevard does have existing green infrastructure on the west end of the project corridor that captures and treats runoff with grassy swales. These stormwater facilities do an excellent job in capturing and infiltrating nearly all of the stormwater runoff that is directed to them and diverting portions of the runoff from entering the storm drain system.

There are also many areas along Russell Boulevard, especially along the curb line of the roadway, where uneven grading along the gutter pan causes areas of water ponding after a rain event. In some cases, this ponding of water reaches out into the travel lane or inhibits pedestrians from crossing intersections without getting their feet wet. These spot areas of poor drainage can be mitigated by strategically adding new green infrastructure facilities at these locations to soak up water shortly after it rains.

Street Trees

Street trees are a crucial component of multimodal streets, providing shade and shelter, ecological, infrastructural, aesthetic benefits, and traffic calming effects. In fact, street trees alone can serve as an iconic vision of how a great boulevard functions, feels, and adapts to a changing climate. Heat mitigation is also a significant concern given Davis' Central Valley climate. Being able to walk, bike, or roll in shaded conditions greatly increases the comfort level of those using Russell Boulevard. There are significant areas of sun exposure throughout the study area, especially on the south side of Russell Boulevard. This can be attributed by a pronounced and recent decline in mature tree canopy along the west side, as well as simply a lack of tree planting along many areas east of SR-113. However, there are instances of wonderful street tree canopy along Russell Boulevard especially on the north side near Oak Avenue and Miller Drive; as well as a majestic collection of oak trees near the intersection at Anderson/La Rue. Again, having this robust tree canopy greatly increases the comfort of those using the street and acts as a natural first defense for rainy day conditions.

Trees on Russell Boulevard vary greatly in condition and suitability for the street. In some areas, Russell Boulevard's street trees are iconic, historic features of the corridor, and require careful consideration for maintenance. In other areas, existing street trees have become more of a nuisance with constant leaf or litter drop, susceptibility to disease, inability to withstand heavy rain and strong wind events and/or prolonged drought conditions.

Trees Along Russell Boulevard

Understory Landscape

The existing understory planting along Russell Boulevard is highly variable by location ranging from irrigated turfgrass, simple mulch and foundation plantings, highly exposed and compacted soil conditions, grassy swales, or drought-tolerant California native plant species. The condition of the landscaping varies greatly throughout the corridor.

Overhead Power Lines

Power lines along Russell Boulevard are predominantly below ground, with the exception of approximately half a block on the north side of Russell Boulevard from Orchard Park Drive east to Yosemite Hall, where overhead wires are present. These will limit the placement and size of new trees as to not conflict with access to and clearance from the power lines.

Street Character and Amenities

Russell Boulevard's current primary function is to move people to and from their destinations. Because of this transportation focus, there has been less emphasis on creating a cohesive, enjoyable streetscape. There are limited amenities such as seating, pedestrian scale lighting, water fountains, litter and recycling receptacles, public art installations, and a cohesive wayfinding system. Trees and landscaping are present throughout the corridor and provides a welcomed relief from warm sunny days in Davis, but they are in varying condition as discussed in earlier sections.

Overhead Wires at Yosemite Hall

Rough Grass West of Arlington

Street Character Precedents

Several projects near the study area offer precedents for enhancing the character and experience on Russell Boulevard.

Third Street: While this downtown street is far smaller than the 3.5-mile Russell corridor, the space shows the possibilities for streets to successfully integrate multimodal transportation and placemaking.

UC Davis Arboretum Waterway and Collections: The Arboretum Waterway and Collections landscapes offer precedents for native, drought-tolerant landscapes, bike and pedestrian facilities, and site-specific public art.

The Cannery: This housing development, established in 2015, integrates vernacular agrarian styles and materials into the architecture and landscapes, offering a precedent for contemporary design that evokes Davis's history of farming.

Third Street (photo credits: UC Davis, Willdan)

Landscapes of the Arboretum and Waterway Collections

Materials and Landscapes at The Cannery

Streetscape Furnishings

The existing streetscape furnishings along Russell Boulevard including signage, seating, lighting, trash receptacles, and transit shelters are varied in style. Signage installations include a mixture of the City of Davis and UC Davis sign standards, including wayfinding and light pole banners. Seating is infrequent, located only at two transit shelters and two bench locations. Lighting includes street poles and some pedestrian poles on the campus side, however most lighting is designed to illuminate the roadway for vehicles. Because there is currently a diverse mix of furnishings, this provides a great opportunity to create a more cohesive corridor through a unified palette.

Collage of Existing Streetscape Furnishings and Amenities Currently Found Along Russell Boulevard.

Development and Planned Changes Adjacent to the Corridor

The following projects along the corridor may impact the experience of Russell Boulevard and ways to coordinate or integrate as Reimagine Russell Boulevard advances or the development project advances will be important for the cohesive feel and experience of the corridor.

UC Davis Projects

West Village: While this student housing development is already significantly completed, potential future phases will include green open landscape space along Russell Boulevard. As this project advances, Reimagine Russell Boulevard concepts and ideas should be integrated or considered along the development edge, where this new landscape may impact the boulevard experience.

The West Village development may also include a new public transit connection to Russell Boulevard. The location of this connection is yet to be determined, but will have potential impact on user experience and multimodal traffic operations along the corridor.

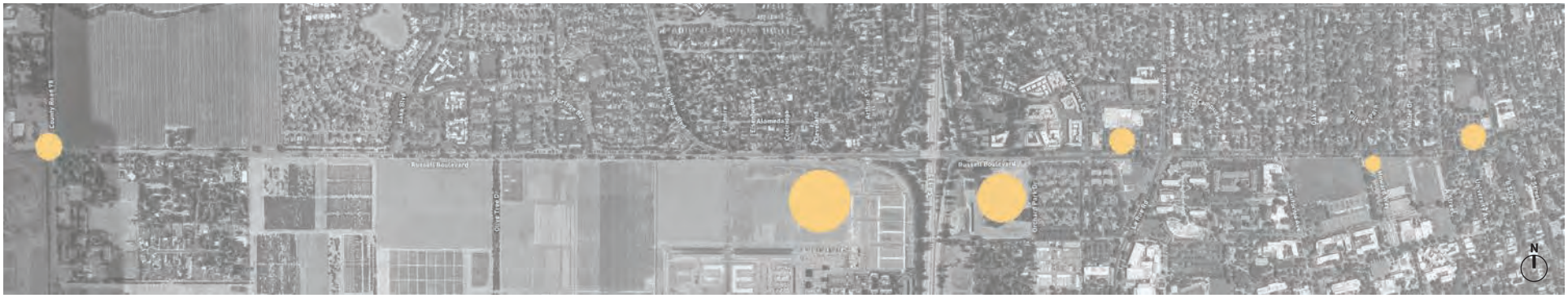
Orchard Park: The Orchard Park Redevelopment Project located between SR-113 and Orchard Park Drive is currently under construction and is scheduled to be completed in 2023. The Reimagine Russell Boulevard concept incorporated the proposed frontage for the housing redevelopment to ensure future compatibility.

Russell Park: In the future, a potential redevelopment of Russell Park Student Housing may shift space utilization to move storage away from Russell Blvd, and create buildings and landscapes that better embrace the street frontage. The streetscape vision may recommend initial steps toward improving this landscape in anticipation of further development; for example, establishing canopy trees within the parking area now so they will be mature shade trees when the housing is built.

Howard Way Gateway: Reimagine Russell Boulevard will integrate the newly completed Alumni Gateway into the streetscape and placemaking concepts, developing landscape design at this intersection to complement the gateway.

City of Davis Projects

University Commons: New development at this existing commercial site includes student housing, new ground level retail space, and improved landscapes around new and existing



Development Sites in the Study Area, West to East: Cactus Corner, West Village, Orchard Park, University Commons, Howard Avenue gateway, City Hall Green Infrastructure

buildings. Reimagine Russell Boulevard offers recommendations for preserving existing mature trees on site, especially along the street front.

City Hall Green Street: This project, designed in 2019, would transform the Russell Boulevard frontage of City Hall into an extensive demonstration of green stormwater infrastructure and sustainable landscape design.

Yolo County Projects:

Cactus Corner Roundabout: A roundabout at the intersection of Russell Boulevard and County Road 98 was planned prior to the inception of "Reimagine Russell Boulevard", to slow traffic approaching the more densely settled areas of Davis to the east. This project also entails the removal of right turn slip lanes at the intersection.

View of West Village From the Bike Roundabout at Arthur Street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Section 3
Outreach and Engagement

03

Outreach and Engagement

Community engagement was a cornerstone of the Reimagine Russell Boulevard Corridor Vision Plan process. Throughout the planning process the project team maintained a project website, hosted three community workshops, facilitated multiple Community Steering Committee meetings and internal technical advisory committee meetings, and conducted two online surveys.

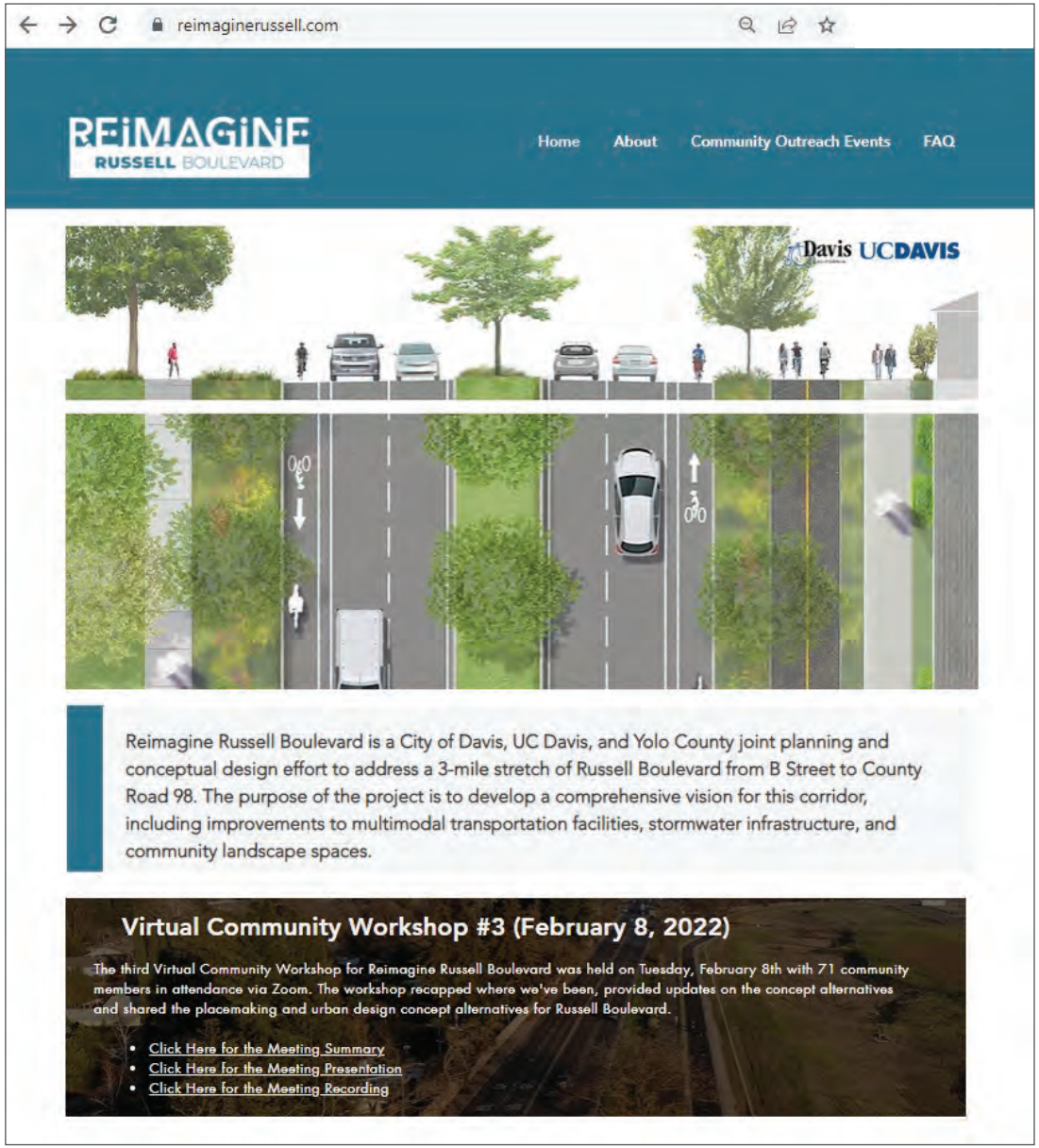
Impact of COVID-19

Because of the COVID-19 pandemic, engagement and outreach was conducted virtually. The project team used video conferencing and online presentation tools such as Zoom, PowerPoint, and Miro to conduct interactive workshop activities.

Virtual engagement on the physical design of a 3-mile long corridor did come with challenges, but overall the project team had an incredible set of events with engaged, passionate participants providing crucial insight, critique, and questions to help develop the Vision Plan. Over 350 participants attended three workshops that marked three key phases of the project:

- Corridor Visioning and Existing Conditions;
- Design Concepts with a Focus on Multimodal Mobility and Safety; and
- Corridor Urban Design and Green Infrastructure.

Two surveys were deployed during the early phases of the project, receiving 930 responses. The first survey was focused on understanding how people used and perceived the corridor, including challenges and opportunities for design. The second survey gathered feedback on the initial design concepts. Summaries of engagement events and survey responses are available in Appendix A.



Project Website

Virtual Public Workshop Participants

Summary

The following provides a summary of feedback received from community workshop participants.

General

- People recognized the important function of Russell Boulevard as a "gateway" to the community and UC Davis
- Participants perceived Russell Boulevard could be improved from a multimodal and multifunctional perspective – it's not just about moving through, but also the experience of the corridor.
- Improvements both along and across Russell Boulevard are desired; people perceive this corridor as a north-south barrier
- Location-specific comments; to identify design priorities and areas of greatest community concern

Multimodal Transportation

- Significant concerns regarding the safety of people walking, rolling, and biking
- Interest in separating bicycle and pedestrian facilities to maximize comfort for a wide range of users
- Interest in dual bike facilities: adding on street lanes for more confident vehicular cyclists while also enhancing off-street facilities
- Identification of highest-danger intersections and priorities for safety improvements
- Debate over the extent of climate adaptation measures in the project, with some constituents arguing for bolder action to reduce private vehicle use

Green Infrastructure

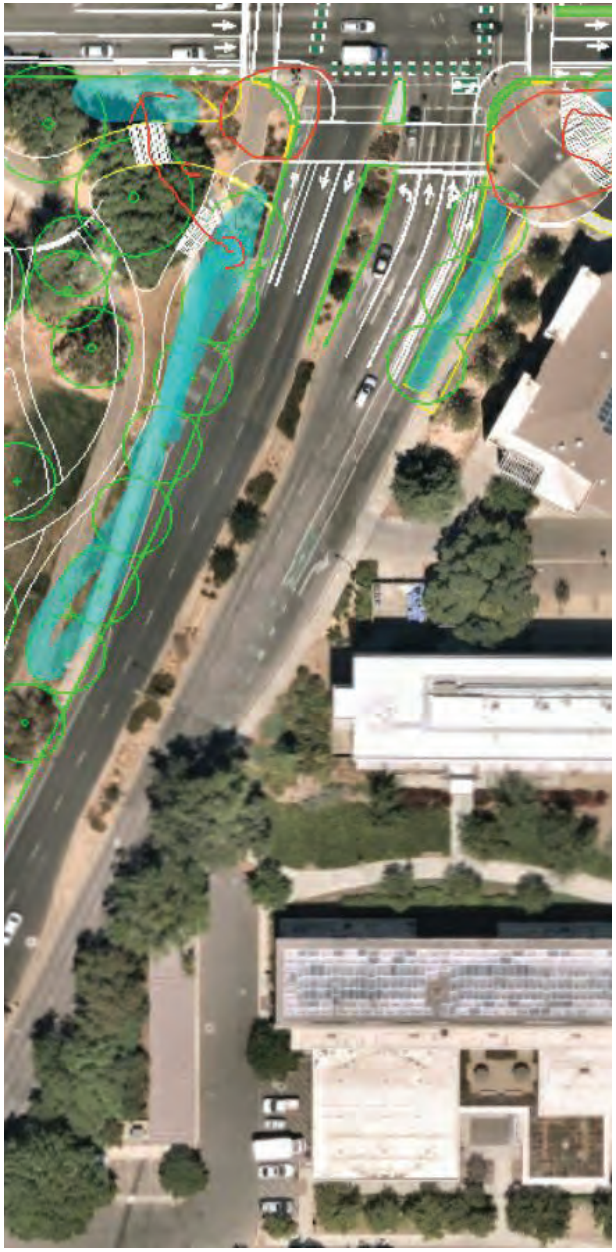
- Strong support for green infrastructure
- Strong support for protecting and enhancing the urban tree canopy
- Desire for clear definition of green infrastructure maintenance requirements
- Support for ecological landscapes in general: interest in providing habitat and optimizing sustainability and ecological vibrancy along the boulevard

Placemaking

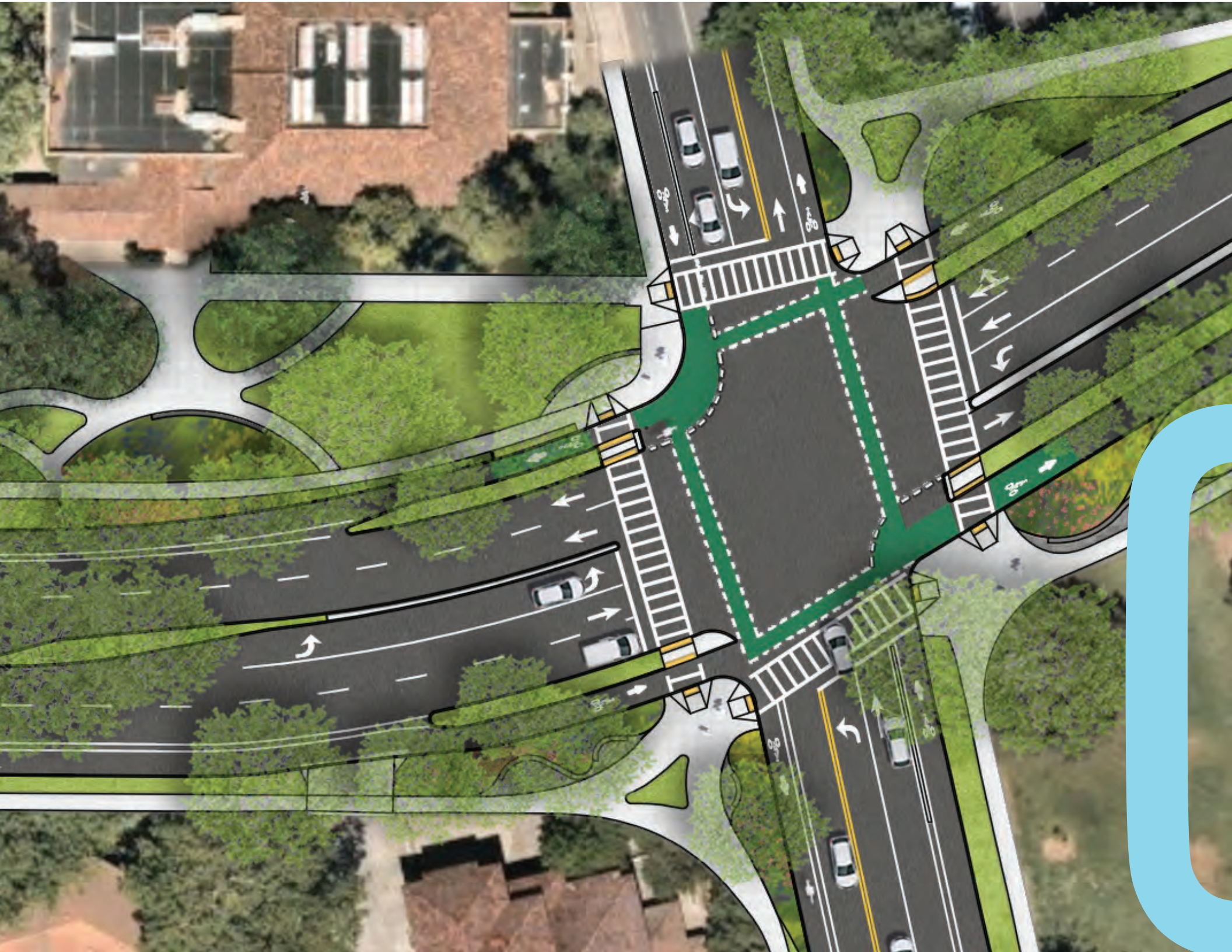
- Identifying appropriate locations for placemaking focus
- Integration with campus landscapes, monuments/landmarks (such as the new Alumni gateway at Howard Way)
- Integration with transit facilities: bus stop improvements are a priority

Insights and guidance from the community were indispensable to the design process, helping to focus and clarify the corridor vision. Workshops provided venues for discussion, airing concerns, prioritizing goals, and identifying new opportunities for improvement to the study area. Community engagement will remain crucial to Reimagine Russell Boulevard in future design phases.

Examples of the Public Awareness Campaign Deployed Throughout Davis, UC Davis, and Through Social Media.



Screenshots of Virtual Workshop Interactive Activities with the Community and Stakeholders.



Section 4
Corridor Vision Conceptual Design

04

Corridor Vision Conceptual Design

Based on community feedback, review of existing conditions and the broader community context, it is clear Russell Boulevard is a well used and important corridor that could be improved when it comes to experience, safety, and comfort. This section includes an overall corridor vision, specific areas to address to advance the vision, and then illustrative concepts that show how the corridor could evolve.

Corridor Vision:

Russell Boulevard will continue to become...

... a corridor that helps people move safely and intuitively

... an inviting, human-centered boulevard that is an authentic experience of Davis and UC Davis

... a resilient streetscape built on sustainable design principles

... a welcoming gateway to Davis, reflecting local culture and community.

In order to achieve this vision, three key components should be considered in projects within and along Russell Boulevard:

Multimodal Mobility

Identify and address current issues of mobility, safety, comfort, along the corridor.

Green Infrastructure

Design Russell Boulevard for climate-change resilience by implementing a diverse palette of landscape-based green stormwater infrastructure strategies and a robust urban tree and structural shade canopy concept to mitigate extreme heat events.

Urban Design and Placemaking

Enhance Russell Boulevard's landscapes to create a more welcoming, distinctive, and beautiful corridor that reflects and celebrates the local character of Davis and UC Davis.

Sketches of conceptual design ideas for a reimagined Russell Boulevard.

Design Guidance

Conceptual design for Russell Boulevard integrates the community-guided vision for mobility, green infrastructure, and placemaking, with the official design standards of the City of Davis, UC Davis, and Yolo County. The resulting design standards described on the following pages are the building blocks of the Russell Boulevard Corridor Concept Plan.

City of Davis Design Criteria for Arterial Roads (City of Davis Public Works Standards, 2016)

Street Component	Major Arterial	Minor Arterial
Right of way (ROW) width	102'-146'	75'
Roadway width	70'-96'	42'-72'
Median width	16'	Varies
Number of travel lanes	4	2
Travel lane no. 1 lane width	10'	10'
Travel lane no. 2 lane width	10.5'	-
Bike lane (Class II)	Yes	Yes
Bike lane (Class III)	-	-
Bike lane (Class IV)	Yes	Yes
Bike lane (Class IV) width (min)	7'	7'
Bike lane (Class IV) buffer type	R or F	P, R, or F
Bike lane (Class III & IV) buffer width (min)	3'	3'
Bike lane width (min)	7'	7'
Parking lane width (min)	7'	7'
Sidewalk width (min)	6'	6'
Landscape buffer (min)	6'	6'
Shared use path?	Yes	Varies
Shared use path width	12'	12'
Left turn lanes required?	Yes	Yes
Left turn lane width	10'-11'	10'
Right turn lane width	11'	11'
Design speed	40 mph	35 mph
Driveway and street access	Limited	Limited

Russell Boulevard Conceptual Design

The following pages include concept-level cross-sections, design plans, and perspective sketches for key locations along the 3-mile Russell Boulevard study area, moving from the east end to the west end of the project area. At each of these locations, the conceptual designs showcase an integrated vision for multimodal mobility, green infrastructure, and placemaking. The full corridor-wide concept design plan can be viewed in Appendix C.

Cross Sections

Cross sections for each key location includes the existing cross section next to the conceptual design cross section for easy comparison.

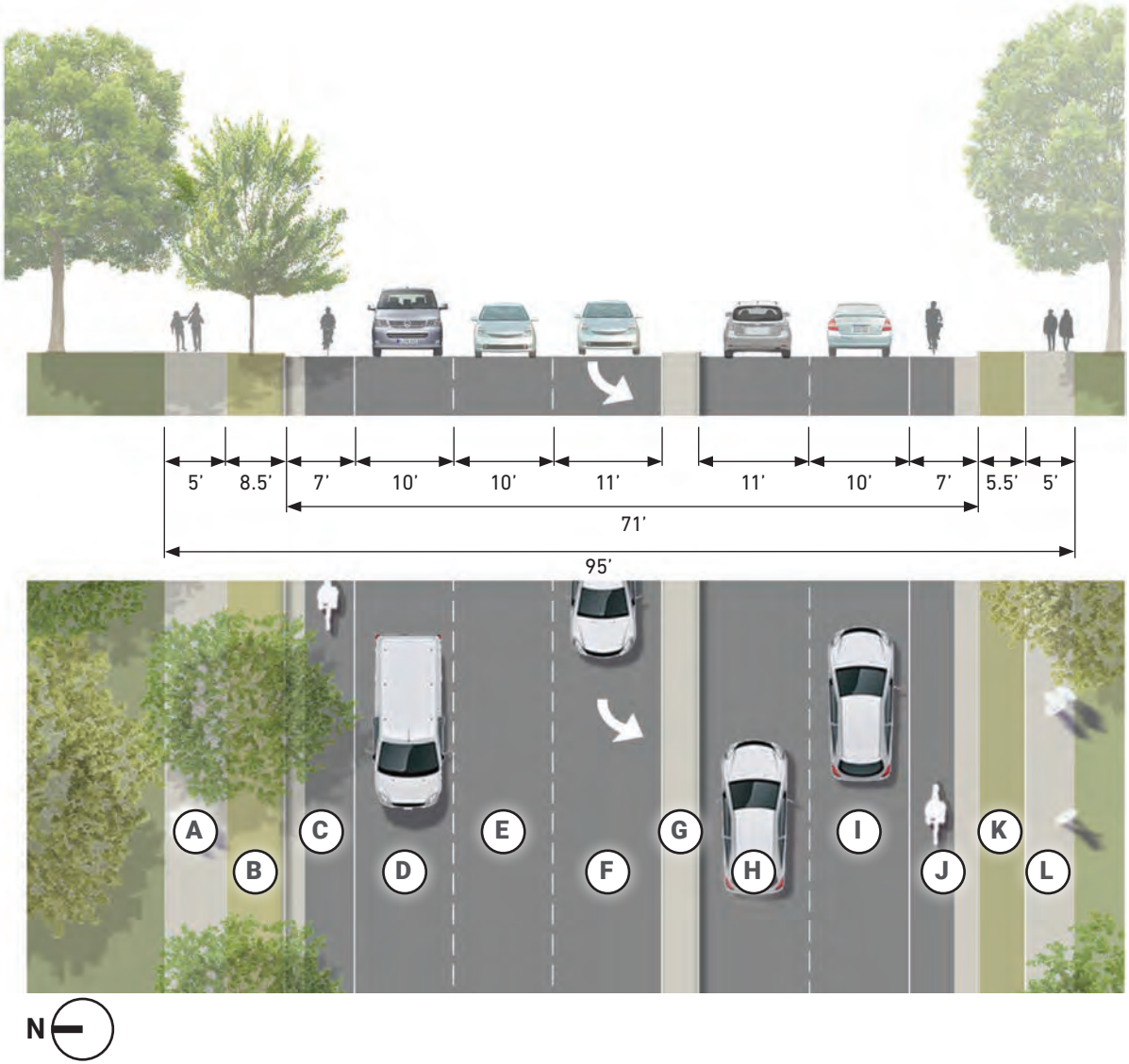
The following are the key cross section locations:

- B Street to A Street
- A Street to State Route 113
- State Route 113 to Arlington Boulevard
- Arlington Boulevard to Lake Boulevard
- Lake Boulevard to County Road 98

B Street to A Street

Existing Condition Cross Section Looking East

Not to Scale



This section of Russell Boulevard is the most constrained portion of the corridor and, based on traffic analysis, all existing lanes are required.

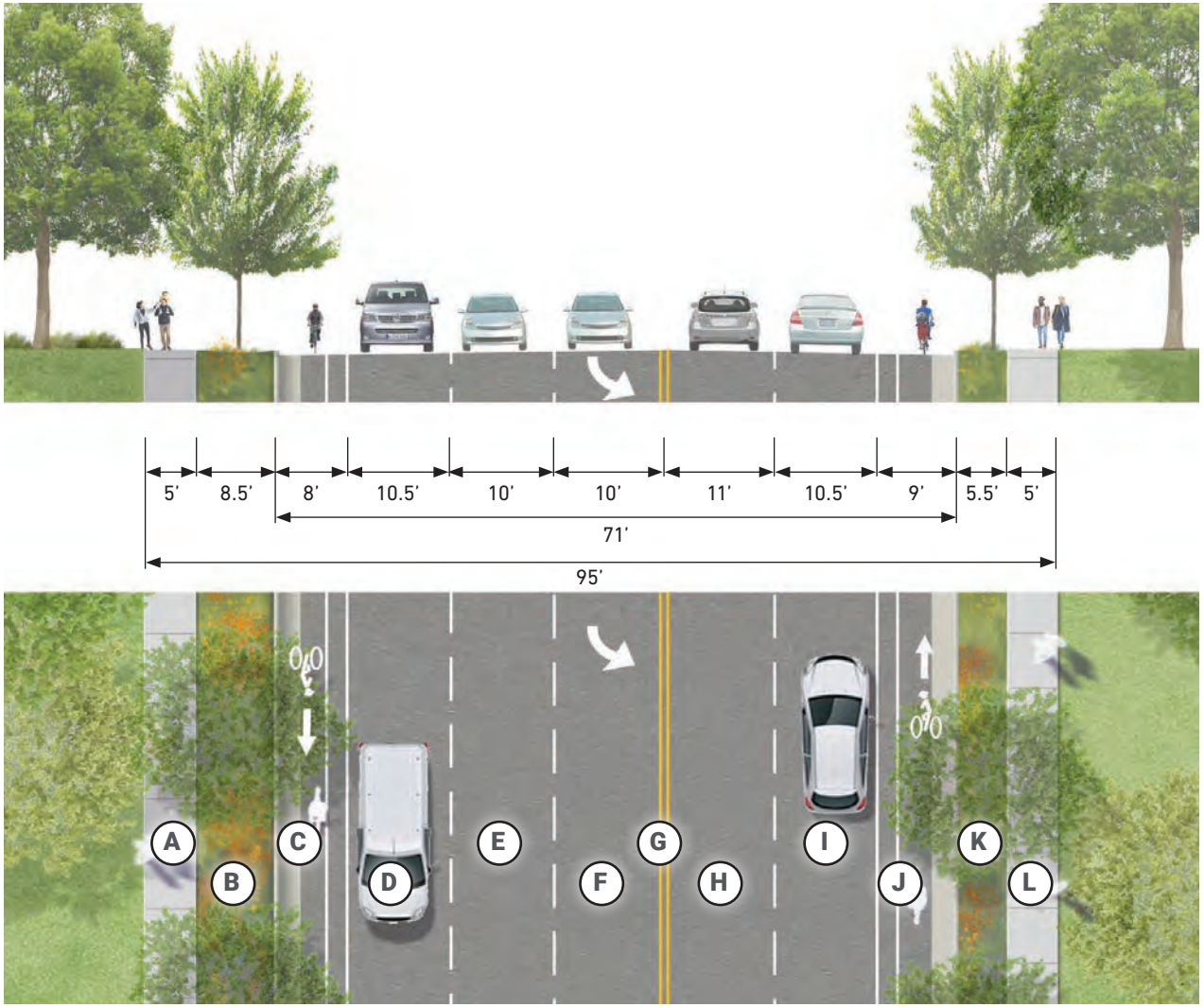
Overall Widths	
Typical Area of Influence	95'
Curb to Curb Pavement	71'

Street Mode Assembly		
North Sidewalk	5'	A
North Landscape	Varies 0' to 8.5'	B
Westbound Bike Lane	7'	C
Westbound Vehicle Lane	10'	D
Westbound Vehicle Lane	10'	E
Center Turn Lane	11'	F
Center Median Strip	4'	G
Eastbound Vehicle Lane	11'	H
Eastbound Vehicle Lane	10'	I
Eastbound Bike Lane	7'	J
South Landscape Strip	Varies 0' to 5.5'	K
South Sidewalk	Varies 5' to 8'	L

B Street to A Street

Conceptual Cross Section Looking East

Not to Scale



The proposed concept includes creating buffered bike lanes and incorporating new tree canopy where possible. Additional study could focus on removing the center median and allocating more space to the on-street buffered bike lanes.

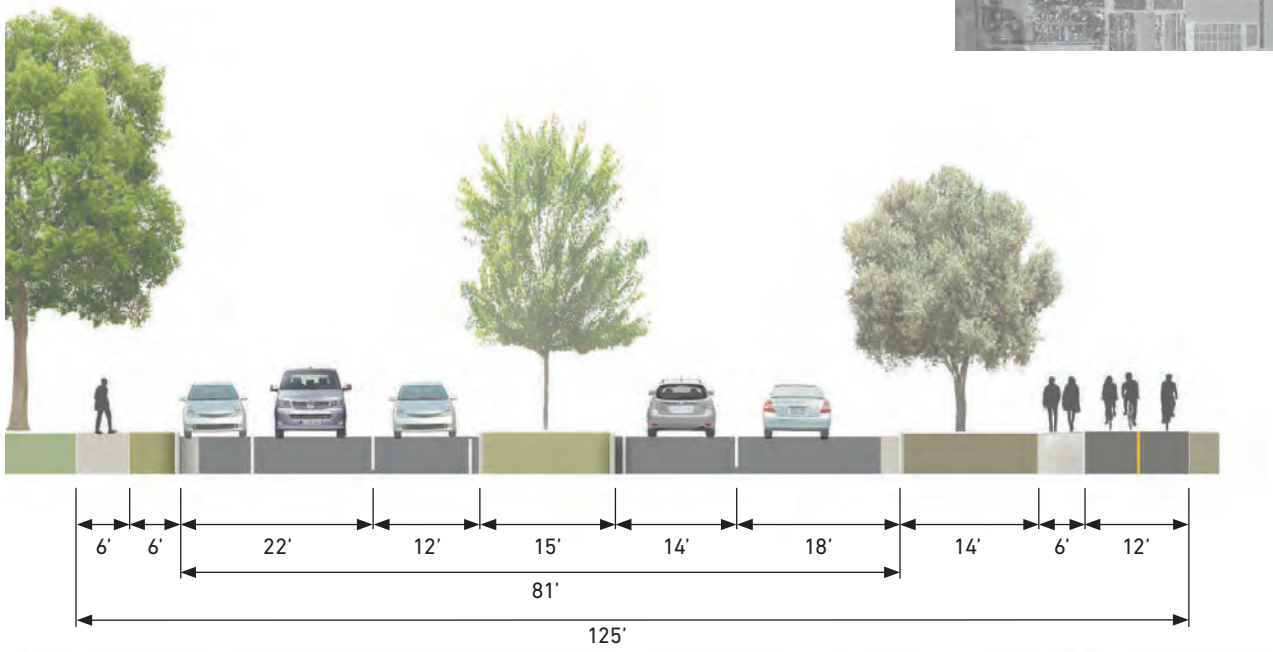
Overall Widths	
Typical Area of Influence	95'
Curb to Curb Pavement	71'

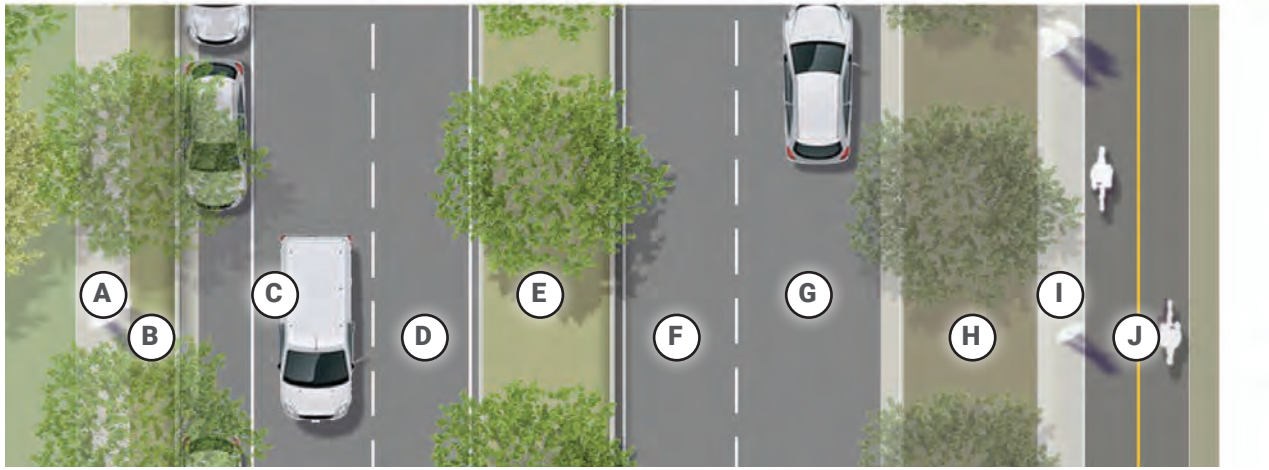
Street Mode Assembly		
North Sidewalk	Varies 5' to 14'	A
North Landscape	Varies 0' to 15'	B
Westbound Bike Lane	6'-7' Lane + 0'-6' Buffer	C
Westbound Vehicle Lane	10.5'	D
Westbound Vehicle Lane	10'	E
Center Turn Lane	10'	F
Center Median Strip	Varies 0' to 10'	G
Eastbound Vehicle Lane	11'	H
Eastbound Vehicle Lane	10.5'	I
Eastbound Bike Lane	6'-7' Lane + 2'-6' Buffer	J
South Landscape Strip	Varies 0' to 5.5'	K
South Sidewalk	Varies 5' to 8'	L

A Street to State Route 113

Existing Condition Cross Section Looking East

Not to Scale





N

The shared use path begins at B Street and continues west along the south side of Russell Boulevard to City limits. Throughout the majority of this section, the path does not include clearly delineated space separating people walking or rolling from people biking. The median is needed to accommodate turning lanes. Travel lanes here are wide, and there are no existing on-street bike facilities.

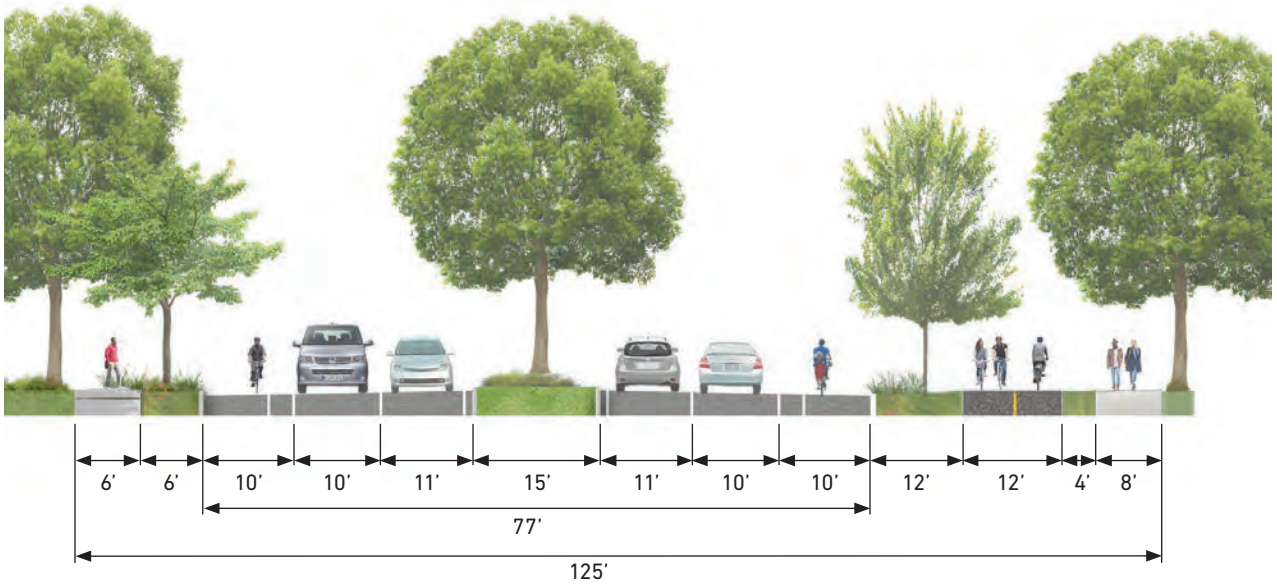
Overall Widths	
Typical Area of Influence	128'
Curb to Curb Pavement	81'

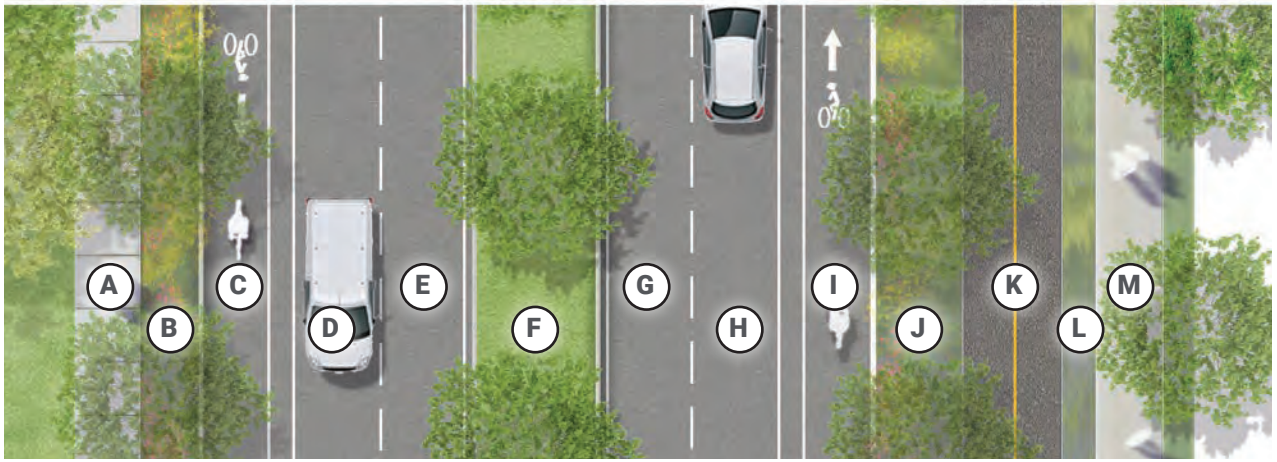
Street Mode Assembly		
North Sidewalk	Varies 5' to 8'	A
North Landscape	Varies 0' to 9'	B
Westbound Vehicle Lane	22'	C
Westbound Vehicle Lane	12'	D
Center Median Strip	15'	E
Eastbound Vehicle Lane	14'	F
Eastbound Vehicle Lane	18'	G
South Landscape Strip	Varies 3' to 16'	H
South Sidewalk	Varies 0' to 6'	I
South Shared Use Path	Varies 10' to 18'	J

A Street to State Route 113

Conceptual Cross Section Looking East

Not to Scale





N

The concept repurposes space from street parking to a buffered on-street bikeway and green infrastructure strip. Along the south side, the concept includes separated pedestrian and bike paths and reallocates some travel lane space to an on-street bikeway to meet the City's arterial requirements and provide continuous and connected on-street bike lanes for the length of the corridor to make long-distance biking easy and intuitive

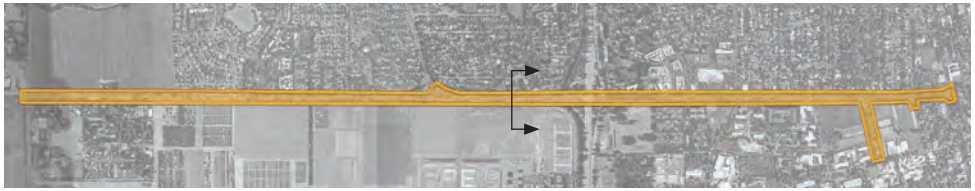
Overall Widths	
Typical Area of Influence	125'
Curb to Curb Pavement	77'

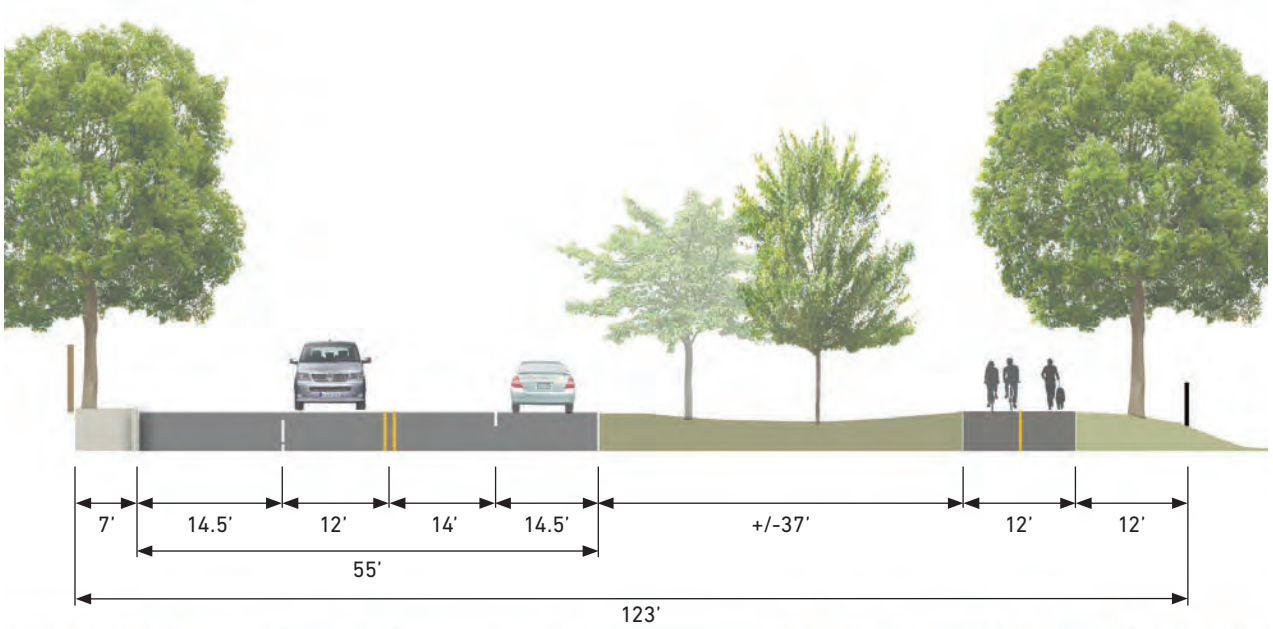
Street Mode Assembly		
North Sidewalk	Varies 6' to 8'	A
North Landscape	Varies 2' to 9'	B
Westbound Bike Lane	7' Lane + 2-3' Buffer	C
Westbound Vehicle Lane	10'	D
Westbound Vehicle Lane	11'	E
Center Median Strip	15'	F
Eastbound Vehicle Lane	11'	G
Eastbound Vehicle Lane	10'	H
Eastbound Bike Lane	7' Lane + 2-3' Buffer	I
South Landscape Strip	Varies 8' to 18'	J
South Bike Path	12'	K
South Green Gutter	4'	L
South Sidewalk	8'	M

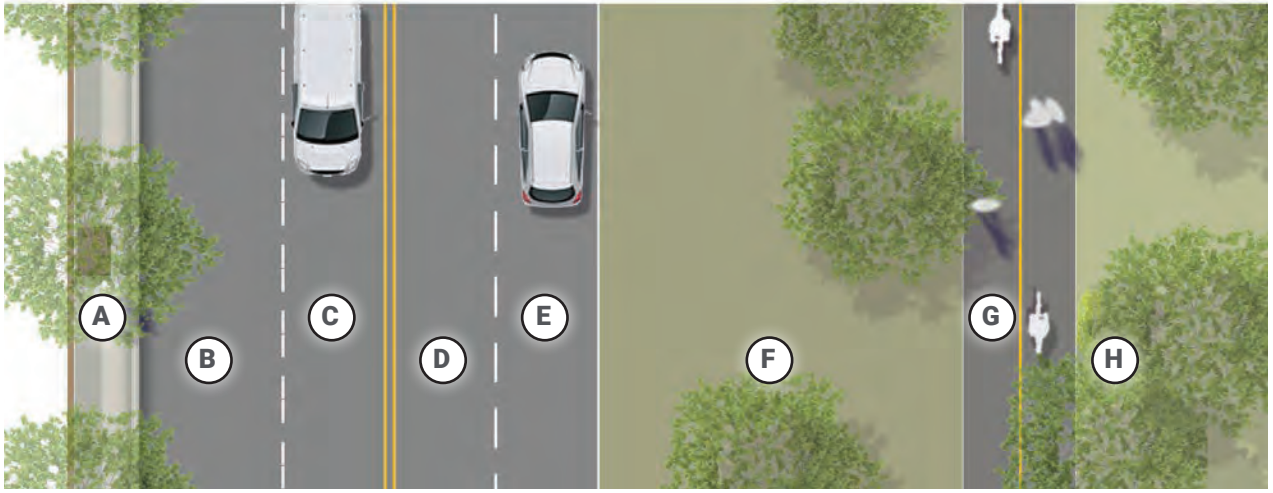
State Route 113 to Arlington Boulevard

Existing Condition Cross Section Looking East

Not to Scale







N

Here there are four lanes, no median, and no street parking or on-street bike facilities. A wide landscape buffer separates the shared use path from the roadway. Sidewalks on the north side are not always present, and are mostly not compliant with Americans with Disabilities Act (ADA) regulations where provided.

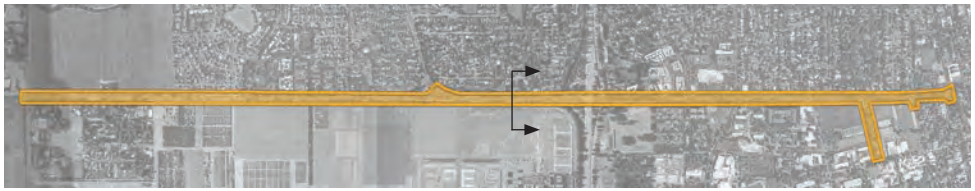
Overall Widths	
Typical Area of Influence	123'
Curb to Curb Pavement	55'

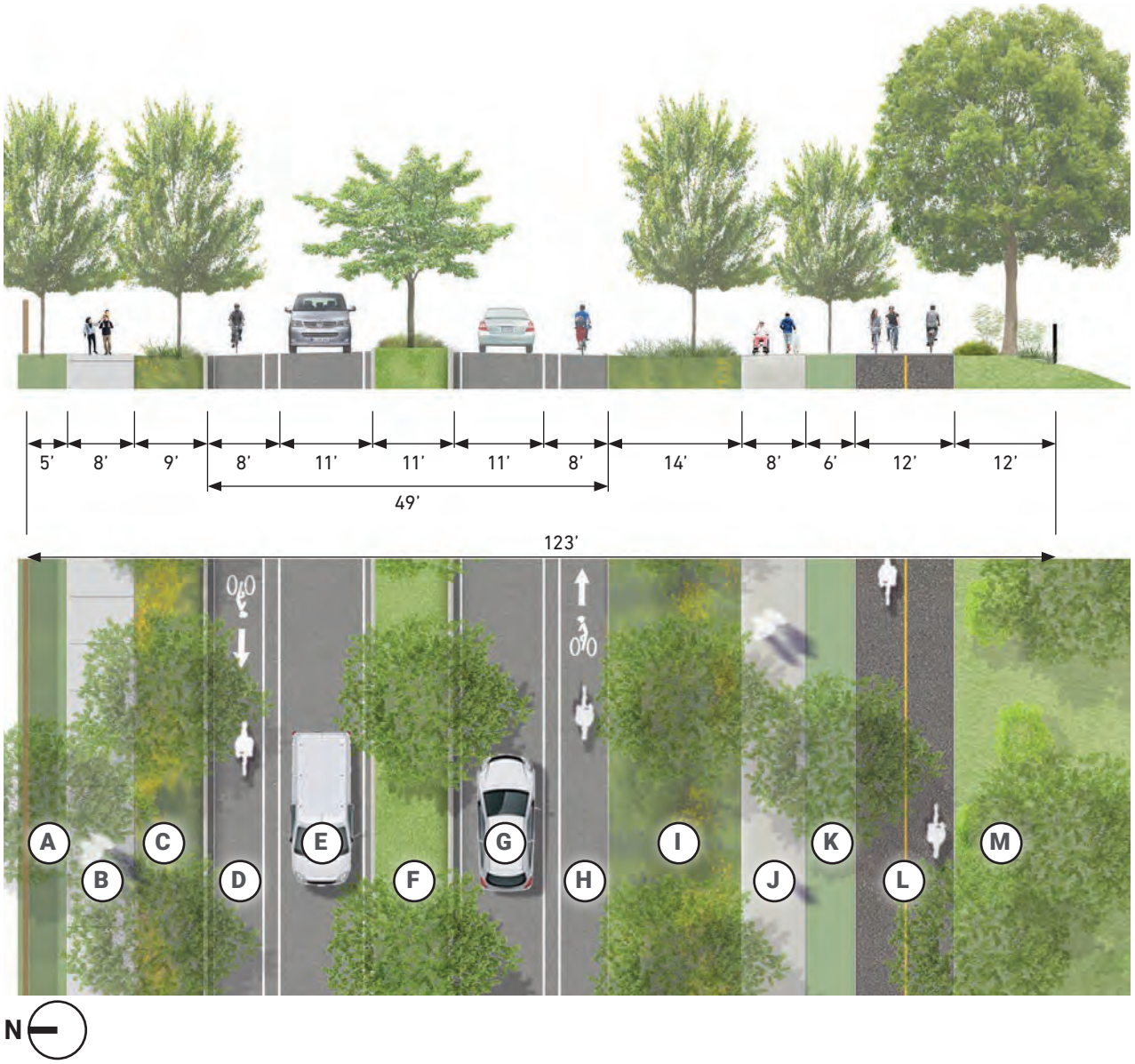
Street Mode Assembly		
North Sidewalk	7'	A
Westbound Vehicle Lane	14.5'	B
Westbound Vehicle Lane	12'	C
Eastbound Vehicle Lane	14'	D
Eastbound Vehicle Lane	14'	E
South Landscape Area	+/-38'	F
South Shared Use Path	12'	G
South Landscape Strip	12'	H

State Route 113 to Arlington Boulevard

Conceptual Cross Section Looking East

Not to Scale





The roadway is reconfigured with two travel lanes, a landscaped median, and buffered one-way bike lanes. Some excess travel lane width becomes a landscaped buffer for the wider, accessible north sidewalk. Bike and pedestrian paths are fully separated on the south side, with a "green gutter" infiltration strip between the facilities.

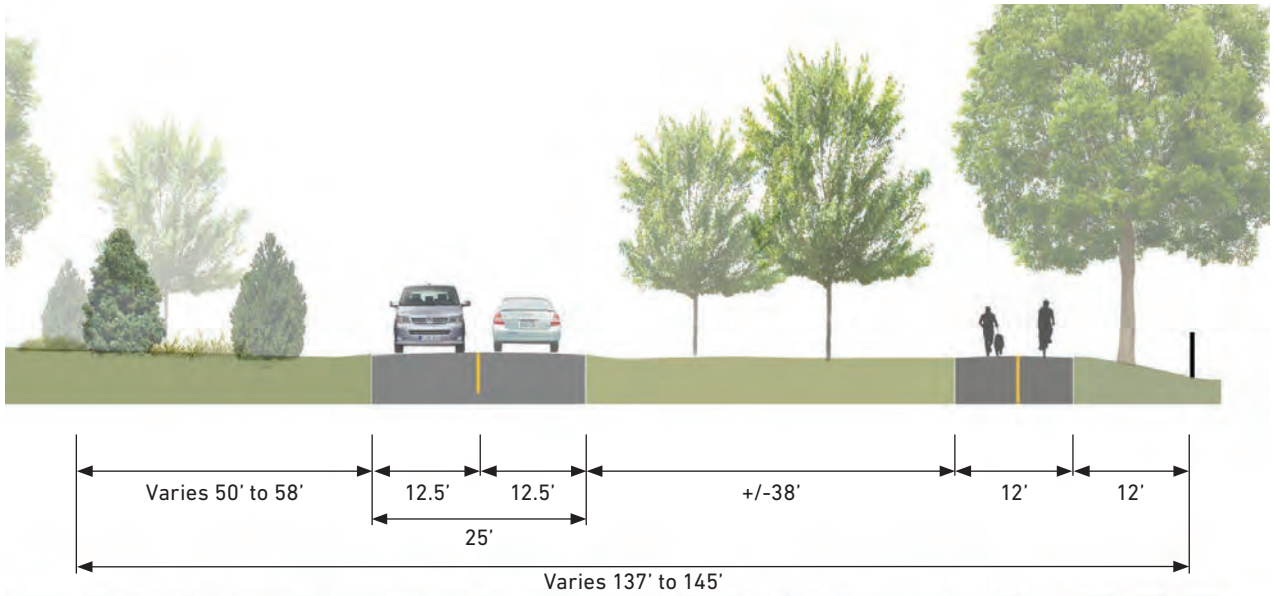
Overall Widths	
Typical Area of Influence	123'
Curb to Curb Pavement	49'

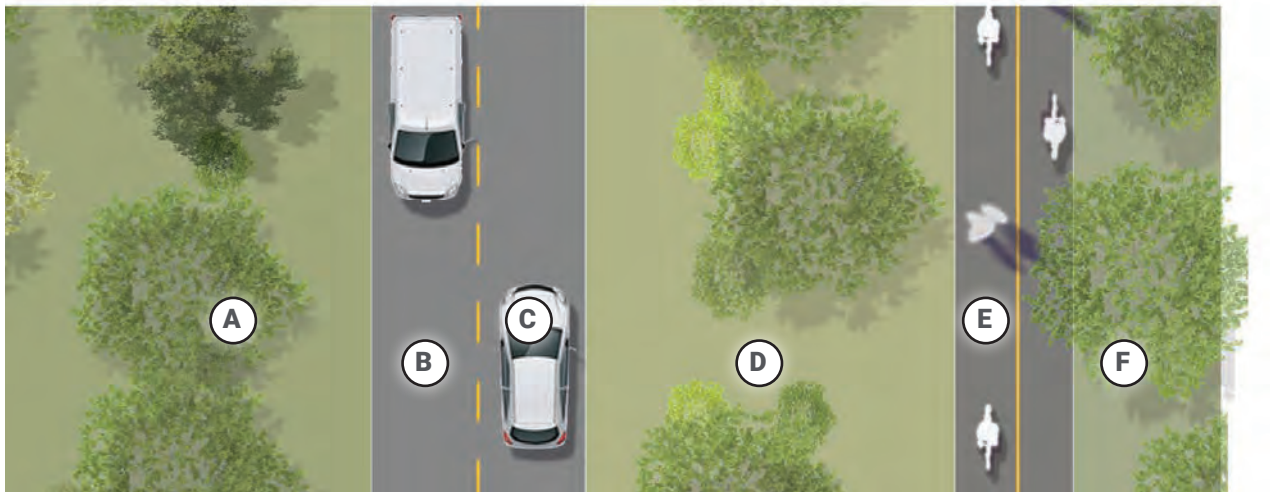
Street Mode Assembly		
North Landscape Strip	Varies 0' to 5'	A
North Sidewalk	8'	B
North Landscape	Varies 9' to 15'	C
Westbound Bike Lane	6' Lane + 2' Buffer	D
Westbound Vehicle Lane	11'	E
Center Median Strip	Varies 0' to 12'	F
Eastbound Vehicle Lane	11'	G
Eastbound Bike Lane	6' Lane + 2' Buffer	H
South Landscape	Varies 14' to 27'	I
South Sidewalk	8'	J
South Green Gutter	4'	K
South Bike Path	12'	L
South Landscape Strip	12'	M

Arlington Boulevard to Lake Boulevard

Existing Condition Cross Section Looking East

Not to Scale





N

This segment has a rural character: a two-lane roadway with almost no shoulder, and a wide landscape area between the road and shared use path. Much of this segment also includes a wide landscape strip along the north side.

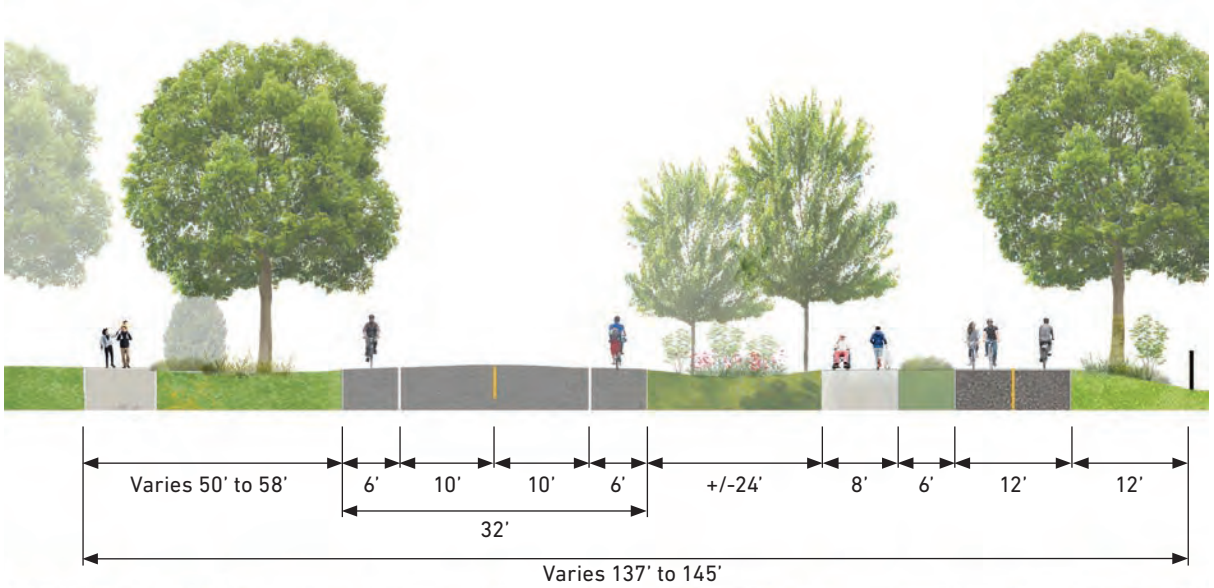
Overall Widths	
Typical Area of Influence	Varies 137' to 145'
Curb to Curb Pavement	25'

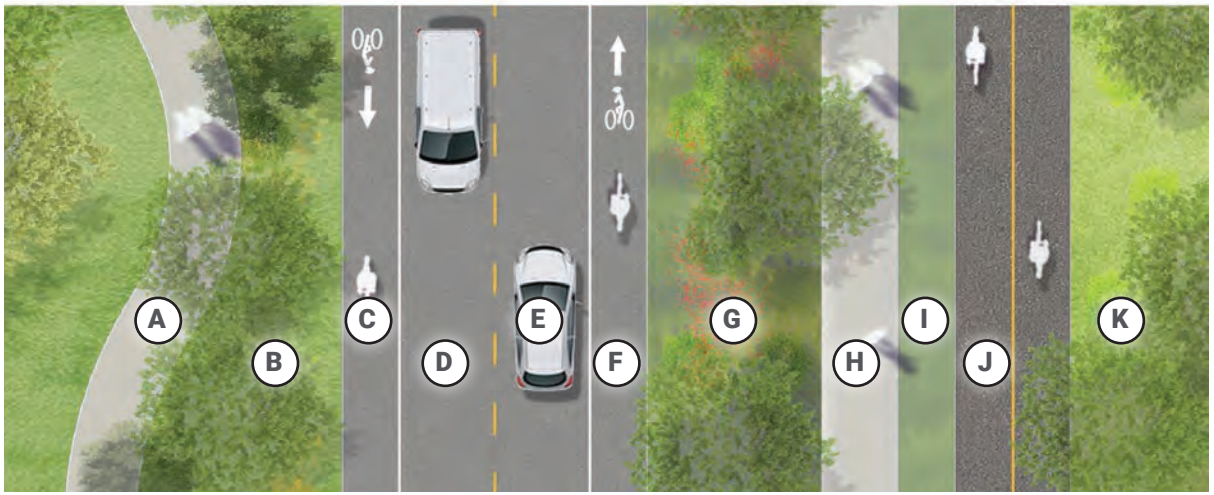
Street Mode Assembly		
North Landscape Area	Varies 18' to 50'	A
Westbound Vehicle Lane	22'	B
Eastbound Vehicle Lane	12.5'	C
South Landscape Area	+/-38'	D
South Shared Use Path	12'	E
South Landscape Strip	12'	F

Arlington Boulevard to Lake Boulevard

Conceptual Cross Section Looking East

Not to Scale





N

The roadway is widened and travel lanes are narrowed to create one-way on-street bike lanes. Bike and pedestrian facilities are separated by a "green gutter" on the south side. On the north side, a meandering pedestrian path is added to the park-like landscape area. All concepts are entirely within the public right-of-way.

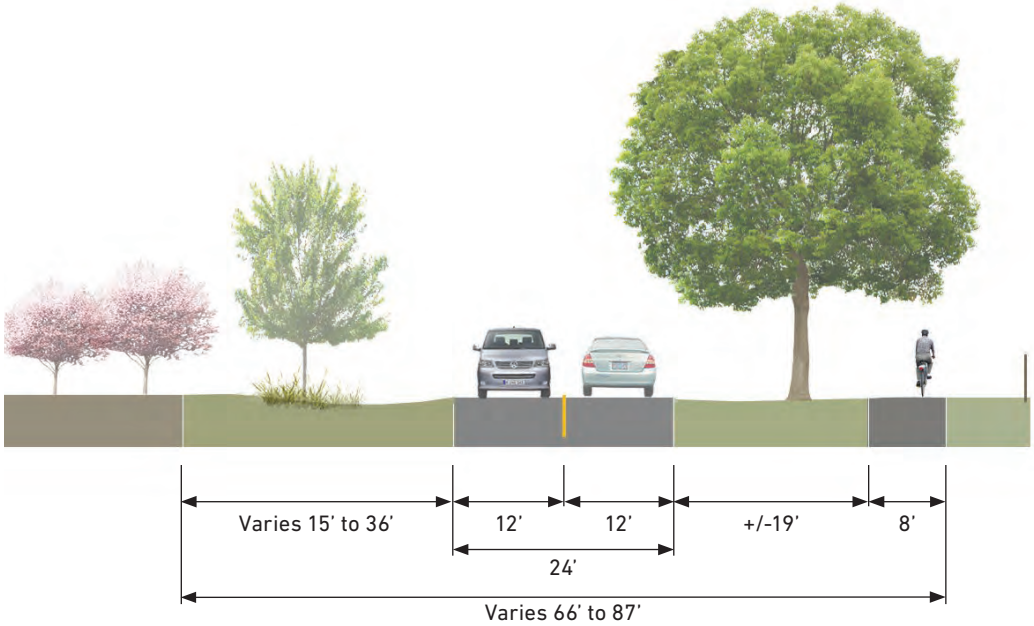
Overall Widths	
Typical Area of Influence	Varies 137' to 145'
Curb to Curb Pavement	32'

Street Mode Assembly		
North Sidewalk	8'	A
North Landscape Area	Varies 18' to 42'	B
Westbound Bike Lane	6'	C
Westbound Vehicle Lane	10'	D
Eastbound Vehicle Lane	10'	E
Eastbound Bike Lane	6'	F
South Landscape Area	+/-24'	G
South Sidewalk	8'	H
South Green Gutter	6'	I
South Bike Path	12'	J
South Landscape Strip	12'	K

Lake Boulevard to County Road 98 (Cactus Corner)

Existing Condition Cross Section Looking East

Not to Scale



West of Davis City limits, the two-lane roadway continues, and the shared use path narrows to about 8'. Several private driveways connect to the boulevard, crossing the path.

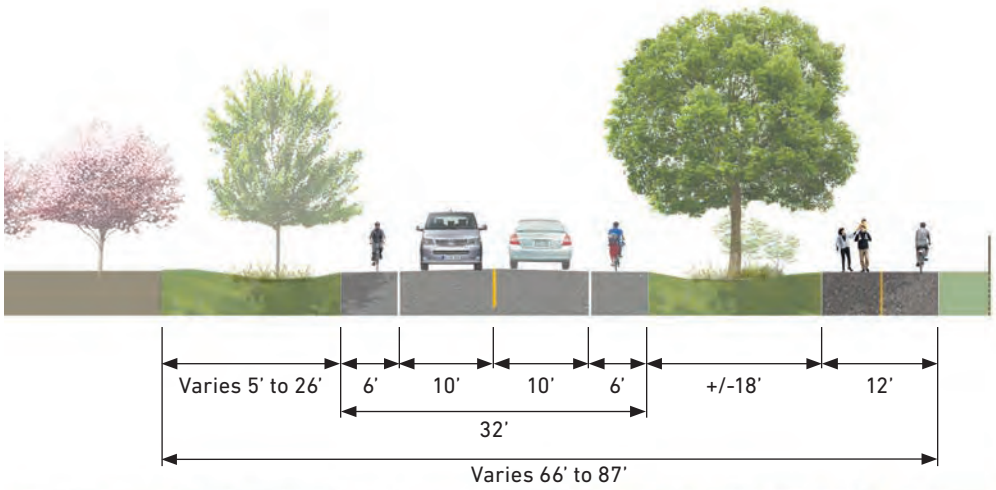
Overall Widths	
Typical Area of Influence	Varies 66' to 87'
Curb to Curb Pavement	24'

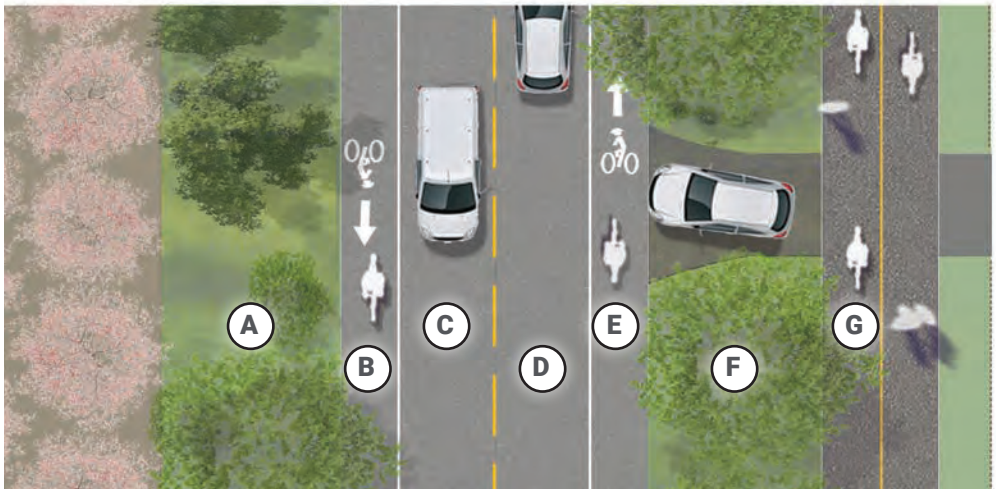
Street Mode Assembly		
North Landscape Area	Varies 15'-36'	A
Westbound Vehicle Lane	12'	B
Eastbound Vehicle Lane	12'	C
South Landscape Area	+/-19'	D
South Shared Use Path	8'	E

Lake Boulevard to County Road 98 (Cactus Corner)

Conceptual Cross Section Looking East

Not to Scale





N

The roadway is widened, and travel lanes are narrowed to create one-way on-street bike lanes. The shared use path is widened toward the roadway, and formalized to match conditions within the City of Davis. All concepts are entirely within the public right-of-way.

Overall Widths	
Typical Area of Influence	Varies 66' to 87'
Curb to Curb Pavement	32'

Street Mode Assembly		
North Landscape Area	Varies 5'-26'	A
Westbound Bike Lane	6'	B
Westbound Vehicle Lane	10'	C
Eastbound Vehicle Lane	10'	D
Eastbound Bike Lane	6'	E
South Landscape Area	+/-18'	F
South Shared Use Path	12'	G

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Plans and Perspectives

Key conceptual design plan view and perspective sketch locations include:

- B Street to Miller Drive
- A Street to Miller Drive
- Howard Way to Oak Avenue
- Anderson Road and La Rue Road
- Sycamore Lane to Orchard Park Drive
- Typical Seating Alcove (East Side)
- State Route 113 to Arthur Street
- Eisenhower Street to Arlington Boulevard
- Lake Boulevard to City Limits
- Typical Seating Alcove (West Side)
- County Road 98 (Cactus Corner)

B Street to Miller Drive

Existing Conditions

Not to Scale

B Street to Miller Drive
Existing Conditions

Mobility, Safety, and Comfort

- Bike lanes lack buffering and protection
- All four vehicular lanes are needed for vehicular traffic volumes and transit operation
- Vehicular slip lanes at B Street make the intersection dangerous for people walking, rolling, and biking
- University Avenue T-intersection crosswalk configuration makes it difficult for motorists to see pedestrians crossing the street
- At A Street intersection it is difficult for eastbound bikes to move from shared use path into on-street bike lanes.
- Significant pedestrian and bike conflicts at southwest corner of A Street (at Toomey Field)
- Overall constricted roadway; there is not much space available for changing the configuration

Landscape and Stormwater Management

- All stormwater from roadway is directed to underground stormwater system without treatment
- There are many mature street trees that should be preserved in side planting strips and the center median
- Existing olive trees at A street do not provide significant shade value
- Existing ground plane landscaping contains larger shrubs that are tall and need to be regularly cut down to maintain clear sight lines

Placemaking and Urban Design

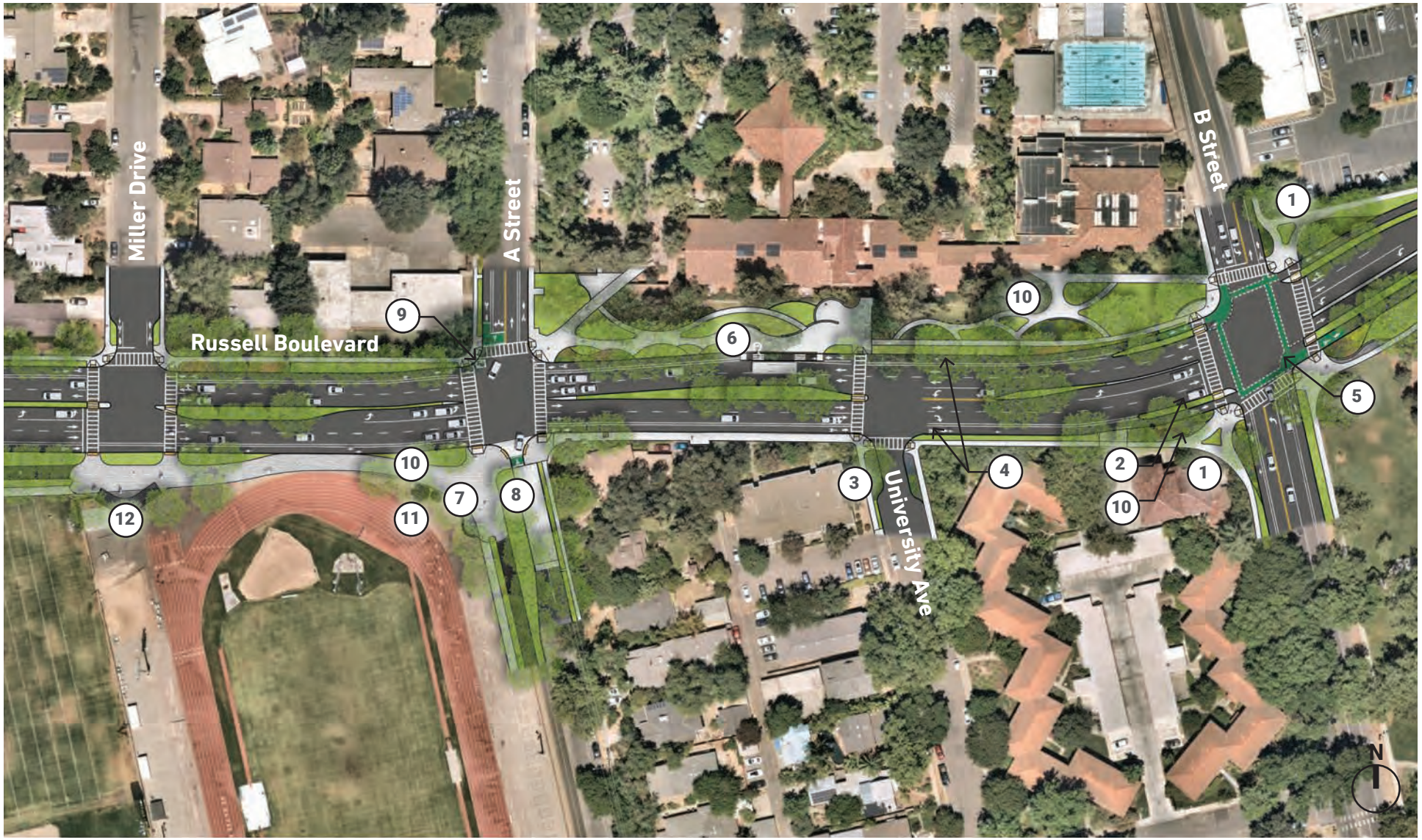
- City Hall's street frontage along Russell Boulevard is poised for transformation with the construction of the Green Infrastructure Improvement Project (see p. 37)
- The fence at Toomey Field is unattractive
- There is currently one bench located at the northeast corner of A Street, and seating at the transit shelter on the north side of Russell Boulevard between A and B Streets
- There is a wayfinding sign at B Street directing eastbound travelers to Downtown Davis

B Street to Miller Drive

Conceptual Design

Not to Scale

The intersections at B Street and A Street represent significant gateway elements leading into the downtown Davis core, Central Park, and UC Davis. At both intersections, concept designs introduce safer pedestrian and bike crossings and transition zones, new rain gardens with seating and gathering spaces, additional street trees, and new wayfinding and signage opportunities. Streetscape improvements may be coordinated with planned green infrastructure features at the City Hall site.



B Street to Miller Drive
Conceptual Design

Mobility, Safety, and Comfort

1. New pedestrian space and safer bike/pedestrian crossings are made possible by the removal of NB and SB right-turn slip lanes at B Street
2. Dedicated southbound right turn lane is maintained at B Street
3. Curb bulbs at University Ave shorten crossing distance and provide space for green infrastructure
4. Separated on-street bike lanes from C Street to A Street
5. Reflective raised pavement markers at the corners provide a mountable, physical edge to the green bike lanes
6. Improved bus stop at City Hall
7. Large pedestrian and bike mixing zone at Russell and A Street, southwest corner
8. Reconfigure A Street NB at Toomey Field: add dedicated bike lane, consolidate left and through-right vehicle lanes to one lane (through, and left and right turns). Raise NB vehicle and bike lanes at crosswalk to provide a level crossing for bikes and pedestrians
9. Bike queue and left turn boxes at A Street SB

Landscape and Green Infrastructure

10. New rain gardens capture street runoff

Placemaking and Urban Design

11. The southwest corner of A Street could be an important gateway, leading people into the UC Davis campus. The Toomey Field fence line could be moved to produce more public space, and also be the site of identity signage for UC Davis
12. New seating and shade structure where Miller Drive meets Russell Boulevard

Additional Notes

- Existing mature street trees are to be protected and preserved
- New street trees provide shade along bike and pedestrian paths
- New landscape areas feature drought tolerant plant species
- Pervious paving at seating alcoves and narrow median strips
- Replace existing olive trees with new tree species
- Stormwater canopy at north side bus stop redirects stormwater into adjacent landscape
- The City Hall landscape and transit shelter offers an opportunity create new seating areas (as part of and in coordination with the City Hall Green Infrastructure Improvement Project)
- All four corners of B Street offer opportunities for expanded pedestrian zones, seating, pedestrian-scale lighting, and public art
- Ensure preservation of adequate space for athletics operations, and coordinate any future changes closely with applicable on-campus partner
- New wayfinding signage at the B Street and A Street intersections

A Street to Miller Drive
Conceptual Design

The A Street intersection provides an opportunity for identity signage for UC Davis, along with a pedestrian seating area. Miller Drive is as an important bike and pedestrian connection to and from the Central Davis neighborhood and the UC Davis campus; however, its current visual terminus is the cyclone fence along Toomey Field and it is a non-ADA compliant pedestrian crossing. To help mark the significance of this approach into the UC Davis campus, the fence line of Toomey field is moved to allow for a plaza with seating, a shade structure, and enhanced ADA compliant crossings. The Miller Drive intersection helps serve as a westward gateway progression towards the main UC Davis entrance at Howard Way.

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Howard Way to California Avenue

Existing Conditions

Not to Scale

Howard Way to California Avenue
Existing Conditions

Mobility, Safety, and Comfort

- All four vehicular lanes on Russell Boulevard are needed for vehicular traffic volumes and transit operation
- Howard Way and California Avenue southwest and southeast corners have significant pedestrian and bike conflicts where the shared use path intersects with pedestrian crossings
- Ramps on the south side of Howard Way are not currently ADA compliant
- Buses turning onto Russell from Howard Way experience delays and delay traffic
- The offset intersection at California Avenue and Oak Street is not intuitive and can lead to confusing interactions between people walking, and rolling, biking, and driving
- North sidewalk has vegetation consistently growing into the pedestrian zone thereby reducing pedestrian comfort and safety
- The angle of eastbound approach of the shared use path at California Avenue is very acute and is difficult for bicyclists to navigate
- The shared use path is narrow (12-feet or less) and there is conflict between bicyclists and pedestrians
- The existing south side transit stop between Oak and California Avenue lacks a covered shelter, and is not ADA accessible
- Crosswalk with RRFB and refuge island at California Avenue is well-used, but could benefit from a pedestrian refuge and additional improvements to visually alert motorists of people trying to cross

Landscape and Stormwater Management

- All stormwater from roadway is directed to underground stormwater system without treatment
- There are several locations along the gutter pan on the north side where stormwater runoff ponds
- There are many mature street trees that should be preserved both within north side planting strips and the center median
- There is some available space on the north side planting strip between existing trees to route stormwater runoff into potential new stormwater planters
- Existing olive trees on south side of the street have historical cultural significance but do not provide significant shade value
- Existing ground plane landscaping is insignificant

Placemaking and Urban Design

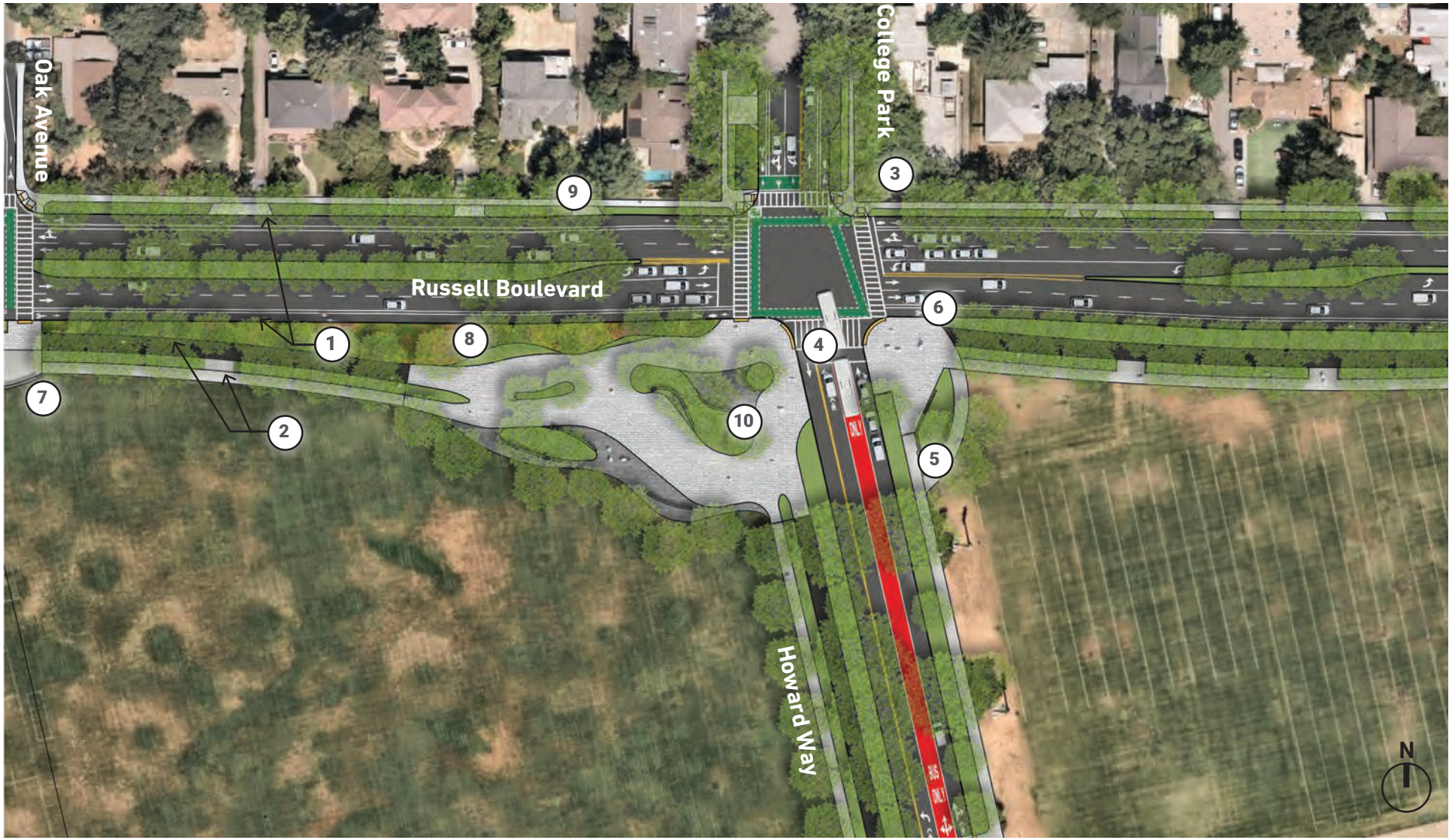
- Custom-designed concrete walls with integrated sign and wood bench are located on the southwest and southeast corners. These elements are aging and in need of repair if retained.
- A wayfinding sign oriented toward east-bound vehicular traffic points to University destinations. There is no wayfinding signage designed specifically for pedestrians or bicyclists
- UC Davis is currently constructing a new Alumni Gateway (including identity signage, seating, and a shade structure) on the southeast corner
- No pedestrian-scale lighting
- Community members enjoy visibility into campus and activity on the intramural fields

Howard Way to Oak Avenue

Conceptual Design

Not to Scale

As an important gateway between the City of Davis and the UC Davis Campus, the intersection of Howard Way and Russell Boulevard provides an excellent opportunity for a social gathering space. Native plantings, custom seating, shade structures, and other amenities could make this a welcoming place to rest, meet a friend, or watch an intramural game.



Howard Way to Oak Avenue
Conceptual Design

Mobility, Safety, and Comfort

1. New on-street east-west buffered bike lanes
2. New south side separated bike and pedestrian pathway system
3. At College Park, shortened pedestrian crossings, additional queuing space for bicyclists and pedestrians
4. Expand bike and pedestrian mixing zones at intersection of Howard Way
5. Remove on-street bike lanes on Howard Way to allow for a bus priority lane. To accommodate people biking, add sharrows and improve shared use path.
6. Adjust bus signal timing to reduce outgoing delays
7. Expand the gathering area and mixing/zone on the shared use path at Oak crossing

Landscape and Green Infrastructure

8. New stormwater swales and rain gardens capture runoff from south side of Russell Boulevard
9. New stormwater planters, selectively placed between existing street trees, capture runoff from north side of Russell Boulevard

Placemaking and Urban Design

10. A social gathering space on the southwest corner of Russell Boulevard and Howard Way. Future design projects will right-size the plaza area extents and details.
Amenities include:
    - Custom-designed seating to accommodate groups of various sizes to rest and congregate at this inviting corner, providing views of the intramural fields
    - Wayfinding signage to provide pedestrians and bicyclists with information about nearby destinations
    - Shade structures, along with a significant tree canopy, to provide shade around the seating
    - Bike racks
    - Plantings (both in-ground and in raised planters) to create inviting spaces within the larger social area
    - Design elements that thoughtfully complement the new UC Davis sign and shade structure on the southeast corner
    - Pedestrian-scale lighting integrated into the seating and landscaping
    - Possible bike repair station and drinking fountain

Additional Notes

» Ped/bike path alignment on south side allows for easier movement toward California Avenue and Howard Way and into UC Davis

Howard Way
Conceptual Design

The conceptual sketch below for the intersection at Howard Way shows the social gathering space on the southwest corner, next to the UC Davis intramural fields. The size and design of the gathering space will be determined during future design projects. The design proposals for the social areas should complement the new UC Davis Alumni Gateway at the southeast corner.

Howard Way
Conceptual Design

This conceptual sketch shows the social hub at the southwest corner of Howard Way and Russell Boulevard. This zone is envisioned as an inviting and comfortable mixing zone, with new landscaping, seating, shade structures, pedestrian-scale lighting, bike racks, and signage.

Anderson Road / La Rue Road

Existing Conditions

Not to Scale

Anderson Road / La Rue Road
Existing Conditions

Mobility, Safety, and Comfort

- All four vehicular lanes are needed for vehicular traffic volumes and transit operation
- Vehicular right turn slip lanes at La Rue make this intersection dangerous for people walking, rolling, and biking
- Significant pedestrian and bike conflicts at all corners of Anderson/La Rue
- Closely spaced private driveways at Anderson intersection limit the amount of pedestrian/bike queuing space
- Overall constricted roadway; there is not a lot of space for changes to configuration
- The diagonal on-street bike intersection crossing from SB Anderson to EB Russell is not ideal
- Narrow sidewalk directly adjacent to the motor vehicle travel lanes on the north side is not comfortable for pedestrians
- Cyclists frequently use narrow north sidewalk or ride through the University Mall parking lot to avoid on street westbound travel
- North side on-street parking is used, but it is difficult to park with fast moving traffic
- There is a lack of bike/pedestrian queuing space on the Sycamore Lane northwest and northeast corners
- South side shared use path indicates biking and areas with different paving material, but it is still a narrow facility considering the high number of both types of users
- The shared use path roundabout near the UC Davis softball field provides no queuing space nor direction for pedestrians to maneuver

Landscape and Stormwater Management

- All stormwater from roadway is directed to underground stormwater system without treatment
- A significant amount of stormwater runoff is directed to drain inlets near both La Rue right turn slip lanes
- Mature street trees on the south side and in the median should be preserved
- Mature trees on the north side University Mall private property should be protected and preserved even if new development occurs
- There is some available space in the south side planting strip between existing trees and curb line to route stormwater runoff into potential new stormwater planters
- Existing olive trees on south side of the street do provide shade value and soften the edge between Russell Boulevard and adjacent housing storage units
- Existing ground plane landscaping is insignificant

Placemaking and Urban Design

- There are not significant placemaking elements, and the intersection feels like it is meant for vehicles only
- Light pole banners currently display UC Davis signage
- There are some landscaped areas of the median, and groundcover plantings along the North side of the street
- There is a large amount of space on the southwest corner of the intersection
- The penny farthing bicycle sculpture provides a precedent for public art in the median

Anderson Road / La Rue Road

Conceptual Design

Not to Scale

The removal of right turn slip lanes improves the safety, comfort, and legibility of this intersection for people traveling by all modes. Landscape improvements next to the softball field on La Rue Road enhance this gateway between the City and the campus. A protected intersection makes crossings and turns safer for people biking.

Anderson Road / La Rue Road
Conceptual Design

Mobility, Safety, and Comfort

1. Remove Anderson/La Rue east-bound and west-bound right-turn slip lanes to expand bicycle and pedestrian queuing space
2. East-bound and west-bound outside lanes are shared through / right-turn
3. 1 north-bound through and 1 north-bound right-turn lane to separate vehicle and bike movements
4. North-bound dedicated bike phase at Anderson
5. Reflective raised pavement markers at the corners provide a mountable, physical edge to the green bike lanes
6. Corner pullouts at street grade provide additional protected for turning on-street bicyclists at Anderson
7. Gas station driveways at Anderson adjusted to allow for safer pedestrian curb ramps
8. New on-street east-west buffered bike lanes
9. New south side separated bike and pedestrian pathway system

Landscape and Green Infrastructure

10. New stormwater swales and rain gardens capture runoff from south side of Russell Boulevard
11. New stormwater planters, selectively placed in front of existing olive street trees, capture runoff from south side of Russell Boulevard

Placemaking and Urban Design

12. On the southwest corner, a boardwalk detail allows pedestrians and bicyclists to cross over rain garden landscaping, creating an interesting and educational experience.

Additional Notes

- Existing mature street trees are to be protected and preserved
- New street trees provide shade along bike and pedestrian paths
- New green gutter between south side walkways and bike path captures sheet flow runoff
- New landscape median areas feature drought tolerant plant species
- Pervious paving at seating alcoves and narrow median strips
- Where space allows, pedestrian and bicycle paths meander to create the sense of immersion in a natural landscape
- Pedestrian seating coves are integrated with intersection crossing points
- Opportunity for public art
- Interpretive signage may provide information on green infrastructure, local ecology, history, etc.
- Plantings, including additional trees and groundcover, will help create welcoming space around the intersection
- Pedestrian-scale lighting will ensure the entire area feels safe and welcoming

Sycamore Lane to Orchard Park Drive

Existing Conditions

Not to Scale

Sycamore Lane to Orchard Park Drive
Existing Conditions

Mobility, Safety, and Comfort

- All four vehicular lanes are needed for adequate vehicular needs and transit operation
- Community members report problems with pedestrian signal phasing at Sycamore Lane intersection
- Pedestrians frequently cross Russell Boulevard at Orchard Park Drive, despite the absence of a crosswalk
- North side sidewalk/shared use bike path is not well defined
- Toward SR-113, the sidewalk along north side is directly adjacent to the motor vehicle lanes and is not comfortable for pedestrians
- The existing south side transit stop between Sycamore Lane lacks a covered shelter and is not ADA accessible.
- The existing north side transit stop between SR-113 and Orchard Park Drive lacks a covered shelter and is not ADA accessible.
- North side on-street parking is used, but it is difficult to park adjacent to the fast moving traffic
- The offset intersection at Orchard Park Drive is not intuitive and can lead to confusing interactions between people walking and rolling, biking, and driving
- The angle of eastbound approach of the shared use path at Orchard Park Drive is very acute and is difficult for bicyclists to navigate
- The shared use path is narrow (12-feet or less) and there is conflict between bicyclists and pedestrians.
- Sidewalk paving materials are inconsistent along the north side
- The Orchard Park development that is under construction will address the south west corner of the Orchard Park Drive intersection.

Landscape and Stormwater Management

- All stormwater from roadway is directed to underground stormwater system without treatment
- There are several locations along the gutter pan on the north side where stormwater runoff ponds due to lack of positive drainage
- There are many mature street trees that should be preserved both within north side planting strips and the center median
- There are no trees located on the south side of the Russell Boulevard frontage leaving a very sun exposed condition
- Existing ground plane landscaping is insignificant

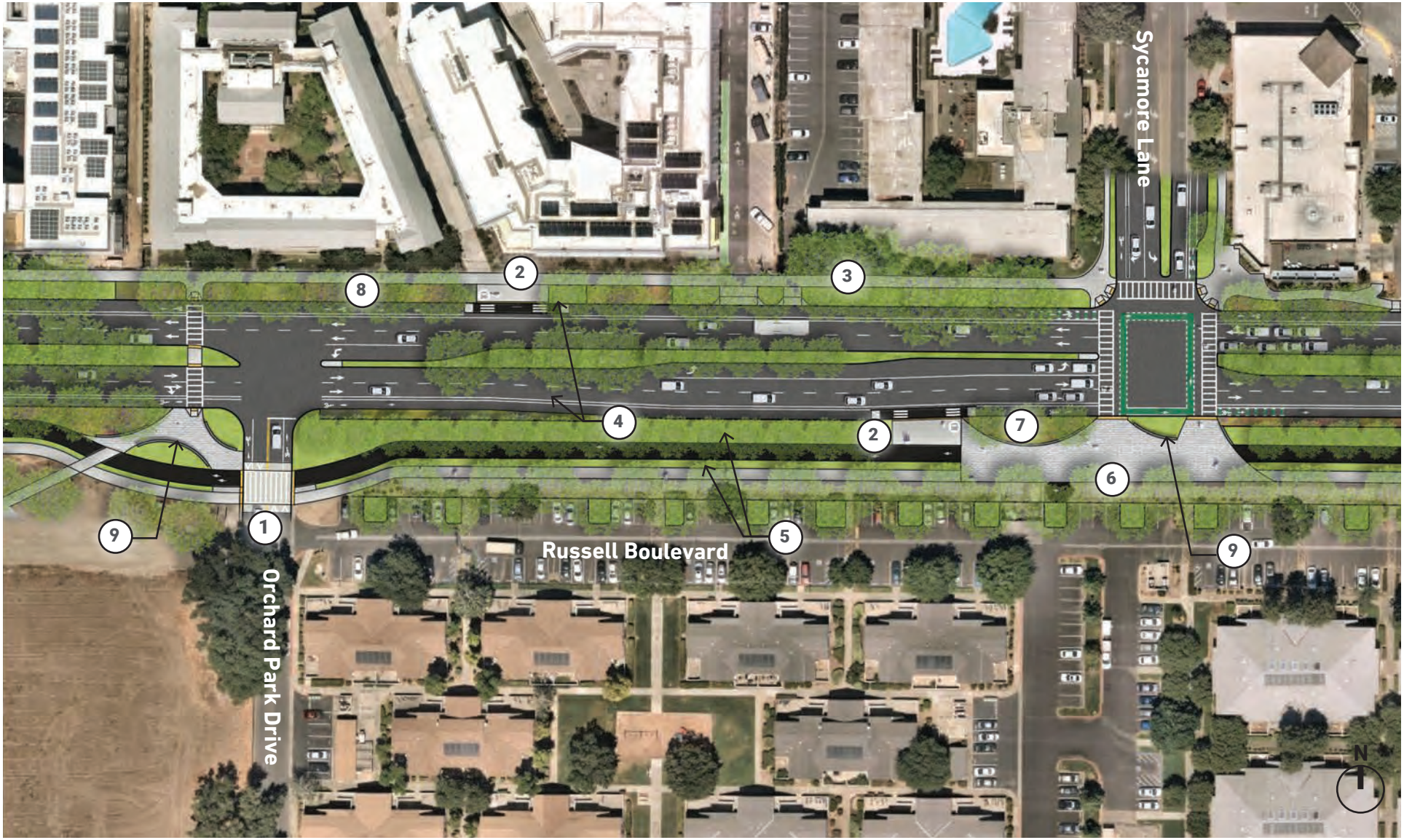
Placemaking and Urban Design

- The blank wall along the south side of the street is monotonous and presents an unfriendly facade to path users
- Minimal pedestrian-scale lighting
- Minimal signage
- No transit shelters at bus stops

Sycamore Lane to Orchard Park Drive

Conceptual Design

Not to Scale



Sycamore Lane to Orchard Park Drive
Conceptual Design

Mobility, Safety, and Comfort

1. New raised pedestrian and bike crossing at Orchard Park Drive and SR-113
2. New covered transit stop at Sycamore with accessible conditions
3. Improved north sidewalk condition to provide better pedestrian delineation and protection from bikes/vehicles
4. New on-street east-west buffered bike lanes
5. New south side separated bike and pedestrian pathway system
6. Specialty paving in the "mixing zones" can help identify these intersections as special places

Landscape and Green Infrastructure

7. New rain gardens capture street runoff at Orchard Park Drive intersection
8. New stormwater planters, selectively placed between existing street trees, capture runoff from north side of Russell Boulevard

Placemaking and Urban Design

9. Pedestrian seating is provided at Orchard Park Drive and Sycamore Lane

Additional Notes

- New green gutter between south side walkways and bike path captures sheet flow runoff
- Existing mature street trees are to be protected and preserved
- New street trees provide shade along bike and pedestrian paths
- New landscape areas feature drought tolerant plant species
- Pervious paving at seating alcoves and narrow median strips
- Stormwater canopy at south side bus stop redirects stormwater into adjacent landscape
- New transit shelter is an opportunity for seating, signage, trash and recycling receptacles, and bike racks
- Enhanced landscaping along both sides of the road and in the median will create a more inviting public realm and can help with traffic calming
- The Orchard Park development that is under construction on the south side will straighten the shared use path approach at Orchard Park Drive and will include landscape and sidewalk improvements
- In the short term, the blank back wall of the Russell Park storage units along the south side of the street is a great opportunity for public art (such as a mural or decorative panels)

Typical Seating Alcove (East Side)
Conceptual Design

Seating alcoves at semi-regular intervals along the corridor will provide opportunities to rest and socialize. As breaks in the landscape buffer separating bike and pedestrian paths, these alcoves are accessible from both facilities. Seating alcoves can be coupled with additional streetscape amenities such as pedestrian-scale lighting, wayfinding and/or informational signage, bike repair stations, or drinking fountains. A typical seating alcove east of SR-113, shown on the south side of Russell Boulevard is illustrated in the conceptual sketch below.

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State Route 113 to Arthur Street

Existing Conditions

Not to Scale

State Route 113 to Arthur Street

Existing Conditions

Not to Scale

Mobility, Safety, and Comfort

- All four vehicular lanes are needed for vehicular traffic volumes and transit operation
- There are significant bike and pedestrian conflict zones at each of the SR-113 on/off ramp locations
- The north side curb-tight sidewalk condition is not comfortable for pedestrians
- There are no bike facilities on the north side and bicyclists often use the north side sidewalk to cross SR-113
- The SR-113 southbound on-ramp approach angle is obtuse and allows drivers to accelerate through the shared use path crossing zone, putting path users at significant risk.

Landscape and Stormwater Management

- Most stormwater from roadway is directed to underground stormwater system without treatment
- Between Arthur and the SR-113 on the south side, stormwater runoff is sheet-flowing into the landscape area, but the plantings, grading, and soil compaction do not allow for infiltration or significant detention.
- There are several locations along the gutter pan on the northwest side Arthur where stormwater runoff is ponding due to lack of positive drainage
- There are many mature street trees that should be preserved both within south side planting strip and on the south side between Arthur Street and SR-113
- There are no trees within the median space or SR-113 frontage despite having available landscape space
- Existing ground plane landscaping is insignificant

Placemaking and Urban Design

- Wayfinding signage that is oriented toward vehicles, and not designed for pedestrians or bicyclists
- Median light pole banners, currently displaying UC Davis signage
- Lighting is primarily designed to illuminate the roadway for vehicles, and not designed for pedestrians or bicyclists, with the exception of pedestrian-scale poles on the south side near the newly-constructed bike roundabout at Arthur Street
- Minimal groundcover plantings

State Route 113 to Arthur Street

Conceptual Design

Not to Scale

State Route 113 to Arthur Street
Conceptual Design

Mobility, Safety, and Comfort

1. Remove conflicts between people walking, rolling and biking, and vehicles turning onto south SB on ramp by removing ramp and adding left turn lane for the north SB on ramp
2. Square up the SB on ramp to slow turning vehicles
3. New continuous east-west bike lanes across SR-113
4. New south side separated bike and pedestrian pathway system

Landscape and Green Infrastructure

5. New stormwater swales and rain gardens capture runoff from north and south sides of Russell Boulevard

Placemaking and Urban Design

6. New gateway features and signage will allow this area to serve as a welcoming gateway to UC Davis and the City of Davis, particularly for those traveling by car from the west or from SR-113

Additional Notes

- Improved pedestrian and bike crossings and queuing points at all intersection corners
- New covered transit stop on north and south sides of Arthur with accessible conditions
- Existing mature street trees are to be protected and preserved on south side of Russell Boulevard
- New street trees provide shade along bike and pedestrian paths
- New landscape median areas feature drought tolerant plant species
- Pervious paving at seating alcoves and narrow median strips
- Stormwater canopy at south side bus stop redirects stormwater into adjacent landscape
- Additional wayfinding signage that is designed for pedestrians and bicyclists
- New pedestrian-scale lighting
- New plantings for a more inviting streetscape
- Pedestrian seating coves are integrated with intersection crossing points at SR-113

Eisenhower Street to Arlington Boulevard

Existing Conditions

Not to Scale

Eisenhower Street to Arlington Boulevard
Existing Conditions

Mobility, Safety, and Comfort

- Reducing the number of travel lanes is possible and will still accommodate vehicular traffic volumes and transit operation
- There are significant bike and pedestrian conflict zones at the Arlington Y intersection and at Eisenhower Street
- Vehicles move fast around the Russell Boulevard to Arlington curve allowing for extremely unsafe bike and pedestrian crossings given the current roadway width
- The north side sidewalk is directly adjacent to the motor vehicle lanes is not comfortable for pedestrians and is not ADA compliant east of Eisenhower Street
- The northbound bike lane begins, and eastbound bike lane ends at the Eisenhower Street intersection but both bike lanes lack buffering or protection from fast moving vehicles
- There are frequent lane changes as drivers try to understand how to continue westbound on Russell or move north on Arlington Drive
- The westbound left turn for westbound Russell travel is problematic for drivers and creates a difficult bike and pedestrian crossing
- There currently is no way for pedestrians to cross Russell Boulevard and walk along the west side of Arlington Boulevard.
- South side shared use pathway is only 12 feet wide and is a narrow condition considering the high levels of pedestrian and bicycle use

Landscape and Stormwater Management

- All north side roadway stormwater runoff is directed to underground stormwater system without treatment
- All south side stormwater runoff is allowed to sheet flow into existing grassy swales
- The grassy swales turn brown during dry months and provide little landscape interest
- There are several locations along the gutter pan on the north side near Eisenhower Drive where stormwater runoff ponds due to lack of positive drainage
- The declining health of the Black Walnut trees provides an opportunity to replace them in the near term with new landscaping

Placemaking and Urban Design

- Pedestrian-scale light poles on the south side of Russell Boulevard, along the multi-use path
- Minimal signage
- City of Davis wayfinding sign in median (pointing to Winters and West Davis Shopping)
- No seating or other streetscape furnishings (such as bike racks or trash receptacles)

Eisenhower Street to Arlington Boulevard

Conceptual Design

Not to Scale

Eisenhower Street to Arlington Boulevard
Conceptual Design

Mobility, Safety, and Comfort

1. Reduction of vehicle lanes with a center landscape median will operate well based on traffic analysis
2. Roundabout simplifies existing Arlington / Russell intersection and will operate well based on traffic analysis.
3. Protected westbound bike lane from Arthur to the Arlington roundabout
4. Enhanced pedestrian and bicycle crossing improvements to Eisenhower Street
5. New landscape-separated sidewalk on north side of Russell Boulevard
6. New crossings at Evenstar Lane
7. New continuous east-west bike lanes
8. New south side separated bike and pedestrian pathway system

Landscape and Green Infrastructure

9. New stormwater swales and rain gardens capture runoff from north and south sides of Russell Boulevard and within the Arlington roundabout

Placemaking and Urban Design

10. The new gathering area on the southern side of the roundabout could potentially provide a bike, pedestrian, and transit-only connection point to west campus if deemed necessary in the future
11. Public art (such as sculptures) inside the new roundabout, and around the different pedestrian seating alcoves, thoughtfully integrated into the landscaping
12. New park-like area west of the roundabout

Additional Notes

- New roundabout at Arlington creates a safer environment for all modes by decreasing conflict points
- Existing mature street trees are to be protected and preserved on south side of Russell Boulevard
- New street trees provide shade along bike and pedestrian paths
- New landscape median areas feature drought tolerant plant species
- Pervious paving at seating alcoves and narrow median strips
- Pedestrian seating alcoves with specialty paving on the western and southern sides of the roundabout, with plantings providing a buffer from the roadway
- Wayfinding signage
- Pedestrian-scale lighting
- Significant tree canopy will provide shade to the area, especially around seating
- In future phases of development, this area could be a well suited for a bike repair station and hydration station
- Ensure no encroachment on research agriculture fields or their vital utility connections

Arlington Boulevard Roundabout
Conceptual Design

The Arlington Roundabout, shown in the conceptual sketch below, features seating, in-ground landscaping, shade trees, and public art installations.

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Lake Boulevard to City Limits

Existing Conditions

Not to Scale

Lake Boulevard to City Limits
Existing Conditions

Mobility, Safety, and Comfort

- The existing three-way stop at Lake Boulevard works well and allows for straightforward crossings by pedestrians and bicyclists
- The Lake Boulevard intersection is oversized leaving a wide condition for pedestrians to cross east to west
- Vehicles move fast around the Russell Boulevard to Arlington curve allowing for e unsafe bike and pedestrian crossings given the current roadway width
- There currently is no consistent north side sidewalk along Russell Boulevard or Lake Boulevard, in terms of both connectivity and pavement material
- South side shared use pathway is only 12 feet wide and is a narrow condition considering the high number of users

Landscape and Stormwater Management

- All roadway stormwater runoff is allowed to sheet flow into existing grassy swales
- North side landscape at the Lake Boulevard intersection varies from conventional ornamental and turfgrass conditions but is aesthetically insignificant
- The grassy swales turn brown during dry months and provide little landscape interest
- The declining health of the Black Walnut trees provides an opportunity to replace them in the near term with new landscaping

Placemaking and Urban Design

- Minimal lighting
- Minimal signage
- A small City of Davis sign reads “Welcome to Davis”
- Minimal streetscape furnishings (no seating, trash receptacles, or bike racks)
- Rural landscape character

Lake Boulevard to City Limits

Conceptual Design

Not to Scale

Lake Boulevard to City Limits
Conceptual Design

Mobility, Safety, and Comfort

1. Enhanced pedestrian and bicycle crossing improvements to Lake Boulevard
2. New landscape-separated sidewalk on north side of Russell Boulevard
3. New continuous east-west bike lanes
4. New south side separated bike and pedestrian pathway system

Landscape and Green Infrastructure

5. New stormwater swales and rain gardens capture runoff from north and south sides of Russell Boulevard

Placemaking and Urban Design

6. Using the full public right-of-way, on both the northern and southern side of Russell Boulevard, allows space for the pedestrian and bike paths to meander in certain locations, creating the feeling of an enjoyable stroll or ride through nature
7. Pedestrian seating alcoves, located alongside the pedestrian and bike pathways at semi-regular intervals, provide places to stop and rest

Additional Notes

- Existing mature street trees are to be protected and preserved on north and south side of Russell Boulevard
- New street trees provide shade along bike and pedestrian paths
- Pervious paving at seating alcoves at Lake Boulevard
- Attractive landscape elements, such as colorful native plantings, will be clustered around seating alcoves to create special moments and provide a buffer from the roadway
- Wayfinding signage at useful moments along the corridor for pedestrians, bicyclists, and motorists
- Educational interpretive signage at several key locations, providing pedestrians opportunities to stop and learn
- Pedestrian-scale lighting
- Fence and vegetated buffer along the south right-of-way line keep people out of the agriculture fields

Typical Seating Alcove (West Side)
Conceptual Design

Seating alcoves at semi-regular intervals along the corridor will provide opportunities to rest and socialize. Depending on the width of the landscape buffer between the pathways and the road, the seating alcoves can be sited either north or the south of the pathways. A shift in paving material across both the pedestrian and bike path denotes the seating alcove location. Alcoves can be coupled with additional streetscape amenities such as pedestrian-scale lighting and wayfinding and informational signage. The conceptual sketch below shows a typical seating alcove west of SR-113 and on the south side of Russell Boulevard.

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County Road 98 (Cactus Corner)

Existing Conditions

Not to Scale

County Road 98 (Cactus Corner)
Existing Conditions

Mobility, Safety, and Comfort

- North and southbound vehicular slip lanes are conflict zones with those using the shared use pathway; especially the eastbound slip lane funneling traffic onto Russell Boulevard
- Shared use path is very narrow with considerable conflict between fast-moving cyclists and slower moving cyclists and pedestrians
- There is currently no sidewalk infrastructure for pedestrians to walk through and experience the Cactus Corner landscape features

Landscape and Stormwater Management

- All roadway stormwater runoff is allowed to sheet flow into existing grassy swales and into adjacent stormwater detention areas
- There are several mature trees within the Cactus Corner landscape that should be protected and preserved
- The cactus collection that gives this site its name is a significant community asset and should be preserved as much as feasible with future streetscape improvements
- The grassy swales turn brown during dry months and provide little landscape interest
- The declining health of the Black Walnut trees provides an opportunity to replace them in the near term with new landscaping

Placemaking and Urban Design

- Cacti and other succulents at southeast corner
- Minimal lighting
- Minimal signage
- Minimal streetscape furnishings (no seating, trash receptacles, or bike racks)
- Rural landscape character

County Road 98 (Cactus Corner)

Conceptual Design

Not to Scale

County Road 98 (Cactus Corner)
Conceptual Design

Mobility, Safety, and Comfort

1. Roundabout simplifies existing County Road 98 and Russell Boulevard intersection and will operate well based on traffic analysis.
2. Enhanced pedestrian and bicycle crossing improvements including interior pathways within Cactus Corner
3. New wider south side shared use pathway system

Landscape and Green Infrastructure

4. New stormwater swales and rain gardens capture runoff from south side of Russell Boulevard within Cactus Corner

Placemaking and Urban Design

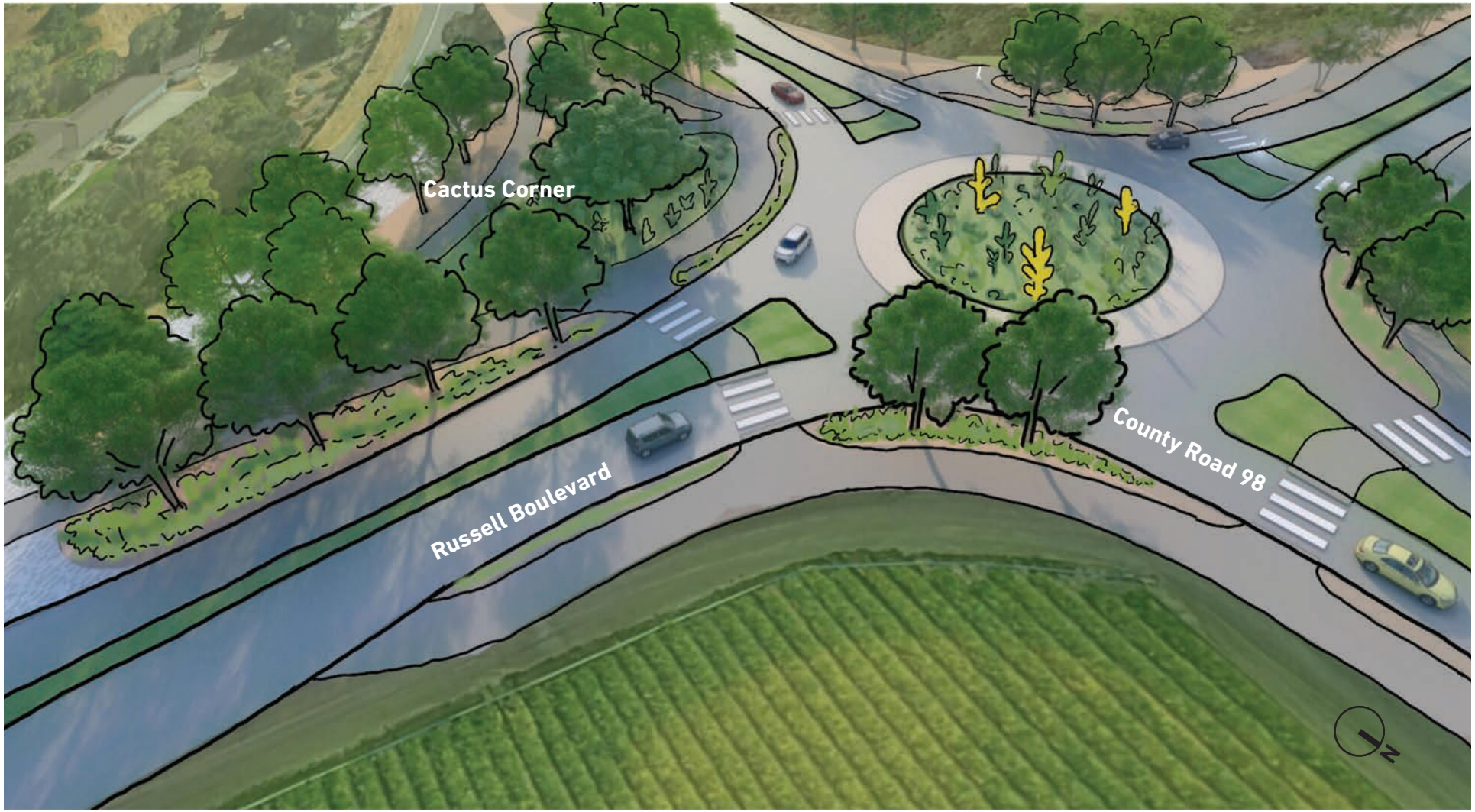
5. Distinctive cacti and other drought-tolerant succulents planted alongside the existing cacti to further enhance this area's identity as "Cactus Corner," both inside the roundabout circle and also around the four corners of the intersection
6. Path meanders through new landscapes around the roundabout, particularly on the southeast and southwest corners, providing a park-like experience

Additional Notes

- Existing mature street trees are to be protected and preserved within Cactus Corner
- New street trees provide shade along bike and pedestrian paths
- New landscape median areas feature drought tolerant plant species
- Educational interpretive signage to provide information about Cactus Corner and its plantings
- Wayfinding signage for pedestrians, bicyclists, and motorists
- Trees to provide shade and a sense of enclosure
- Opportunity for public art in the roundabout
- Ensure roundabout design accommodates larger agriculture vehicles and trucks on this regional connector road

County Road 98 (Cactus Corner) Roundabout
Conceptual Design

Below is a conceptual sketch of the Cactus Corner Roundabout, featuring meandering paths, in-ground landscaping (existing and additional cacti and succulents), shade trees, and public art installations.



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Section 5
Russell Boulevard Toolkit

05

Russell Boulevard Toolkit

This Toolkit provides guidance for elements of design that can be implemented along Russell Boulevard and are aligned with public feedback and the project's vision. The elements included in the Toolkit will help the City, UC Davis, and Yolo County move forward on implementing recommendations from the Vision Plan by providing detailed information on how elements can be deployed in the right of way. The Toolkit is organized by the project's three core focus areas:

Multimodal Mobility

Identify and address current mobility, safety, comfort, efficiency, inequalities, and sustainability issues along the corridor.

Green Infrastructure

Position Russell Boulevard to be climate-prepared by illustrating a diverse palette of landscaped-based green stormwater infrastructure tools and a robust urban tree and structural shade canopy concept to help mitigate extreme heat events.

Urban Design and Placemaking

Enhance Russell Boulevard to become a more welcoming, distinctive, and beautiful destination that reflects and celebrates the local context and communities of Davis and UC Davis.

Multimodal Mobility Toolkit

Russell Boulevard is already a multimodal corridor, with existing facilities for biking, walking and rolling, and bus transit as well as private motor vehicles. However, the current configuration of the roadway prioritizes private vehicle travel, and facilities for walking, rolling, and biking are compromised, uninviting, and, in some locations, lacking altogether. Reimagine Russell Boulevard proposes reconfiguring the right-of-way to provide safer, high-comfort facilities for people walking, rolling, biking, and accessing public transit. This involves linear, corridor-long improvements (bike lanes, sidewalks) as well as intersection redesign to calm traffic and enhance the safety and accessibility of bike and pedestrian crossings. Improvements to intersections and crossings have the added benefit of reducing the barrier effect of the boulevard and enhancing north-south connections between the City and UC Davis campus.

The provision of high-comfort multimodal facilities supports the mobility, sustainability, and equity goals of both the City of Davis and UC Davis, per the City of Davis General Plan Transportation Element (2013) and the UC Davis Long Range Development Plan (2018).

Proposed improvements follow the City of Davis standards for roadway design, including Complete Streets guidance for multimodal arterials, with a few instances of variance from these standards where unique site constraints require accommodation. Davis Public Works design standards for shared use paths and bike lanes are taken from the Caltrans Highway Manual, Chapter 1000 “Bicycle Transportation Design.”

Reimagine Russell Boulevard is a long-range transportation planning effort, anticipating future community and campus growth and demand for travel on this corridor. Concept proposals included in this document will lead to phased construction improvements over the coming 5-15 years. While the design promotes transportation modes other than private vehicles, it does maintain the current number of travel lanes, seeking to minimize congestion on this key route into Davis.

Mid-block Crossing with Pedestrian Refuge Island in Somerville, MA

Applying Best Practices

Proposed multimodal improvements are drawn from best practice mobility design components and strategies, including interventions that can be applied to the full corridor, and those meant for implementation in specific circumstances as determined by traffic operations and site context.

Continuity and consistency are key to the success of bike and pedestrian facilities; the Reimagine Russell Boulevard proposal offers consistent and continuous multimodal facilities, including on- and off-street bikeways to support a wide range of biking ability and interest. Consistent intersection treatments provide legibility and rhythm for people traveling the corridor on foot, wheelchair, bike, or other mode.

Separation of modes is a critical component of high-comfort multimodal streets. Reimagine Russell Boulevard separates pedestrian and bike paths, and adds protected on-street bike lanes and intersection protection to keep people biking separated from vehicular travel.

Streets designed for pedestrian and bicycle travel offer a multitude of health, environmental, safety, and livability benefits. Streets with multimodal mobility options promote active transportation, slow vehicle speeds, and inspire conviviality and public life. The multimodal toolkit is broken up into two sections, Corridor-Wide Multimodal Mobility Components and Spot Treatment Multimodal Mobility Components.

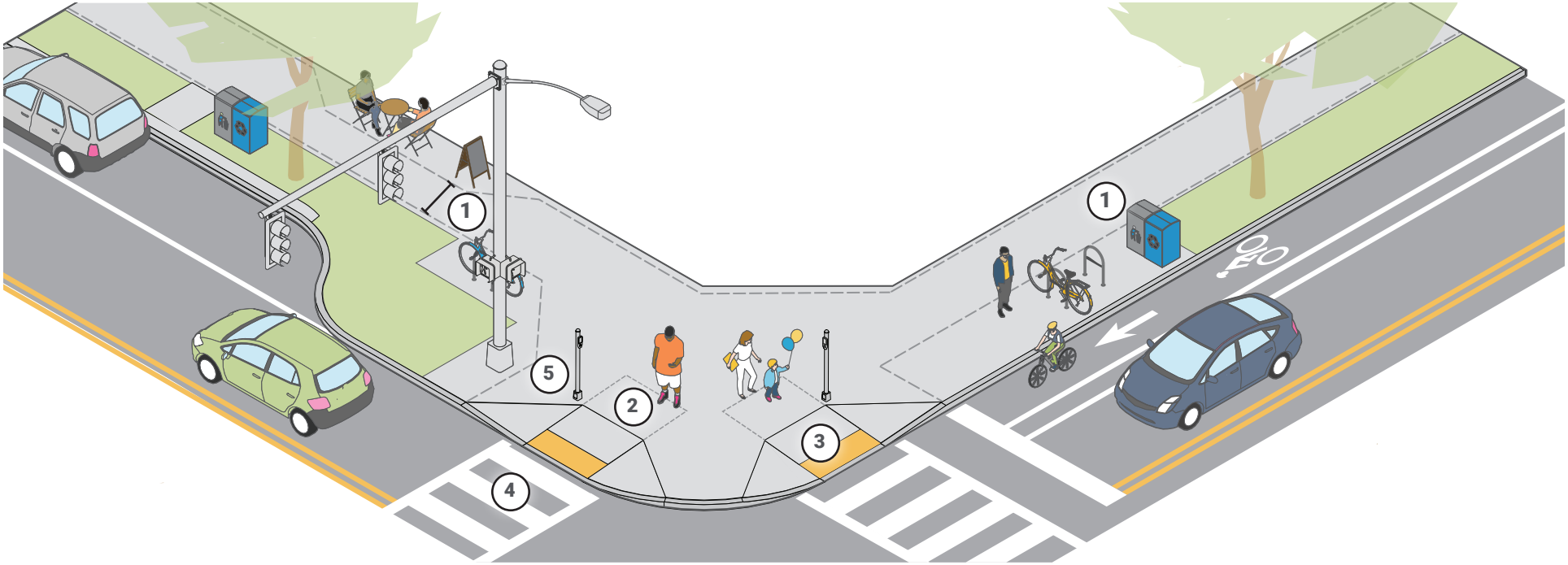
Protected Bike Lane in Denver, CO

Corridor-Wide Multimodal Mobility Components

The first section of the Multimodal Mobility Toolkit includes the corridor-wide multimodal mobility components that are recommended for implementation throughout the study area where applicable. These critical safety and accessibility improvements are the basic elements of the Reimagine Russell Boulevard multimodal transportation concept.

Capital City Bikeway with Separate Pedestrian Walkway in St. Paul, MN

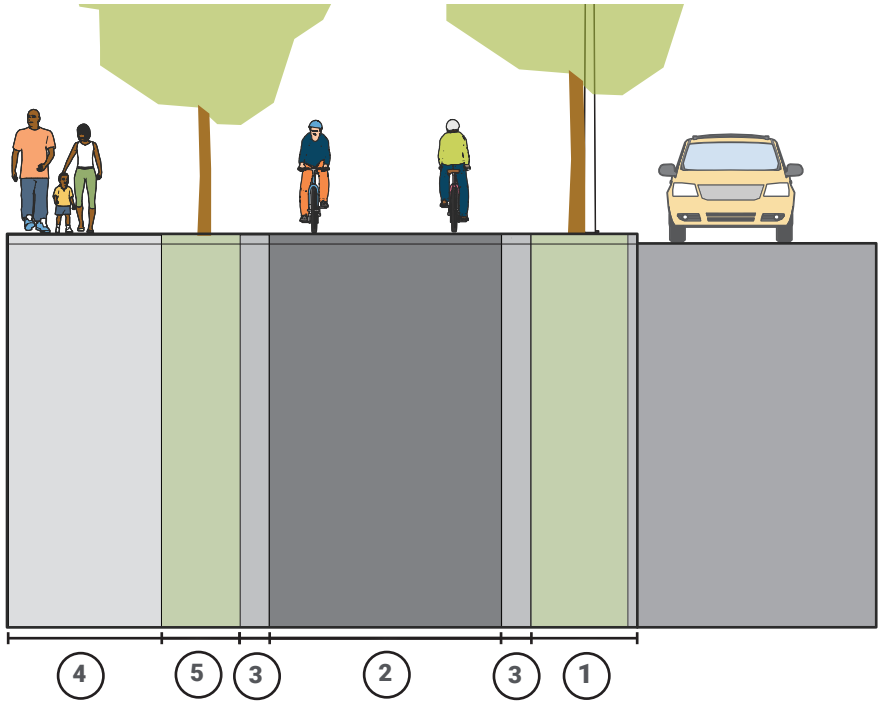
Sidewalks, Curb Ramps, and High Visibility Crosswalks



Sidewalks, curb ramps, and crosswalks should be upgraded to need to meet the following basic accessibility and safety standards.

1. Because Russell Boulevard is a high-volume corridor, sidewalk typical width should be 8 feet typical and 6 feet minimum. The pedestrian access route (PAR) should be clear of obstructions and have a 2% cross slope. At pinch points, such as locations with large trees, the pedestrian access route can be reduced to 4-foot width for short distances
2. Align the curb ramps with the PAR when possible and provide a 4-foot by 4-foot landing at the top and bottom of the ramp.
3. Curb ramps should be a minimum of 4-foot wide with a maximum 2% cross slope and 8.3% running slope, with a 2-foot wide detectable warning surface.
4. A high visibility crosswalk consists of longitudinal lines striped parallel to the direction of travel in addition to the transverse lines. The curb ramp must be aligned with the crosswalk.
5. Locate pedestrian push buttons where they can be easily located by those with vision impairments.

Shared Use Paths



Shared use paths exist along Russell Boulevard and have been recently updated. The following are upgrades to shared use paths that would improve operations and safety as demand for walkways and low stress bike and wheel facilities increases.

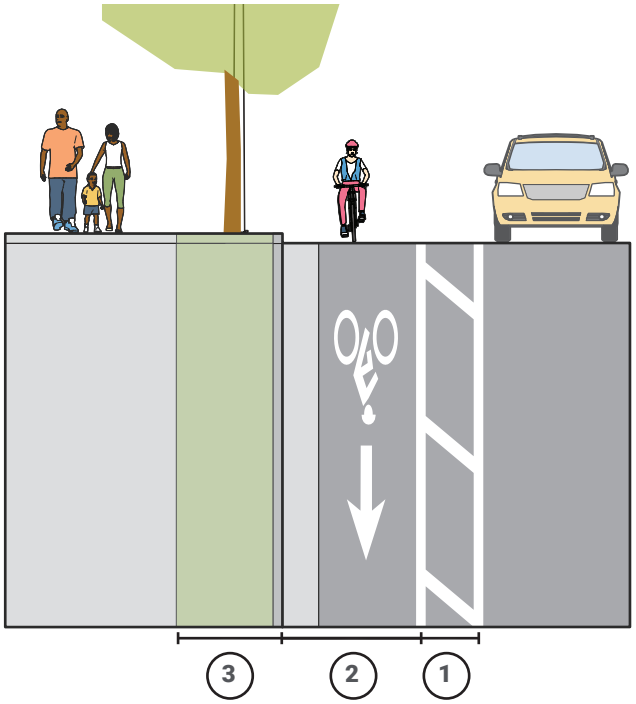
1. Shared use paths are physically separated from motor vehicle traffic by an open space or barrier. The separation creates a facility that is comfortable for people of all ages and abilities.
2. In the City of Davis and on the UC Davis campus, the desirable width of the separated path for bikes and micromobility devices is 12 feet excluding the shoulders. In Yolo County, the width is also 12 feet excluding the shoulders but is shared by all people walking, rolling, and biking. Surface materials can be asphalt or concrete with special paving at mixing zones and approaches to intersections. See Mixing Zones.
3. Provide a shoulder or horizontal clearance between the path and vertical elements such as fences, walls, or signs.
4. Within City limits when space allows, provide separation between people walking and rolling and people on bikes or other micromobility devices to reduce conflicts between modes. When the pedestrian path is separated from the bike or wheeled path, the materials should be dissimilar to make the separation clear to users. The desirable width for the separated path for people walking and rolling in the City and on campus is 8 feet; the minimum width is 6 feet.
5. A buffer between the pedestrian path and bike / wheel path encourages people to stay in their path. The buffer can be special paving, vegetation, or some other feature that denotes separation. The minimum width for at-grade planters that will allow for street trees is 5-feet.

Mixing Zones

Where people walking and rolling cross paths with people biking, mixing zones are provided as a signal to all users to that they must yield. Mixing zones are indicated by a paving material that is different from both the pedestrian path and the bike path. An example of a mixing zone can be seen at the entrance of the Tercero Dinning Commons on the UC Davis campus as shown in the image on the right.

1 At mixing zones special paving indicate people on wheels to yield to people walking and rolling. The special paving should be comfortable for people on wheels, with minimal pavement joints.

Class II Bike Lane with Buffer



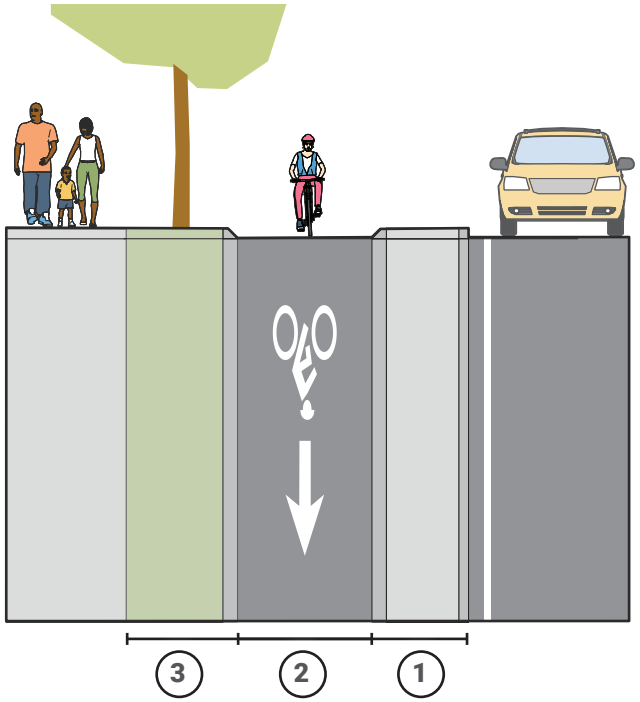
On-street bicycle lanes provide an exclusive space for bicyclists in the roadway and provide accommodation for more confident bicyclists who desire to travel at greater speeds. City of Davis Public Works Department Street Standards require a Class II Bike Lane with Buffer on major and minor arterials. While the Street Standards require a minimum 7' bike lane with 3' buffer, existing ROW constraints and/or surrounding context may warrant variance from this standard.

1. Class II or buffered bike lanes include pavement markings in the buffer space between the bike lane and motor vehicle lane. The required buffer width is 3-feet. When space is constrained and the minimum bike lane dimensions cannot be provided as mentioned above, low-profile rectangular reflective pavement delineators can be used to provide an additional visual and physical marker between the motorist travel lane and the bike lane.

2. The bike lane width is 7-feet minimum. See above for variance.

3. A buffer between the bike lane and sidewalk / shared use path encourages people biking to stay in the bike lane. The buffer can be special paving, vegetation, or some other feature that denotes separation. The minimum width for at-grade planters that will allow for street trees is 5-feet.

Class IV Bike Lanes (Separated)



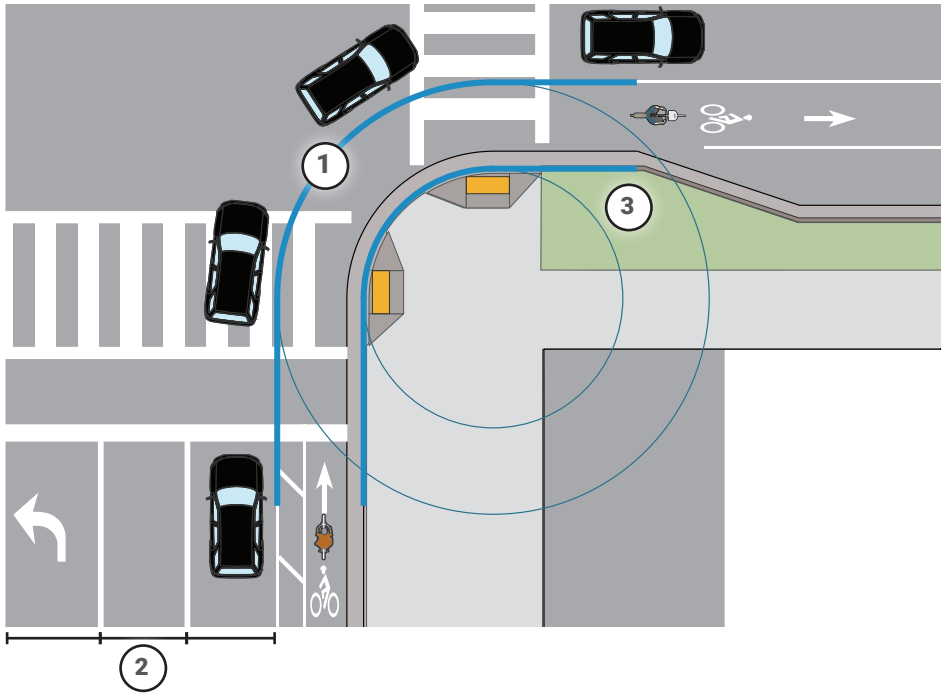
Class IV or separated bike lanes include a physical barrier from the roadway. In some areas of the corridor, the conceptual design includes a physical barrier. In those locations, the following guidance should be considered.

1. Physical separation in the buffer between the bike lane and motor vehicle lane can include cast-in-place concrete, precast curbs, plantings, flexible posts, inflexible posts, etc. The minimum width for at-grade planters in the buffer is X feet to provide space for low plants. 5-feet minimum width is required to support street trees. Keep vertical elements in the buffer, including plantings, below 30 inches to maintain sightlines.

2. The bike lane can be at roadway or sidewalk grade or midway between. The bike lane width is 5-feet minimum, not including the gutter.

3. A buffer between the bike lane and sidewalk / shared use path encourages people biking to stay in the bike lane. The buffer can be special paving, vegetation, or some other feature that denotes separation. The minimum width for at-grade planters that will allow for street trees is 5-feet.

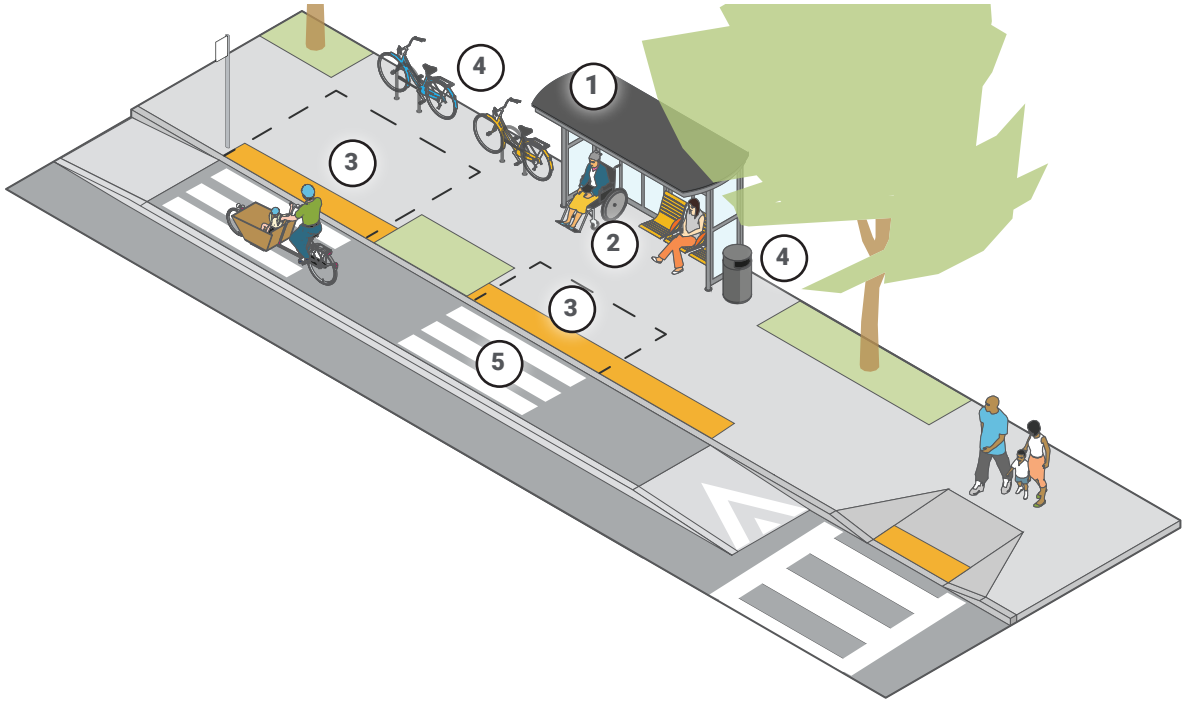
Motor Vehicle Facilities to Support Multimodal Mobility



To create safer multimodal mobility facilities motor vehicle facilities should be modified to reduce motor vehicle speeds, reduce pedestrian crossing distances, and reduce conflict points between modes.

1. Reduce corner radii to slow vehicles turning. With on-street bike facilities, the effective curb radius will meet the needs of turning trucks and large vehicles.
2. Vehicular lane widths to meet City of Davis Public Works Department Street Standards, which are typically narrower than existing lane widths.
3. See Curb Extensions on page XX.

Bus Stop Enhancements



Enhancements to the bus stops will make them more comfortable and accessible. When space is constrained or where it is desirable for buses to stay in the travel lane and avoid re-entering traffic, the on-street bike lane can be raised to the bus stop elevation. Raised on-street bike lanes are shown at all bus stops along the corridor. The raised bike lane is shared with the bus boarding and alighting zone and people biking must yield to people using the bus stop. See the Urban Design and Placemaking Toolkit for transit stop elements such as shelters, site furnishings, etc.

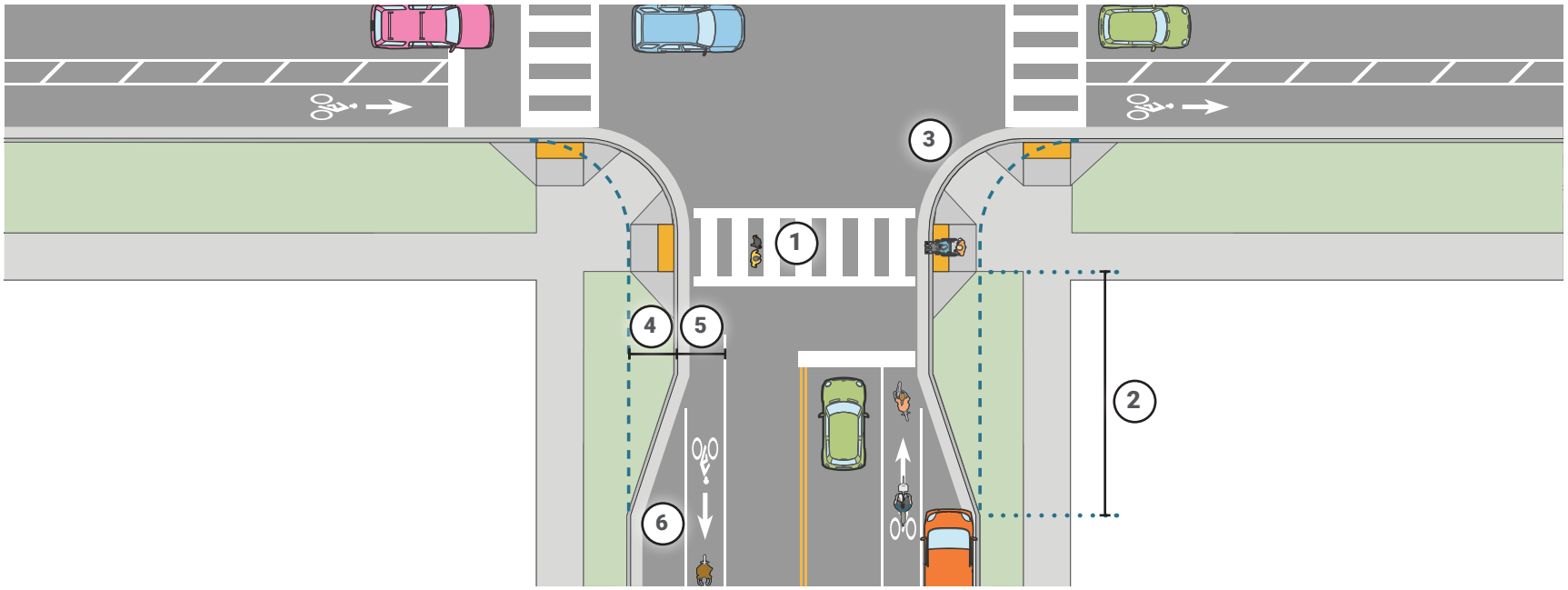
1. Provide shelters to protect from the weather and seating.
2. Clear space in the shelter allows for wheelchairs and other mobility devices.
3. Paved passenger boarding and alighting zones shall align with the bus doors. They can also be continuous.
4. Site furnishings can include bicycle racks and waste receptacles.
5. Where the bike lane is raised to the bus loading zone, detectable warning surfaces and cross walks alert people walking, rolling, and biking that they are entering a shared zone.

Spot Treatment Multimodal Mobility Components

This portion of the Multimodal Mobility Toolkit includes spot treatment multimodal mobility design components for strategic implementation at specific locations where they are optimal for safety and feasible given traffic operations and right of way width.

Raised Crosswalk in Seattle, WA

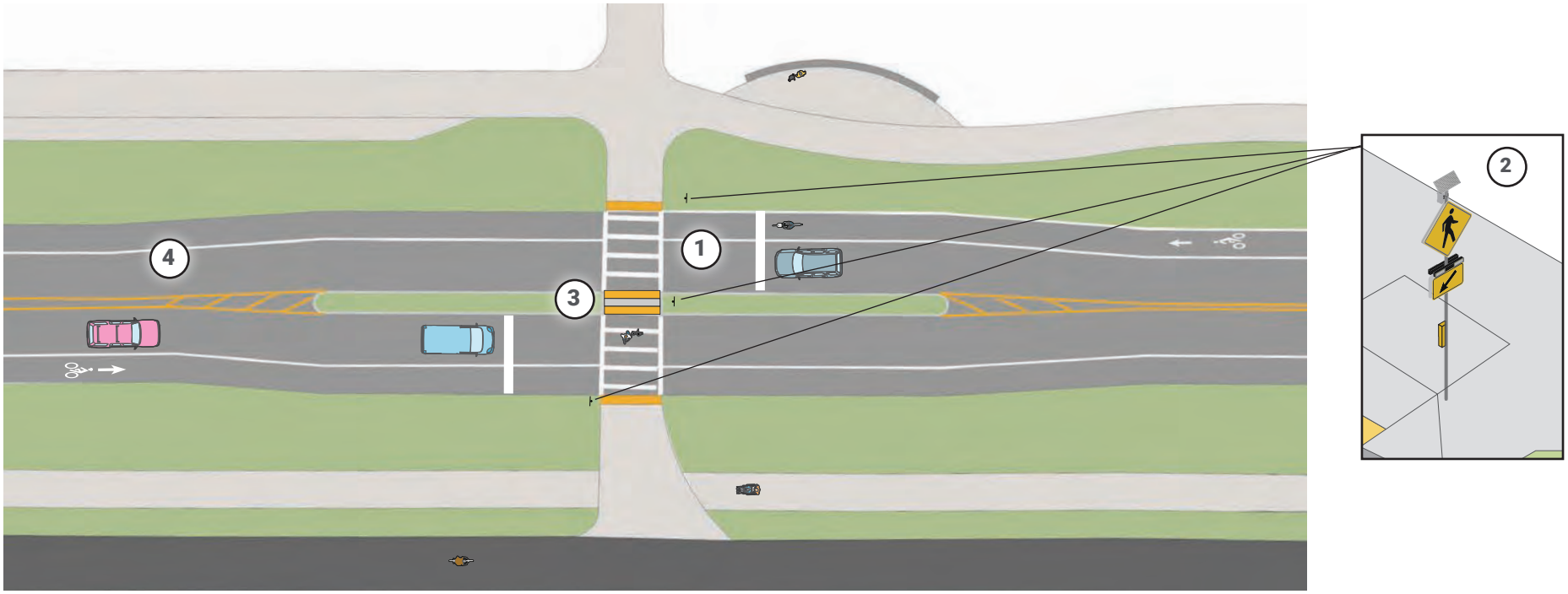
Curb Extensions



Curb extensions, also known as neckdowns, bulb-outs, or bump-outs, are created by extending the sidewalk and planting buffer at corners or mid-block. Curb extensions are intended to increase safety, calm traffic, and provide extra space along sidewalks for users, amenities, planting, and green infrastructure. Curb extensions are proposed on many of the lower volume side streets where they intersect with Russell Boulevard.

1. Curb extensions visually and physically narrow the roadway to create safer and shorter crossing distances for pedestrians while increasing the available space for street furniture, benches, plantings, trees, and green infrastructure.
2. Curb extensions prevent cars from parking where parking is not allowed and improve sightlines near the crosswalks and stop signs. The curb extension should be 20-feet minimum length at signalized intersections and 30-feet minimum length at stop controlled intersections.
3. Curb extensions can also change the geometry of intersections resulting in smaller corner radii and slowing turning motor vehicles. It is important to design the curb extensions so that street sweeping equipment can still adequately maneuver and clean the street gutter.
4. The curb extension should typically extend far enough into the roadway to narrow the vehicle travel lanes.
5. The curb extension should not reduce the bike lane width below minimums.
6. Provide curb return angle between 30 and 60 degrees to accommodate street sweepers that keep the roadway and facilities clear of debris and obstructions.

Mid-Block Crossings, Pedestrian Refuge Islands, and RRFBs



Midblock crossings are located between signalized intersections and facilitate crossings where there is a significant pedestrian desire lines such as at bus stops, parks, and building entrances. Midblock crossings are shown at three locations on the corridor concept plan. At the existing crosswalk between Arlington Boulevard and Portage Bay, at Olive Tree Lane and the bus stop, and near the west city limits to provide a connection between the residential neighborhood and the shared use path. Mid-block crossings are proposed between Arlington Boulevard and Portage Bay, at Olive Tree Lane, and near the west city limits.

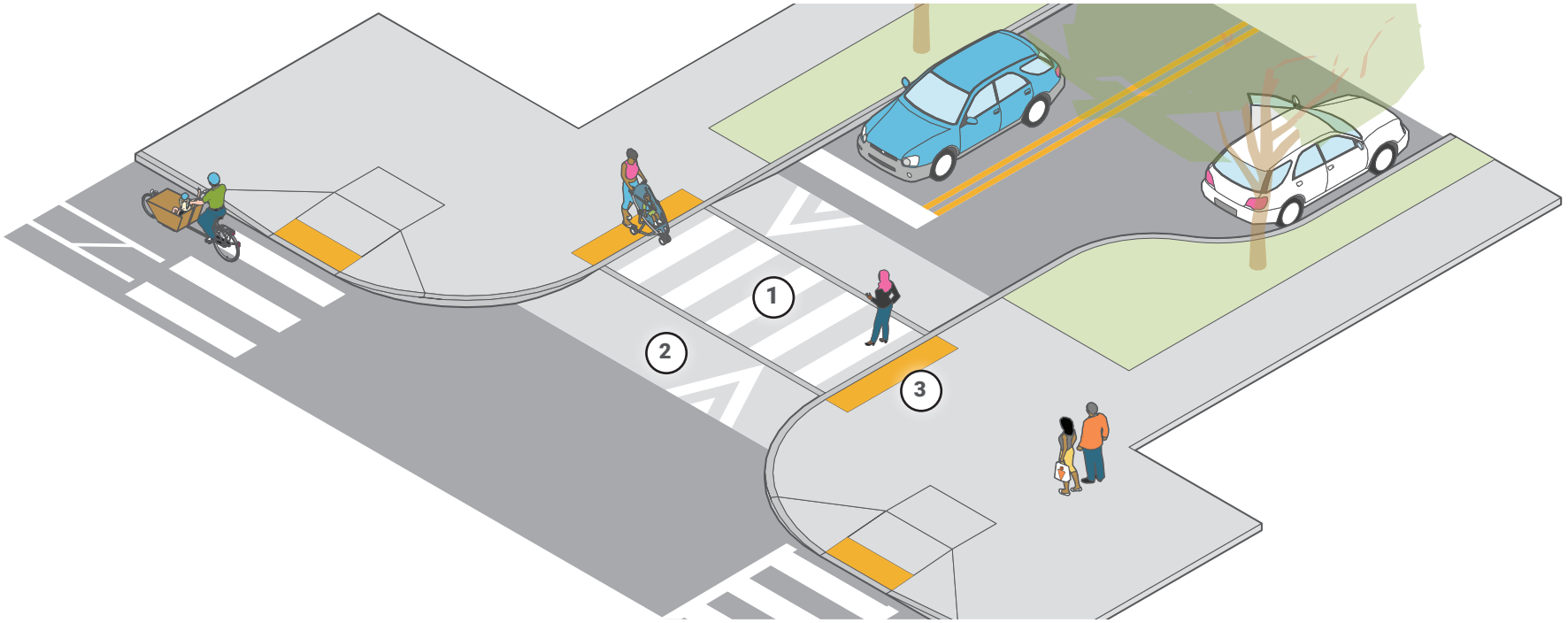
1. High visibility crosswalks with advanced stop bars and advanced warning signs increase visibility and awareness at the crossing.

2. Rectangular Rapid Flashing Beacons (RRFBs) have user-actuated amber light-emitting diodes (LEDs) that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system.

3. Crossing islands provide a pedestrian refuge and allow multi-stage crossings of wide streets. The median island must be at least 6-feet wide to accommodate two 2-foot detectable warning surfaces with a 2-foot gap at the pedestrian opening. If space allows, the opening can be angled to direct the pedestrian to see oncoming traffic.

4. Shifting the motor vehicle lanes around the pedestrian refuge island slows traffic and provides a visual cue that to motorists to be aware of people crossing the street.

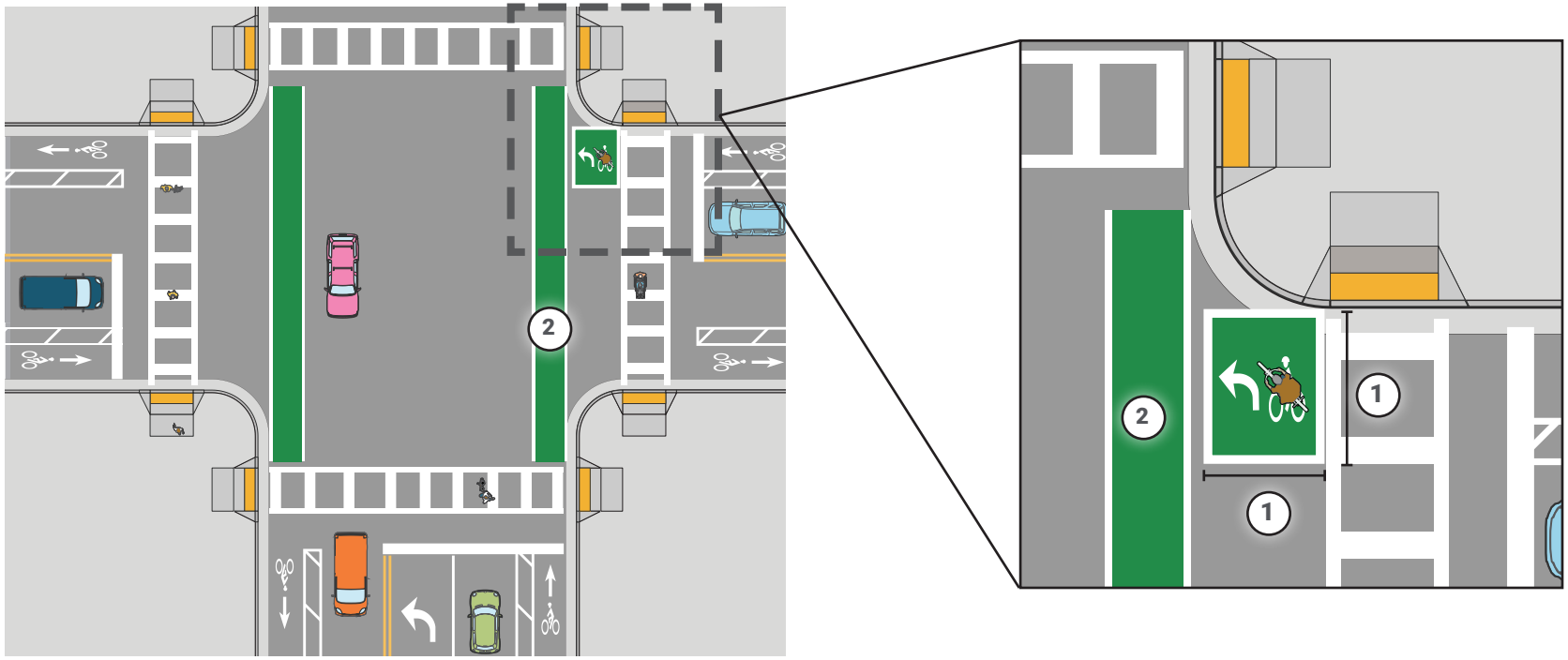
Raised Crossing



A raised crossing slows motor vehicles, signifies to drivers that they are entering or crossing a pedestrian facility, improves visibility, and makes it more apparent that people walking, rolling, and biking receive the right-of-way priority. These are shown on the UC Davis campus at Orchard Park Drive, California Ave, and A Street at the shared use path and sidewalk crosswalks to indicate to people driving that they are entering the campus.

1. Raised crossings elevate the level of the crosswalk from the street to the sidewalk or shared use path elevation.
2. The ramp up to the crossing slows down motor vehicles.
3. The raised crossing eliminates elevation change, making the crossing more convenient for people walking and rolling.

Two-Stage Left Turn Box and Bike Crossings



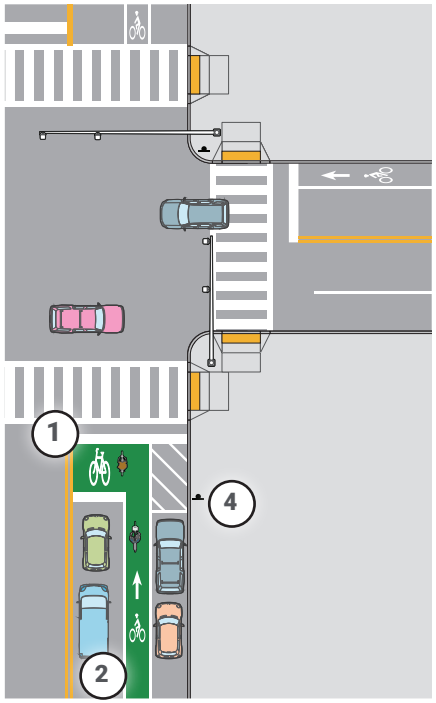
Green pavement marking supplement other bikeway pavement markings to communicate to road users where portions of the roadway have been designated for exclusive or preferential use by bicyclists, and to enhance the visibility of a bicycle lane, bicycle crossing (lane extension), bicycle box, or two-stage bicycle turn box at or through an intersection. Providing bicycle education to inform the community on how to use new facilities such as the Two-Stage Left Turn Box should be considered.

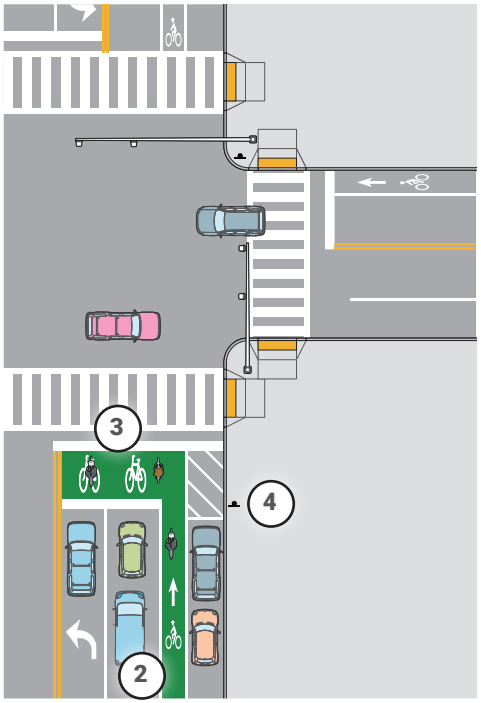
1. A two-stage turn box can be used to facilitate bicycle left turns on signalized multi-lane roadways, to make a left turn from a right-side bike lane or right turn from a left-side bike lane. The two-stage turn box is placed in front of the travel lane and marked crosswalk to heighten visibility and is positioned at the leg of the intersection to the right of the previous direction of travel. They feature painted or thermoplastic green box, 10 ft. x 6 ft, with a bicycle stencil and an arrow that indicates to bicyclists how they should position themselves to make the turn through two separate green signals.

2. Bike crossing markings delineate a preferred path for people bicycling through the intersection, especially crossings of wide or complex intersections. They also improve the legibility of the bike crossing to roadway users, and encourage motorist yielding behavior, where motorists must merge or turn across the path of a bicyclist.

3. Wide bike lanes at high volume intersections may include green colored pavement to discourage motorist use (not shown).

Bike Boxes





Bike boxes designate an area in front of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase. When applied across a left-turn lane, bike boxes can facilitate left turns for bicyclists by providing a highly visible waiting space and allowing bicyclists to proceed into the turn ahead of vehicles. They allow bikes to cluster together and proceed through the intersection at the start of a green phase, reducing the potential for turning conflicts. Bike boxes can prevent right-hook turning conflicts by positioning bicyclists out of the way of right-turning vehicles.

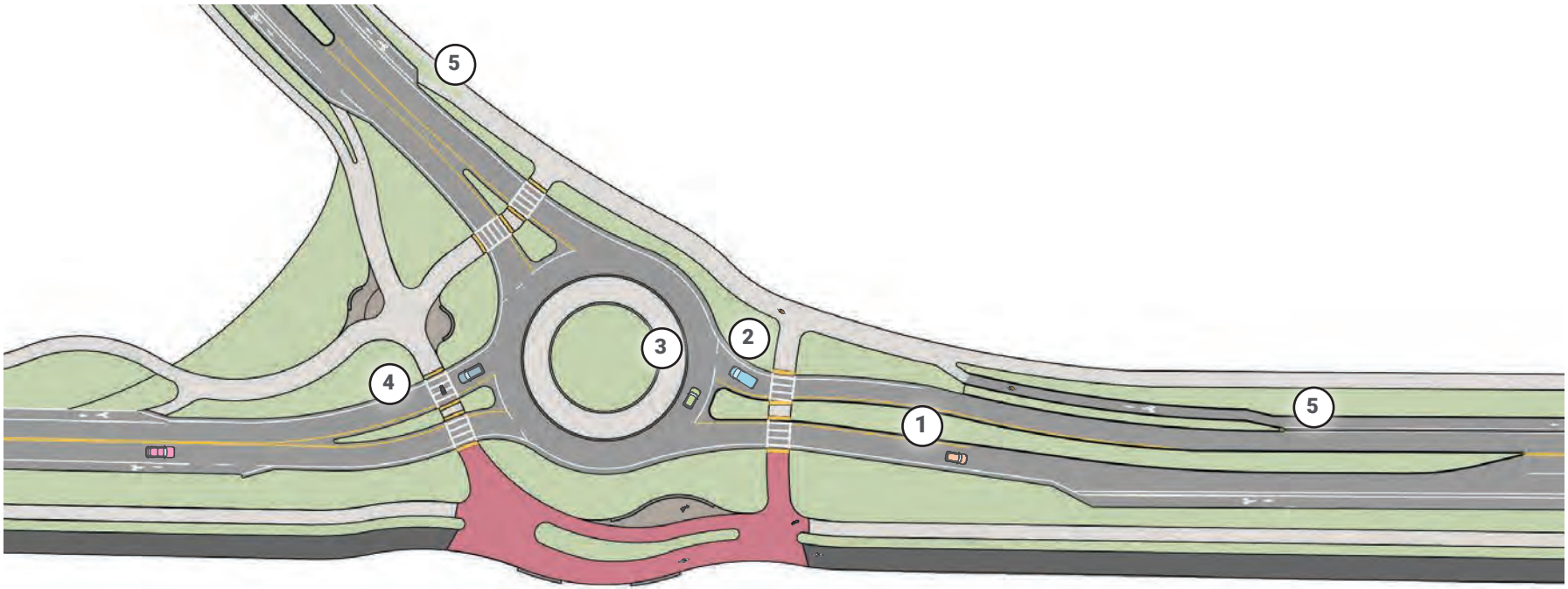
1. Bike boxes contain a bicycle legend and are typically highlighted with green pavement markings, a bike loop detection to actuate the signal in the absence of a car. They are typically10-16 ft deep.

2. Bike boxes often include an approach lane adjacent to the curb that allows bicyclists to pass waiting vehicles to reach the queuing area.

3. The queuing area itself may extend across all approach lanes (including left-turn lane) or just the outside lane, depending on the intended function. The bike box should not extend across more than one through lane, as shown in the example on the right.

4. Bike boxes should be accompanied by a right turn on red restriction only when it is placed in front of a general-purpose lane.

Roundabouts



Roundabouts provide a traffic calming function by forcing drivers to deflect and thus slow their path of travel through an intersection. Roundabouts reduce intersection crash rates, reduce vehicle delays at minor street approaches, and have low maintenance costs relative to signalization. Roundabouts are proposed at County Road 98 and Arlington Boulevard.

1. Splitter islands direct cars and can be either painted (with or without posts)or curbed/raised (with or without vegetation) for added pedestrian protection.
2. Cars yield to traffic coming from the left as they enter the circle.
3. The central island can have a mountable truck apron or mountable curbs to accommodate buses and trucks.
4. Pedestrian and bicycle crossings are set back from the intersection where drivers approach at a perpendicular angle and visibility is maximized.
5. Ramps are provided to allow people biking access onto and off of the sidewalks and shared use paths. Bicycles can also travel through the roundabout like a vehicle would.
6. RRFBs (not shown) can be included to help facilitate crossings and increase pedestrian visibility.

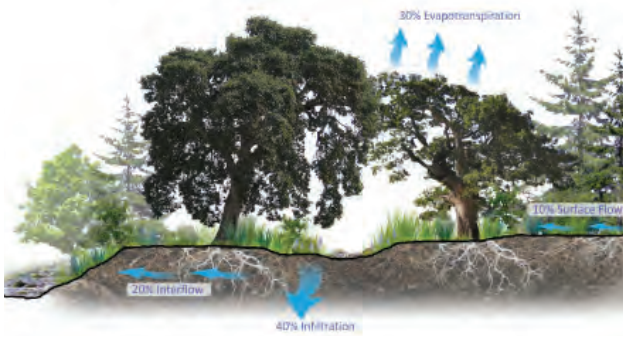
Green Infrastructure Toolkit

What is Green Infrastructure?

Before cities and towns were developed, the Central Valley landscape existed as a natural sponge to soak in rainfall, provide biodiversity, and shade for the ground surface. Streets, buildings, parking lots, and paved surfaces have replaced the natural landscape resulting in degraded urban watersheds, less plant biodiversity, and often hot barren environments.

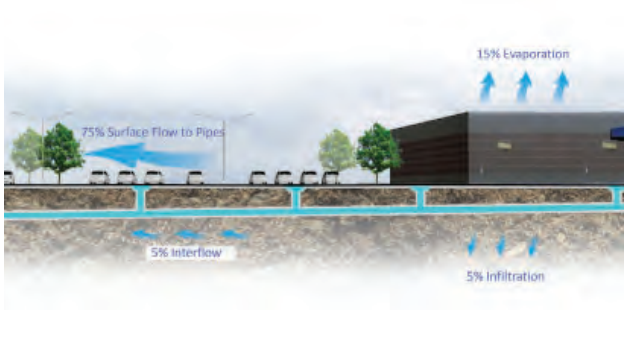
Rainfall that used to soak into the ground naturally and slowly is now engineered to quickly be whisked away into the underground storm drain system carrying with it untreated pollutants and bacteria into nearby creeks and ponds. There is a better way to balance the need for urban development while still helping mimic natural landscape functions through Green Infrastructure. Green infrastructure uses a specialized landscape and pavement systems to capture, slow, filter, and infiltrate stormwater runoff within ultra-urban conditions and help to mitigate the effects of climate change. Soil is graded so that it receives rainwater from paved surfaces and plants filter pollutants and allow for evapotranspiration. Tree canopy is increased to help shade the ground surface and allow tree roots to further uptake stormwater water runoff. In addition, when well designed, green infrastructure can provide ancillary placemaking and beautification benefits that create special places whether along a street, around a building, or even with a parking lot.

The Natural Landscape



The natural Central Valley landscape acts as a sponge absorbing rainfall. (*Nevue Ngan Associates and Urban Rain Design*)

Built Conditions



Many street conditions have high amounts of impervious area that produces increased stormwater runoff. (*Nevue Ngan Associates and Urban Rain Design*)

A Balanced Approach

Green infrastructure introduces landscaped systems in the built environment to mimic natural hydrology.(*Nevue Ngan Associates and Urban Rain Design*)

Why Green Infrastructure on Russell Boulevard?

Russell Boulevard, like many busy arterial streets, has limited green infrastructure to manage its stormwater runoff. As noted in the Existing Conditions sections, much of the stormwater runoff generated on Russell Boulevard enters the City's storm drain system untreated. This is especially true along the project corridor east of Arlington Boulevard where Russell Boulevard is wider and is associated with significant impervious paved surfaces. In addition, there are many areas along Russell Boulevard where trees are lacking, in decline, or do not provide significant urban tree canopy. This results not only in exposed and hot ground surface conditions, but it also creates an uncomfortable environment during warmer days to walk or ride a bike. Lastly, the current ground plane landscaping along Russell Boulevard is sparse, dull, unattractive, and is not biodiverse.

The reimagining of Russell Boulevard for better mobility options will create new landscape spaces along the project corridor. This presents an amazing opportunity to boldly insert green infrastructure within these spaces and provide benefits in these key areas:

Stormwater Management & Groundwater Recharge

Use a diverse toolbox of landscape systems to capture, slow, cleanse, and absorb stormwater runoff from the street, bike paths, sidewalk, and even overhead shade structures. This absorbed runoff has the potential to provide groundwater recharge and mimic the natural hydrologic cycle.

Extreme Heat Mitigation

Preserve and protect existing mature large-canopy trees along Russell Boulevard and introduce new large canopy trees that are well-suited to Davis' climate and can meet the maintenance needs of both the City and UC Davis. By preserving existing trees and increasing overall urban street tree canopy, Russell Boulevard will become a shaded tree-lined boulevard.

Why Green Infrastructure on Russell Boulevard?

Nature Placemaking

Create unique spaces that provide quality access to nature-based discovery and learning for the community. Many opportunities for larger-scale nature-based placemaking experiences can be created at prominent street intersections and along linear green threads on the south side of Russell Boulevard.

Separation Between Pedestrian /Bike/ Vehicular Travel

Allow new landscape space to buffer the different modes of transportation along Russell Boulevard, where feasible. These landscape spaces can also serve as linear rain gardens to capture stormwater runoff.

Climate-Adaptable/Arboretum Plant Expansion

Use a diverse range of trees, shrubs, and perennials that are climate-adaptable to hot, dry summers and wet winters with frequent periods of inundation. Allow Russell Boulevard to be an extension of the Arboretum experience using Arboretum All-Star plantings, signage, and interactive learning.

Three Stormwater Management Goals

Russell Boulevard has the opportunity to meet three general goals when addressing stormwater management: 1) water quality goals; 2) flow reductions goals; and 3) volume reduction goals. Achieving all three goal categories is ideal but seldom possible based on site constraints. However, the conceptual design and vision for Russell Boulevard strives to meet these stormwater management goals as much as possible.

Water Quality Goal: Insuring that runoff that enters waterbodies is free of pollutants. Filtration through plant placement and soil media can physically trap suspended sediments, chemically bind nutrients and metals, and biologically transform pollutants.

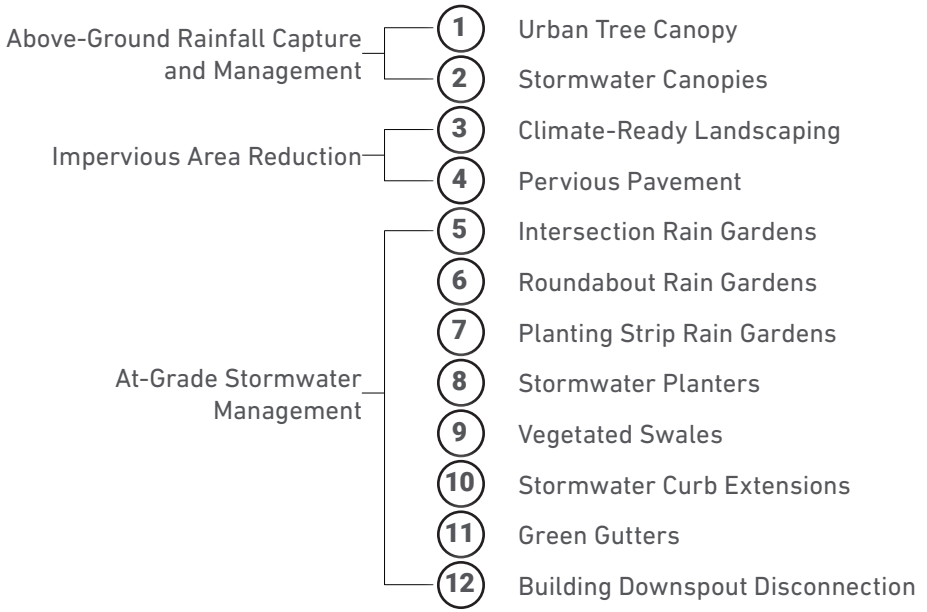
Flow Reduction Goal: Recognizes the negative impact that stormwater runoff velocity can have on waterbodies –regardless of the quality of the runoff water. Common strategies to achieve this goal include facilities that retain stormwater for slow release over several hours following a rain event. Integrating functional green infrastructure tools in a decentralized system addresses flow reduction within a developed area. Naturalized surfaces can help slow the flow by mimicking the natural hydrological cycle.

Volume Reduction Goal: Focuses on the management of the overall volume of water that enters waterbodies as surface runoff. Green infrastructure systems, such as rain gardens and stormwater planters that hold water for longer-term storage or infiltrate runoff into the ground reduce the overall volume of surface flow. Plants also play an important role in volume reduction by intercepting rainfall, taking up water from the soil and causing evapotranspiration as well as providing conduits for infiltration adjacent to root systems. Aiming for volume reduction may be especially beneficial for large stormwater catchment areas along Russell Boulevard.

The Green Infrastructure Toolkit

Based on the Russell Boulevard corridor existing conditions, site constraints, and the latest streetscape design thought, 12 distinctive design strategies have been identified that could potentially be used throughout the project area. The opportunities listed on the following pages are separated into three specific sub-groups based on their stormwater management style and location: Above-Ground Rainfall Capture and Management, Impervious Area Reduction, and At-Grade Stormwater Management. It is envisioned that many of these opportunities will be used as a combined effort to develop an overall stormwater management goal and/or design theme. Many of the opportunities have been successfully designed and built and can be modified to fit the unique vernacular of the City of Davis, UC Davis, and Yolo County. Some opportunities are innovative ideas that have yet to be built in the Sacramento area and could serve as catalyst examples of green infrastructure throughout the region.

The 12 Green Infrastructure Tools for Russell Boulevard



Above-Ground Rainfall Capture and Management

Urban Tree Canopy

Large mature tree canopy can capture and evaporate rainfall before it reaches the ground surface. Tree canopy can also help shade pedestrian spaces and bike paths. New street trees need ample space to grow either through a large ground footprint or by using soil cells or structural/engineered soils. Existing mature trees can benefit from expanded landscape areas as much as possible.

Above-Ground Rainfall Capture and Management

Stormwater Canopies

Stormwater canopies are built shade structures/transit shelters that can also capture stormwater runoff and direct it towards ground-level stormwater facilities.

Impervious Area Reduction

Climate-Ready Landscaping

Conventional landscaping that uses drought-tolerant plant species provides deeper rooting plants for when it does rain and helps soak up rainfall as it hits the ground.

Impervious Area Reduction

Pervious Pavement

Pervious pavement can be either using paving systems that allow rainfall to pass through pore space within the pavement or through joint space that separates individual concrete pavers. These types of pavement systems reduce overall imperious area while still maintaining a travel surface. Stormwater boardwalks are used for pedestrians and/or bicyclists to safely travel over rain gardens or other landscape surfaces.

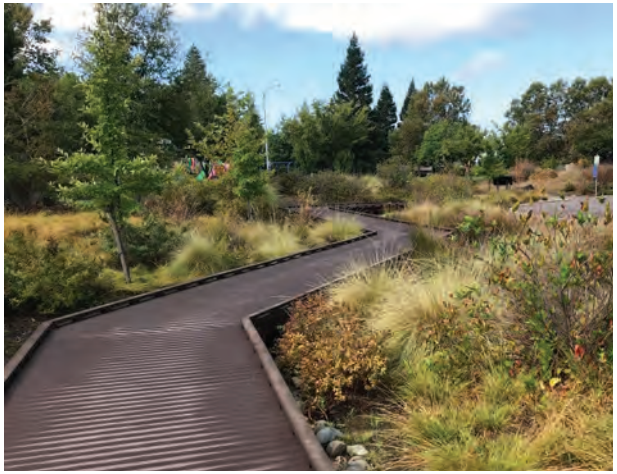
At-Grade Stormwater Facilities

Intersection Rain Gardens

Intersection rain gardens are larger-footprint stormwater facilities designed to capture and infiltrate runoff and can be well-integrated into placemaking opportunities at street corners. For Russell Boulevard, there are numerous intersections where vehicular slip lanes could be removed, creating space for larger intersection rain gardens.

At-Grade Stormwater Facilities

Roundabout Rain Gardens



Roundabout rain gardens are larger landscaped areas that can capture stormwater runoff from adjacent street and sidewalk surfaces. Boardwalks can help span these landscape areas, where appropriate, and can help define unique placemaking experiences along the periphery of the roundabout pedestrian and bike system.

At-Grade Stormwater Facilities

Planting Strip Rain Gardens

Planting strip rain gardens are shallow recessed areas located within the existing street's planting strip separating the sidewalk and street curb. These types of rain gardens are often placed between existing tree locations where space allows. For Russell Boulevard, planting strip rain gardens can be selectively placed along the north side of Russell Boulevard between State Route 113 and B Street.

Key Design Elements

1. Planter strip are shallow recessed landscape areas that retain up to 2" of stormwater runoff.
2. Side slope conditions gently transition grade from the pedestrian/bike surface to the recessed area of the rain garden.
3. Open curb cuts within the concrete gutter allows stormwater to enter and exit the landscape area.
4. New trees can be placed within planter strip rain gardens, but species selection is important.

At-Grade Stormwater Facilities

Stormwater Planters

Stormwater planters are landscaped areas that are vertically recessed and contain grade through hardscape elements such as concrete, stone, metal, and even wood. Planters are often used in urban contexts where space is limited or where they avoid elements such as existing trees, utilities, driveways, etc.

Key Design Elements

1. Stormwater planters are recessed landscape areas with a flat grading profile that retain up to 6" of stormwater runoff.
2. Vertical curbs allow the transition of grade from the pedestrian/bike surface to the recessed area of the stormwater planter.
3. In some cases, a raised curb or low railing helps provide a detectable edge with the vertical grade transition.
4. Open curb cuts within the concrete gutter allows stormwater to enter and exit the landscape area.
5. New trees can be placed within stormwater planters, but species selection is important.

At-Grade Stormwater Facilities

Vegetated Swales

Vegetated swales are long, linear, and shallow recessed landscaped areas used to capture, slow, and convey stormwater runoff. Unlike stormwater planters, vegetated swales manage grade change just through gentle side slopes without any vertical containment system.

Key Design Elements

1. Vegetated swales are shallow linear landscape areas that retain up to 4" of stormwater runoff.
2. Side slope conditions gently transition grade from the pedestrian/bike surface to the recessed area of the swale.
3. Open curb cuts within the concrete gutter allows stormwater to enter and exit the landscape area.
4. New trees can be placed within vegetated swales, but species selection is important.

At-Grade Stormwater Facilities

Stormwater Curb Extensions

Stormwater curb extensions are landscaped areas placed with the parking zone of a street and stormwater runoff is directed into the landscape. Often referred to as "bump outs," these landscapes can manage stormwater runoff and shorten pedestrian crossing distances. For Russell Boulevard, stormwater curb extensions can be placed at key side street intersections where drainage can be captured within these landscape areas.

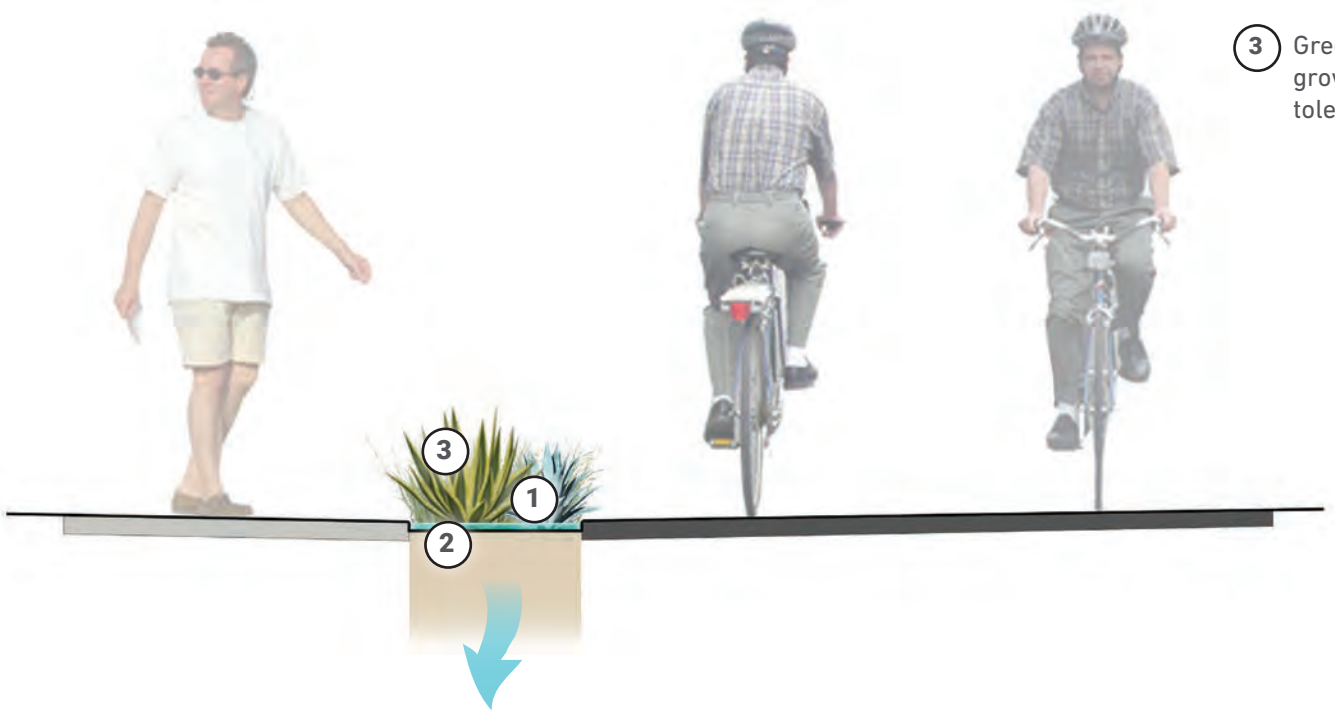
Key Design Elements

1. Stormwater curb extensions are recessed landscape areas within a street's parking zone that retain up to 6" of stormwater runoff. These landscapes often also capture the existing planting strip of a street to provide a wide landscape space.
2. Side slope conditions gently transition grade from the pedestrian/bike surface to the recessed area of the swale.
3. Entry and lateral open curb cuts within the concrete gutter allows stormwater to enter and exit the landscape area.
4. New trees can be placed within stormwater curb extensions, but species selection is important.

At-Grade Stormwater Facilities

Green Gutters

Green gutters are long, very narrow, and shallow landscape strips designed to capture smaller amounts of sheet flow runoff from adjacent impervious areas. Green gutters are typically recessed 1 to 2 inches deep and can be used to create a buffer between bikes, pedestrians, and/or vehicles.



Key Design Elements

1. Green gutters are extremely shallow and narrow recessed landscape areas designed to capture sheet flow runoff from adjacent impervious surfaces.
2. Green gutters have a flat grading profile and retain a maximum of 2" of runoff.
3. Green gutters are ideally planted with low growing plant material that is also drought tolerant.

At-Grade Stormwater Facilities

Building Downspout Disconnection

Building downspout disconnection allows for rooftop runoff to be directed towards adjacent building landscape areas. There are many existing buildings along Russell Boulevard that currently have roof downspouts that could direct roof runoff into new rain gardens, stormwater planters, or vegetated swales.

Key Design Elements

1. Roof downspouts can redirect stormwater runoff into landscaped areas adjacent to sidewalks and/or bike paths.
2. Positive drainage from building downspout needs to be maintained.
3. Landscaped areas can be in the form of rain gardens, stormwater planters, or vegetated swales designed to capture, slow, and infiltrate runoff.
4. Care should be taken to assure that any infiltrated runoff does not impact surrounding building foundations/basements.
5. Stormwater runoff needs to also have an overland exit route out towards the street.

Urban Design & Placemaking

What is Placemaking?

Placemaking is a holistic approach to urban design that helps amplify a unique sense of place. Great placemaking is just as much about "place-keeping" as it is about designing new spaces. The urban design concepts in this plan work to amplify and celebrate the strengths of the existing context — including the history, landscape, and community of Russell Boulevard, UC Davis, Davis, Yolo County, and the broader region.

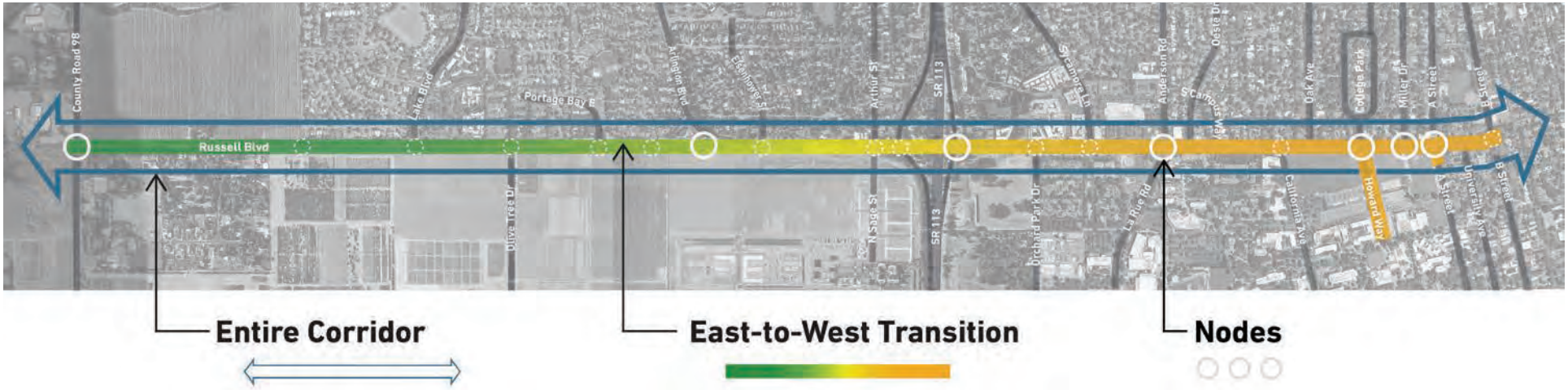
Urban design and placemaking strategies will focus on creating outdoor destinations, gathering places, spaces for rest, and the sense of a visually cohesive corridor — all supporting welcoming, memorable, equitable, and community-centric public spaces.

A great local example of placemaking is found on Third Street between A and B streets. The urban design — including widened sidewalk widths, improved lighting, benches, bike racks, and information kiosks — helps establish this corridor as a distinctive and welcoming gateway district. *(www.ucdavis.edu)*

Placemaking efforts will build upon and draw inspiration from the strengths of the existing corridor, such as the rows of trees along Olive Tree Lane. *(https://localwiki.org/davis)*

Materials and plantings can play central roles in placemaking and in defining the character of a place. *(RIOS)*

Placemaking & Urban Design Toolkit



Placemaking on Russell Boulevard

The 3-mile study area stretches from B Street to County Route 98 ("Cactus Corner"). Russell Boulevard's character changes as it moves through different neighborhoods and zones of the campus, different surrounding land uses, and different physical conditions.

From B Street to Howard Way, the corridor serves as a gateway connecting to Downtown Davis. Between Howard Way and State Route 113, the road serves as the interface between the UC Davis Campus to the south and the City of Davis to the north. In the zone near where SR-113 crosses below Russell, the corridor serves as a gateway to the City and the University for people traveling from the west and from SR-113. From SR-113 to Cactus Corner, the corridor passes through agricultural and residential areas, and presents an opportunity to stitch together current and future agricultural and neighborhood experiences.

In order to ensure the design concepts are both cohesive and site-specific, the urban design strategies will operate at three different levels: the entire corridor; character zones; and nodes.

- Corridor: A set of urban design strategies will be consistent across the entire corridor, such as the overall planting, material, and furnishing palette. These will allow Russell Boulevard to feel like a distinctive destination.
- East to West Transition: Certain design strategies will be tailored to specific zones along Russell Boulevard. There is a natural gradient from a more urban character on the east to a more rural character on the west, and the streetscape design should to respond to the different conditions and needs along the corridor.
- Nodes: Along the corridor, specific "nodes" will be designed as special places. These nodes will offer amenities that support gathering, resting, lingering, watching, and learning – and placemaking design will help make these feel like unique civic spaces.

As people walk, bike, drive, and roll along Russell Boulevard, the streetscape should provide an easy-to-navigate, comfortable, and enjoyable experience that feels seamless and connected. At certain moments during those journeys, there should be special places or "nodes" where various types of activities are supported — sitting, meeting up, gathering, resting in the shade, reading, learning, waiting for the bus, playing, watching, listening, fixing one's bike, getting a drink of water, figuring out where to go. While Russell Boulevard may not yet be an inviting place to linger, future enhancements over time will allow the corridor to become an enjoyable, beautifully-landscaped public place to spend time.

Themes & Inspirations

Avenue of Trees

Russell Boulevard was originally referred to as the "Avenue of the Trees." Originally built in around 1876, the road was planted with black walnuts. Since then, many other significant trees have been added to Russell Boulevard, including multiple species of oak and olive trees, and the corridor continues to be defined by a unique and grand tree canopy.

Agricultural Legacy

Davis has long been known as an important farming community. UC Davis was originally founded in 1908 as the "University Farm" for UC Berkeley. While the University has long since grown into a general campus, it is still known worldwide for its expertise in agriculture and veterinary medicine. Today, farms and University agricultural research lands still play a central role in defining the character of the area.

Riparian Habitats

One of the key habitat types in the Davis region is the riparian ecosystem. The nearby Putah Creek has played an important role in shaping the area's development through many phases – for thousands of years as the home of Patwin people, during periods of intense ecological human disturbance in the Gold Rush, and during more recent habitat restoration as part of the UC Davis Putah Creek Riparian Reserve.

UC Davis Arboretum

The UC Davis Arboretum's landscapes and public spaces offer an inspiring precedent for native, drought-tolerant landscapes, inviting pedestrian pathways, well-placed public art. The Arboretum also serves as a space for learning, discovery, and experimentation with sustainable landscapes.

Enhanced Tree Canopy

Trees will continue to play a central role in defining the character of Russell Boulevard. Existing and new trees will play a vital role in the ecology of the region, the look and feel of the corridor, and in providing shade.

Materials + Furnishings

The placemaking strategies strive to embody a contemporary take on the rural agrarian architecture of the Davis region. This includes the use of natural building materials like wood and stone.

"Riparian Ribbons" Design

The shapes of the stream ecosystems inspire a "riparian ribbons" design language for meandering paths, planting designs, and organic curves in social spaces that allow zones to shrink and contract as needed.

Enhanced Plantings

Enhanced landscaping can create a park-like experience in sections of the corridor. Native and drought-tolerant plantings can help create a sustainable streetscape that supports wildlife habitat.

The Russell Boulevard Streetscape Design Palette

The streetscape design palette draws inspiration from the existing context. The materials, functionality, and aesthetics of the streetscape design should celebrate and enhance the strengths of Russell Boulevard, UC Davis, the City of Davis, and Yolo County. The final, detailed decisions about the streetscape furnishings, materials, and installation will be made in a future design and implementation phase. However, by establishing an initial design palette at this stage, this will help ensure that all the future decisions remain rooted in the touch-stone of the overall streetscape vision. To create the most useful and thoughtful corridor concept, the streetscape palette will comply with all relevant City, UC Davis, and County standards at the outset.

During the Corridor Vision Conceptual Design process, two "mood board" streetscape palettes were developed: "Elegant Boulevard" and "Contemporary Agrarian." Given public feedback, "Contemporary Agrarian" was the preferred palette overall, although it is possible for the final design to draw elements from both palettes. The palette collage shown here is intended to communicate the overall aesthetics and general vision.

The Streetscape Design Palette is comprised of the following categories, which also serve as the Urban Design & Placemaking Toolkit:

- Landscape
- Paving
- Site Furnishings
- Lighting
- Signage/Wayfinding
- Public Art

Landscape

The future "look & feel" of Russell Boulevard will be largely shaped by the landscape along the corridor. The grand tree canopy and the beautiful ground plantings will be the heart of the identity of Russell Boulevard, and the streetscape furnishings (seating, bike racks, lighting, signage, etc.) will support that broader vision.

The landscape for Russell Boulevard will be asked to perform on many different levels. Environmentally, this highly functional living system will be designed to manage stormwater runoff during storm events but also survive during prolonged dry periods-a scenario that will likely become exacerbated with climate change. The landscape will also serve as a significant identifying feature along the Russell Boulevard corridor-inviting people to walk, bike, explore, learn, and otherwise enjoy life as a Davis resident or visitor. Specific landscape planting themes can be explored similar to those used at the UC Davis Arboretum that denote pollinator species benefit, native or culturally significant plants, or "climate-ready" plant species could be applicable.

Maintenance and stewardship of Russell Boulevard's landscape system will need to be considered both on a programmatic and a "responsible party" level. Choosing low-maintenance plant species including understory plants that do not require frequent trimming, are low-water use, and can cover exposed ground quickly to out-compete weeds should be prioritized. In addition, there could be discreet opportunities to engage UC Davis students and the UC Master Gardeners to help foster innovative ways to combine everyday maintenance with environmental education, community land stewardship, and even local "green" job creation.

Mature trees shades a pedestrian walkway along Constitution Ave, in Canberra, Australia *(Jane Irwin Landscape Architecture /John Gollings.)*

Drought-tolerant plantings in California *(Photo by GardenSoft)*

Rain gardens on P St. in Lincoln, NE aid stormwater management, create a road buffer, and include attractive plantings. *(Design Workshop, Inc.)*

Diverse understory plantings along a meandering pathway in Tongva Park in Santa Monica, CA. *(James Corner Field Operations)*

In-ground plantings around seating alcoves at the Delfland Water Authority in Delft, The Netherlands create an inviting spot to rest. *(Mecanoo)*

Native plant species can support local wildlife and pollinator ecologies. *(UC Davis Arboretum)*

Street Trees

The tree canopy along Russell Boulevard already plays a central role in defining the character of the corridor. This Vision Plan seeks to celebrate and expand the role of that street trees play in creating a beautiful, shaded, and distinctive "Avenue of Trees."

The tree canopy along Russell Boulevard (including existing trees and newly planted trees) will help create visual continuity provide shade and cooling, decrease wind velocities, reduce stormwater runoff, provide wildlife habitat, and mitigate climate change by removing carbon dioxide from the air.

The goals for the urban tree canopy include:

- Build upon the strengths of the existing tree canopy by supporting viable existing trees
- Planting new infill trees, selecting species that bolster biodiversity and native habitat, and that provide shade for thermal comfort
- Increasing climate tolerance by supporting succession to a more sustainable urban forest with drought-adapted, climate-ready trees

Tree Succession & Placement

A street tree succession plan should be developed that will guide the replacement of existing street trees over time. As some trees reach the end of their life span or experience other challenges (such as the Black walnuts that struggle with disease), they should be replaced with species that are climate-ready and well-suited to thriving as street trees.

Specific tree species should be selected in collaboration with The City's Urban Forestry Division, UC Davis, and Yolo County. Street tree resources are also available from the UC Davis Arboretum and groups such as Tree Davis.

New trees will need to be carefully sited along the corridor as to not conflict with taller moving vehicles (such as buses) as they grow.

Examples of Potential Street Tree Species:

Quercus suber
(Cork Oak)

Cedrus deodara
(Deodar Cedar)

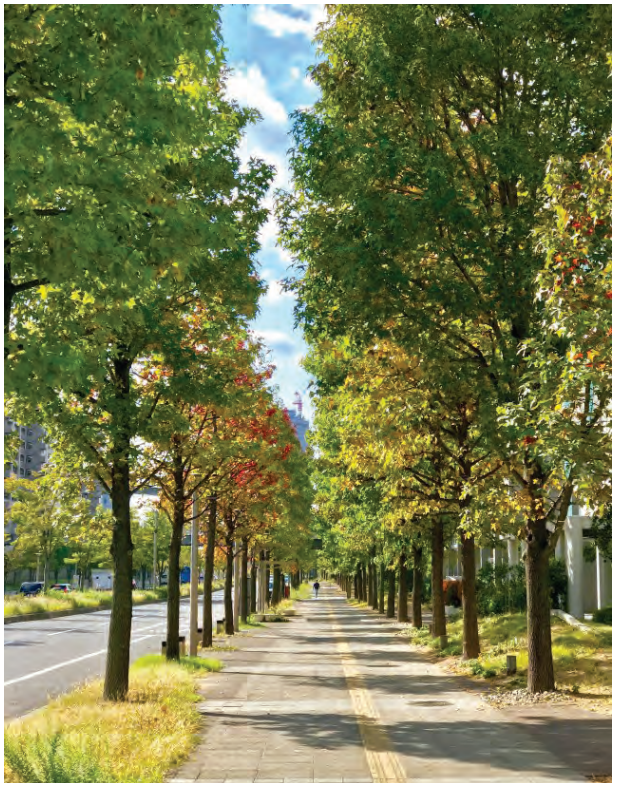
Celtis australis
(European Hackberry)

Chilopsis linearis
(Desert Willow)

Tree Placement Strategies:

Rows of columnar trees mimic "walking through an orchard"

Large canopy trees can be located where they have room to grow



Example of a double row of columnar trees.

Understory Plantings

New ground-plane landscaping along both sides of Russell Boulevard and in landscaped medians will play an important role in creating a green and beautiful corridor, providing beneficial wildlife habitat, and increasing environmental sustainability along the boulevard.

In addition to bringing natural beauty to the streetscape, groundcover plantings along the sidewalk edge will provide a buffer for pedestrians and off-road bicyclists from vehicular traffic.

Green infrastructure uses specialized landscape and pavement systems to capture, slow, filter, and infiltrate stormwater runoff to mitigate the effects of climate change. Green infrastructure will be integrated into the entire corridor's landscape design, so that it contributes to placemaking.

Native and drought-tolerant species will be water efficient, bolster biological diversity, and support native ecosystems and habitats. A diversity of plantings will create heterogeneity and a casual, informal feeling. Recommended plantings include shrubs, flowering plants, grasses, and other native and drought-tolerant species, such the examples pictured here. The final planting palette should be developed with input from the City of Davis and UC Davis.

Examples of Potential Shrub, Grasses, and Groundcover Species:

Bouteloua gracilis
(Blue grama grass)

Muhlenbergia dubia
(Pine muhly)

Muhlenbergia 'White Cloud'
(Muhly Grass)

Lomandra 'Tanika'
(Dwarf Mat Rush)

Calamagrostis x acutiflora 'Karl Foerster' (Reed grass)

Carpenteria californica
(Bush anemone)

Agave spp.
(Agave)

Eriogonum umbellatum
(Sulphur Buckwheat)

Ceanothus x pallidus
(Ceanothus)

Ceanothus maritimus
(Valley Violet)

Salvia spathacea
(Hummingbird sage)

Salvia clevelandii
(Cleveland sage)

Lavandula x ginginsii
(Lavender)

Origanum vulgare
(Dwarf oregano)

Solidago californica 'Cascade Creek' (Goldenrod)

Kniphofia "Christmas Cheer" (Poker Plant)

Paving

Paving materials along Russell Boulevard can serve not only as a surface for travel, but they can define zones of movement and create mood at specific places.

Edge treatments between pavement/landscape materials also help physically separate pavement from surrounding surfaces, but also helps accentuate design elements.

The palette of paving materials could include:

- Concrete (sidewalk)
- Asphalt (off-road bikeway)
- Pervious Pavement
- Decomposed Granite (DG)
- Specialty Pavement
- Bridges and Boardwalks

Examples of Paving Materials:

Concrete (sidewalk)

Asphalt (bikeway)

Pervious Pavement

Stabilized Decomposed Granite (DG)

Specialty pavement, such as “riparian ribbon” cast-in-place concrete with integral color

Specialty pavers, such as these interlocking Pavers (UC Davis Arboretum)

Boardwalk + specialty concrete interface

Stormwater Boardwalk (wood) over rain gardens (UC Davis Arboretum)

Site Furnishings

A family of site furnishings will ensure that the entire Russell Blvd corridor feels cohesive, help elevate the corridor as an enjoyable destination with its own unique "look and feel." The proposed palette's aesthetic is rooted in a contemporary agrarian design theme, combining clean lines with a casual, informal feel that prioritizes natural materials like wood.

- Seating
- Shade/Transit structures
- Bike racks
- Bike repair stations
- Hydration stations
- Trash and recycling stations

Examples of Custom Seating Elements:

Wood slats + steel frame

Wood slats + CorTen steel

Wood slats + concrete base

Wood backrest + concrete seat

Examples of "Off the Shelf" Pre-Manufactured Seating Elements:

The Rough&Ready 6 Benches by Streetlife

"Trapecio" by Santa & Cole for Urbidermis

Examples of Custom Seating Elements — Reclaimed Local Wood:

Reclaimed timber bench (by Angel City Lumber in Los Angeles)

Reclaimed timber benches (at UC Davis Arboretum)

Examples of Shade Structures:

Wood + steel

UC Davis Arboretum Gateway Garden

Steel trellis

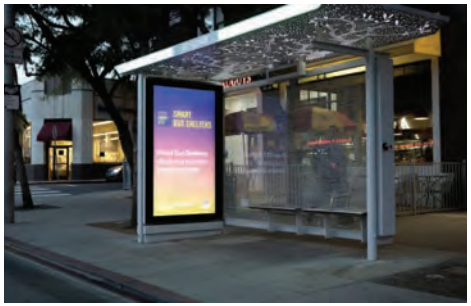
Wood trellis

Examples of Transit Shelters:

Custom Urban Furniture for Parque Arvi by Escala Urbana Arquitectura

Havana Line By Urbadis Micro (Barcelona)

Wood and metal transit shelter in Asheville, NC



Integrated digital signage for smart transit technology and rotating display

Examples of Bike Racks:

"Crease" by Urban Accessories

CorTen bike rack by Streetlife

Lightning bolt bike rack (UC Davis campus)

Examples of Bike Repair Stations:

Handi-Hut Bike Repair Stand

Fixit Station by Dero

Examples of Hydration Stations:

"Fuente R" bottle filling station by ID Created

"ezH20" bottle filling station + drinking fountain by Elkay

Examples of Trash & Recycling Receptacles:

"Box Wood" litter bin by ID Created

"Quinbin" by mmcite

"Spencer" litter bin by ID Created

Lighting

New streetscape lighting features will play an important role in placemaking and also safety and comfort. Throughout, a balance will be struck between providing enough light on the corridor for it to feel safe and enjoyable, but also respecting the City's "Dark Sky Ordinance" and avoiding any unnecessary light pollution.

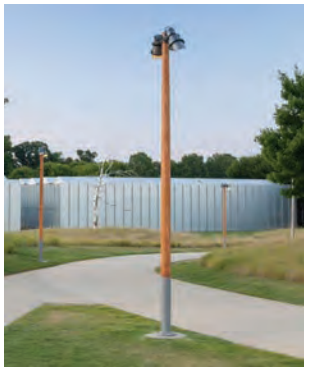
- Street Poles
- Pedestrian Poles
- Bollards and Path Lighting
- Landscape Lighting
- Accent Lighting

Examples of Street Poles:

'Roadway Luminaire' by Bega

'Bol' Street Pole by Structura

Examples of Pedestrian Poles:

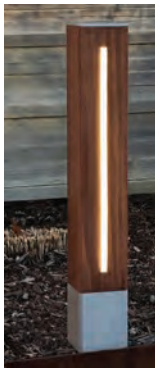


'Bol' Pedestrian Pole by Structura

'Building Element' Light Pole by Bega)

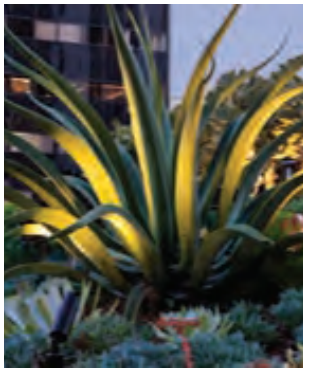
Examples of Bollards, Path, Landscape, and Accent Lighting:

'Garden and Pathway Luminaire' by Bega

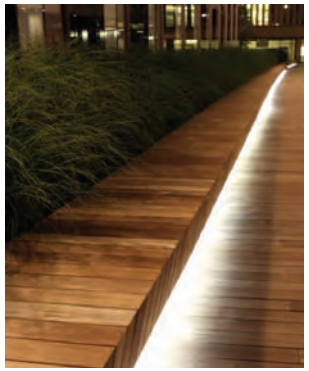


'Spar' bollard by Structura

"Mac II' bollard by Structura



Landscape lighting



Built- in Light Strip, integrated with seating

Signage & Wayfinding

A new family of signage and wayfinding with a consistent design language will help make Russell Boulevard more attractive and accessible. Identity signage will help communicate a sense of place, and demarcate gateways to UC Davis and the City of Davis. Unique wayfinding and educational signs also a medium for highlighting and celebrating Davis's local culture and providing information about the area's history, cultures, ecology, sustainable design strategies, and more. Due to the custom nature of information and identity, a custom signage design program is recommended, with the intention that future signage and wayfinding should operate as a cohesive family that is integrated with the suite of other streetscape strategies along Russell Boulevard.

- Gateways and Identity Signage
- Wayfinding Signage
- Informational / Educational Signage

Examples of Gateway & Identity Signage:


Examples of Wayfinding Signage:





Examples of Informational / Educational Signage:





Public Art

Public art plays an important role in making a place feel special and unique, and there is an opportunity to add to the existing examples of public art to bring even more artwork to the public realm. Examples of environmental graphics and public art that could be added to the corridor include: murals; sculptures; environmental graphics added to existing site features; and interactive installations.

Examples of Public Art:



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Section 6
Project Segments, Planning-Level Cost Estimate, and Next Steps

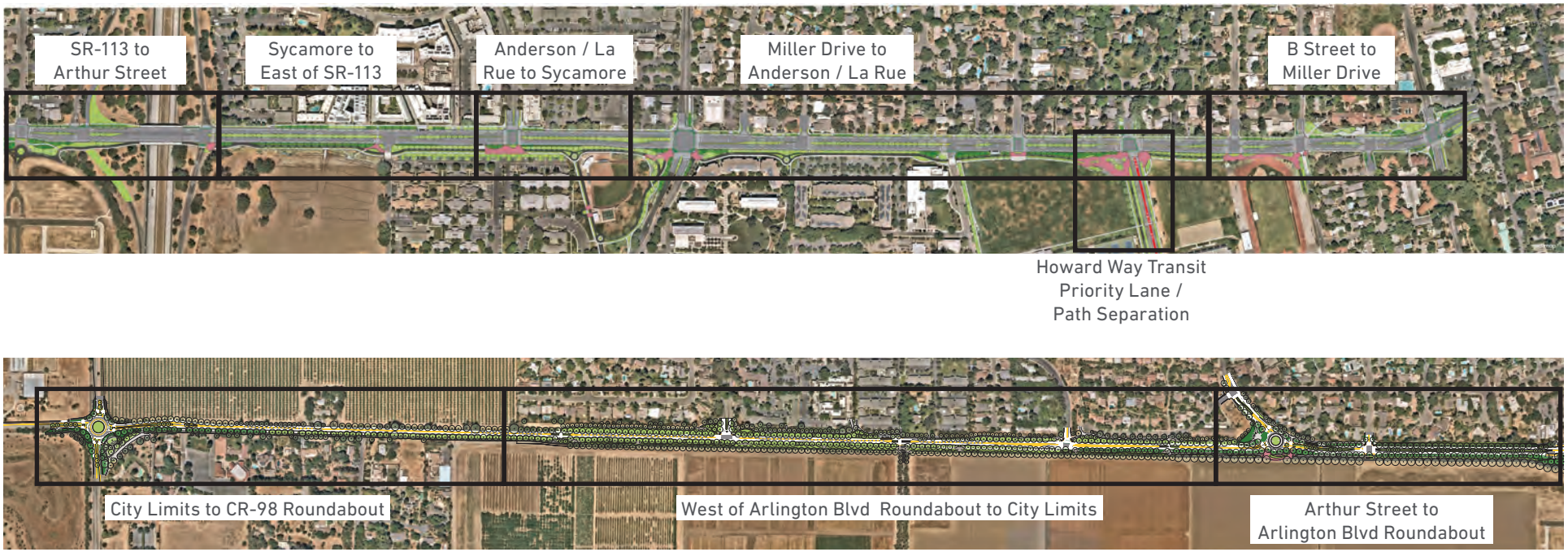
06

Implementation of the work described in this Vision Plan will require coordination and prioritization by all agencies and jurisdictions involved in the design and planning process, with key parties being the City of Davis, UC Davis, Yolo County, and Caltrans. While corridor segments, as defined in the concept plans, are helpful for describing design strategies, it may make sense to adjust these segment boundaries to optimize the impact and efficiency of implementation phases.

Project Segments

The matrix on the following page is a tool for prioritizing improvement opportunities along Russell Boulevard, using the segments from the concept plans as a starting point for defining units of work. The study corridor is three miles long and includes a wide range of design recommendations, so there are a number of ways to prioritize work within the scope of the full project. Prioritization may be based on funding sources, opportunities to integrate with existing capital improvement projects, ease of implementation, or need. Given the complex nature of the corridor and planning context, and the multiple jurisdictions that may need to approve implementation for any given segment, the matrix does not explicitly define a singular order of priority for all projects. However, it indicates how each segment meets the goals of advancing multimodal mobility, placemaking, and green infrastructure, and identifies possible co-benefits each project could provide.

Project Segments Plan



Project Segments Table

Project Segment	Mobility/Safety Contribution			Placemaking Contribution		Green Infrastructure Contribution		Number of Jurisdictions	Implementation Cost	Other Considerations
	Bikes	Pedestrians	Transit	Gateway	Seating	Trees	Stormwater			
B Street to Miller Drive	•	•	•	•	•	•	•	2 (City of Davis and UC Davis)	High	High level of community support for better pedestrian and bicycling conditions at all intersections included in segment.
Miller Drive to Anderson/LaRue	•	•	•	•	•	•	•	2 (City of Davis and UC Davis)	High	Improvements will benefit high volumes of pedestrians and bicyclist through area relative to other sections of corridor. High level of community support for better pedestrian crossing at California.
Anderson/La Rue to Sycamore	•	•	•	•	•	•	•	2 (City of Davis and UC Davis)	Medium	Improvements will benefit high volumes of pedestrians and bicyclist through area relative to other sections of corridor.
Howard Way Transit Priority Lane / Path Separation	•	•	•					2 (City of Davis and UC Davis)	Low	Signal changes may increase cost. Support by Unitrans.
Sycamore to East of SR113	•	•	•	•		•	•	2 (City of Davis and UC Davis)	Medium	Consider coordination / timing concurrent with redevelopment throughout this area.
SR 113 to Arthur Street	•	•				•	•	3 (Caltrans, City of Davis, and UC Davis)	High	Requires Caltrans coordination, considerable community support for closure of southbound 113 on ramp.
Arthur Street through Arlington Roundabout	•	•		•	•	•	•	2 (City of Davis and UC Davis)	Medium	High level of community support for implementation of this segment expressed at Workshop 1, 2, and 3.
West of Arlington Roundabout to City Limits	•	•				•		2 (City of Davis and UC Davis)	Low	High level of community support for better pedestrian crossings throughout this area.
City Limits to CR 98 Roundabout	•	•		•	•	•	•	1 (Yolo County)	Medium	High level of community support for better pedestrian crossings, community "gateway" at CR98, and seating opportunities throughout this area.
Lane Restriping (B Street to SR 113)	•		•					1 (City of Davis)	Low	Quick win, demonstrate commitment to vision. Would require removal of portion of median between B and A Streets and parking in some areas.

Planning-Level Cost Estimate

A planning-level cost estimate was developed for this project based on Caltrans Items/Unit Cost and supplemented by the consultant team's experience with similar projects. This planning-level cost estimate includes costs for implementation of the entire Reimagine Russell Vision, including full road excavation, reconstruction, curb changes, landscape and trees, placemaking spaces, intersections and signal changes, the Arlington roundabout, the 113 interchange redesign, pedestrian scale lighting, furnishings, transit improvements, future design costs, and a 20% contingency. This initial planning-level cost estimate addresses all major aspects of the design concept, and is provided to give a sense of the scale of investment required to complete the work, allowing all agencies involved to begin the process of financial planning. However, it is important to note that there is no expectation that the project be completed as a single effort or with a single budget. Rather, as addressed in the project segment table, this work will be incremental: divided into phases and funded through multiple sources. The incremental nature of implementation also means there will be multiple opportunities for public engagement and design refinement as the project proceeds. The planning-level cost estimates suggest a total cost of over $46 million disaggregated and rounded as shown in the table below.

Planning-Level Cost Estimate by Project Segment

Project Segment	Planning-Level Cost Estimate
B Street to Miller Drive	$4,100,000
Miller Drive to Anderson/LaRue	$7,600,000
Anderson/La Rue to Sycamore	$4,700,000
Howard Way Transit Priority Lane / Path Separation	$1,000,000
Sycamore to east of SR113	$3,300,000
SR 113 to Arthur Street	$2,800,000
Arthur Street through Arlington Roundabout	$8,300,000
West of Arlington Roundabout to City Limits	$10,800,000
City Limits to CR 98 Roundabout	$4,300,000
Lane Restriping (B Street to SR 113)	$400,000

Next Steps

Over the years, the City, University, and Yolo County have collaborated on various efforts within and around Davis. The Russell Boulevard Corridor Vision Study is one such example of shared interest and collaboration on planning efforts. For well over a year, staff from the City of Davis, UC Davis, and Yolo County have worked together with the community to guide this vision. The project team met on a biweekly basis throughout the life of the planning process, met with internal stakeholders, attended and facilitated engagement events, and worked closely with the project consultant team. It will be important to build upon this momentum as the project advances.

The City, UC Davis, and the County have all expressed an interest in continuing to collaborate to see this vision through to implementation. Moving forward, the City of Davis, UC Davis, and Yolo County will review the study and work, both as individual agencies and in partnership, to identify and start to implement the various projects that make up the full corridor vision. Ongoing collaboration and communication will be key to the success of interagency efforts, such as major intersection reconstruction projects, under the umbrella of Reimagine Russell Boulevard. This collaborative process can be established with the selection of a first phase project for the project partners to recommend to the Davis City Council.

A working inventory of action items may help to maintain project momentum and focus. The following table identifies tasks, a basic schedule, and the agencies responsible for leading and assisting in fulfilling the tasks.

Action Items

Action	Lead Agency	Timing	Agency Partners
Continue working group coordination	City of Davis	Ongoing	UC Davis/Yolo County/Caltrans
Incorporate visioning elements into planning documents where appropriate	City of Davis/UC Davis	Ongoing	Yolo County/Caltrans
Investigate the feasibility of restriping	City of Davis	< 1 year	UC Davis/Caltrans
Incorporate vision tool box into upcoming projects	City of Davis/UC Davis	Ongoing	Yolo County/Caltrans
Confirm priority intersections for improvements	City of Davis	< 1 year	UC Davis/Caltrans
Confirm priority areas for green infrastructure improvements	City of Davis/UC Davis	< 1 year	Yolo County/Caltrans
Identify potential gateway, wayfinding, and signage plan	UC Davis/City of Davis	1-2 years	Yolo County/Caltrans
Prioritize transit stop enhancements	City of Davis	1-2 years	UCD/Yolo County