DOWNTOWN DUBLIN STREETSCAPE PLAN

Prepared for the City of Dublin, California

October 2020

DUBLIN
CALIFORNIA

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

1.1.1 Background

The City of Dublin City Council, City Staff and members of the Dublin community have been actively engaged in expanding the City's efforts to create a cohesive, unique, and walkable destination Downtown. A number of planning documents focus on and guide the redevelopment and reinvestment in the Downtown area as shown in Figure 1. These include:

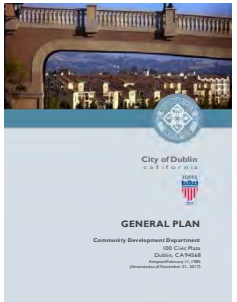
1. Downtown Dublin Specific Plan, 2011 (amended in 2020)
2. ULI Technical Assistance Panel study, 2011
3. ULI Technical Assistance Panel study, 2018
4. Dublin General Plan, 1985 (amended in 2017)
5. Streetscape Master Plan, 2005 (amended in 2009)
6. Bicycle and Pedestrian Master Plan, 2014
7. Public Art Master Plan, 2020
8. Downtown Dublin Preferred Vision, 2019

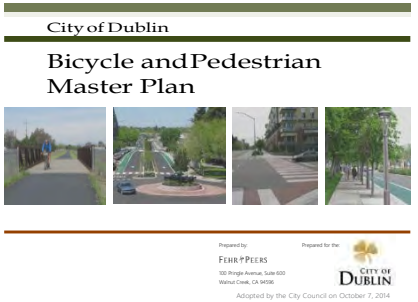
The Downtown Dublin Streetscape Plan (the Plan) expands upon the recommendations contained in these documents in more detail as they relate to the streetscape – improving the beauty, identity, and function of Downtown streets. The Plan provides further direction for public and private investment, specifically in regard to the development of the public realm and Downtown's identity, with the intent of creating a clear and unified look and feel for Downtown Dublin.

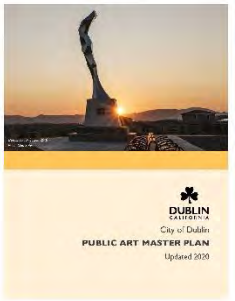
1.1.2 Vision and Purpose

Improved Downtown Dublin streets will enhance the identity of Downtown Dublin as a destination, improve the street experience for pedestrians, and create enjoyable places for people that support community through participation in public life in shared space.

Creating inviting and attractive places will support Dublin's desirability and will support community life as land uses change and properties are re-developed with new commercial, residential, and mixed-use projects.

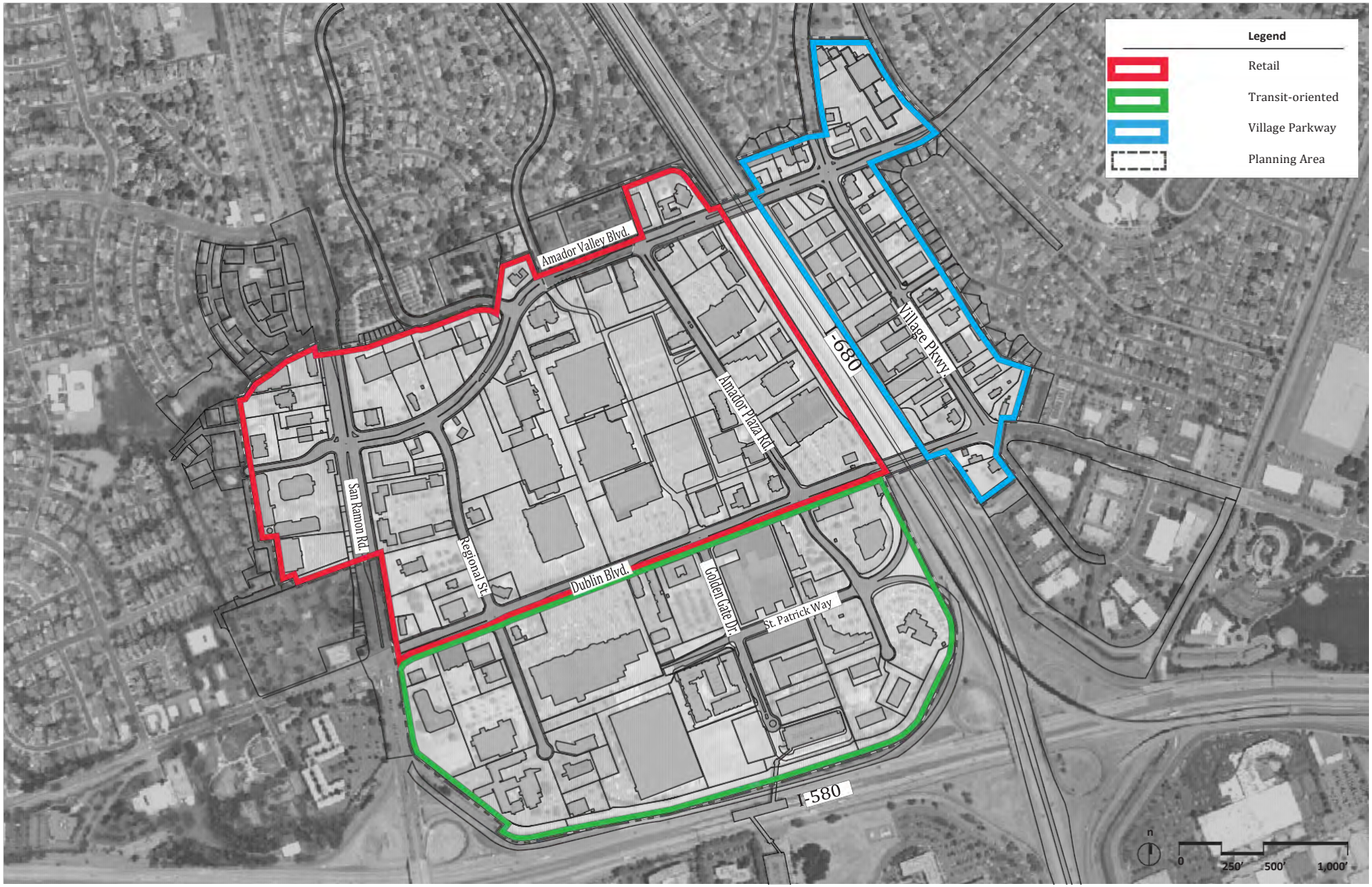






City of Dublin Planning documents

Figure 1: *Downtown Planning Area as defined by the Downtown Dublin Specific Plan*



1.1.3 The Plan

This document describes potential opportunities and proposed improvements from a variety of perspectives, scales and areas of focus.

The Executive Summary describes an overall Street Framework (1.2.1) that organizes and focuses improvement opportunities by street type. Project Implementation Opportunities (1.2.3) provides a list of improvements based on scale, scope and effort, and identifies high-impact, high-priority improvements.

In addition to providing urban context, the Existing Conditions (2.0) chapter describes the quality of existing street spaces and elements and provides general opportunities and constraints that inform proposed improvements.

Chapter 3 and 4 present opportunities to enhance the identity and visual character of Downtown Dublin as well as the spatial qualities of Downtown streets so that they function better for all, including, pedestrians, bicyclists, and transit riders.

The Street Plans (3.0) Chapter presents guidelines for expanding the pedestrian realm for people and include street-specific concept plans for improvements to Regional Street and Village Parkway.

The Identity and Elements (4.0) Chapter presents guidelines for the overall look, feel, and "brand" that create the visual image of Downtown Dublin's public realm, illustrates proposed unique elements for Downtown Dublin, and describes standard streetscape materials and furnishings.

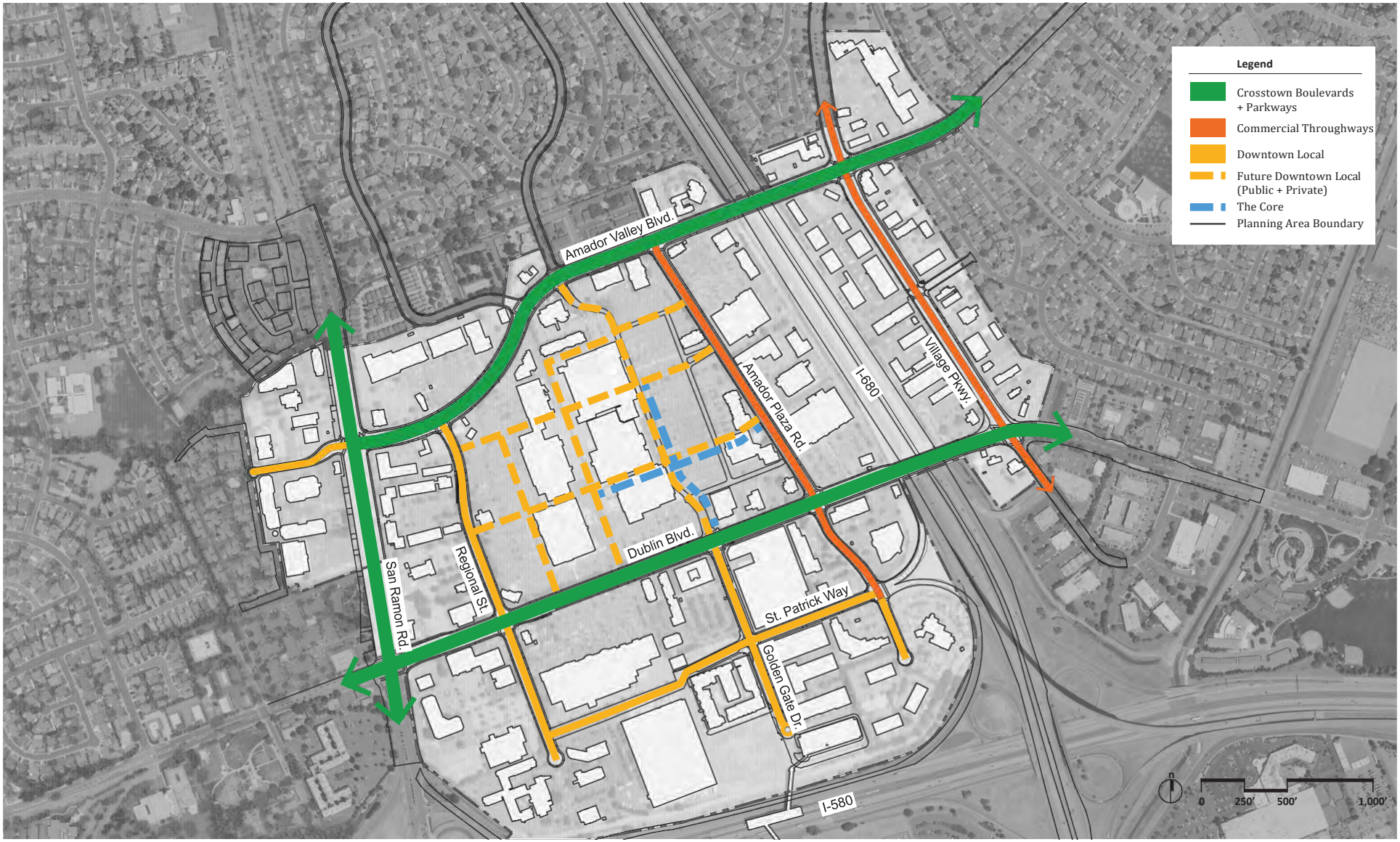
Lastly, the Appendix section provides a recap of the Planning and Community Process (5.0) and supplemental information to guide decision makers, planners, designers, and developers as they contemplate and implement individual projects. Technical Information (6.0) provides further detail on planting standards, green infrastructure, and utility coordination, while Magnitude of Costs (7.0) provides order of magnitude construction costs for various improvements.

1.2 IMPLEMENTATION

1.2.1 Street Framework

The streets of Downtown Dublin can be characterized by the roles they serve related to the transportation system and to the land uses adjacent to the streets. Informed by the Downtown Dublin Specific Plan, this Plan characterizes Downtown streets into four primary types: Crosstown Boulevards + Parkways, Commercial Throughways, Downtown Local and The Core Streets as shown in Figure 2. This framework informs the types of street improvements which are most relevant, and which should be prioritized for each Downtown street.

Figure 2: *Street Framework*



Crosstown Boulevards + Parkways

These streets carry large volumes of traffic along significant north-south and east-west corridors. Typically, these streets carry multiple lanes of traffic in each direction and may be softened by planted medians and side buffers. Crosstown Boulevards + Parkways include Dublin Boulevard, Amador Valley Boulevard, and San Ramon Road.

Key goals for these streets are:

- Identity and Visibility – Reinforce a cohesive overall street identity while creating moments of interest and orientation to the smaller Downtown streets through larger scale gateways, signage, art, and intersection paving treatments.
- Traffic Safety and Comfort – Moderate the effects of high traffic volumes on bicyclists and pedestrians by expanding pedestrian space and additional planting buffers.

Commercial Throughways

These streets are fronted by commercial uses including shopping, dining, and services. While they may carry significant volumes of traffic and be a part of crosstown traffic, they are distinguished by the scale of the street and density of commercial uses that front them. These streets include: Village Parkway and Amador Plaza Road.

Key goals for these streets are:

- Pedestrian-Scale Placemaking – Create a comfortable pedestrian realm that supports strolling, shopping, and dining.
- Traffic Safety and Comfort – Moderate the effects of high traffic volumes on bicyclists and pedestrians by expanding pedestrian space and creating mid-block crossings.

Downtown Local

These shorter, smaller streets do not extend outside of the Downtown area. Like Commercial Throughways, they are predominantly fronted by commercial uses that include shopping, dining, and services, but also include residential and mixed-uses. These streets include: Regional Street, Golden Gate Drive, St. Patrick Way, and a small portion of Amador Valley Boulevard. Future Downtown Local streets are planned for the Retail District creating a new grid pattern in the center of Downtown. These streets are intended to compliment and support the new Town Square.

Key goals for existing and future Downtown Local streets are:

- Pedestrian-Scale Placemaking – Create a comfortable pedestrian realm that supports strolling, shopping, and dining, neighborhood socializing, and events.
- Traffic Safety and Comfort – Design "slow streets" with an emphasis on bicycle and pedestrian infrastructure.
- Green Streets – Integrate generous space for trees, stormwater treatment, and "green infrastructure."

The Core

The Core streets implement the Downtown Dublin Preferred Vision and include the four blocks around the new Town Square to create a downtown character with a synergy for a mix of uses to thrive. The extension of Golden Gate Drive from the BART station through Downtown Core will become a new main street within a classic street grid.

Key goals for The Core streets are:

- Pedestrian-Scale Placemaking – Create a comfortable pedestrian realm with generous sidewalks that supports strolling, shopping, and dining, neighborhood socializing, and events.
- Traffic Safety and Comfort – Design "slow streets" with an emphasis on bicycle and pedestrian infrastructure.
- Extension of the Town Square – Enhance the Town Square which has been designed with open space for activation where everyone can see each other.

Specific examples of streetscape improvements related to these goals for the streets are shown on Figure 3 described in Project Implementation Opportunities (1.2.3), Street Plans (3.0), and Identity and Elements (4.0).

1.2.2 Funding and Implementing

The streetscape improvement opportunities described in the Plan will be implemented incrementally via multiple parties and funding sources, including:

- Property Owner/Developer Requirements, Developer In-kind
- Community Benefit Program
- Capital Improvement Program
- Coordination with other public improvement projects and maintenance activities

'Parklet' projects – landowner/business-sponsored non-permanent improvements expanding the sidewalk zone into the parking zone

1.2.3 Project Implementation

Improvements to the public right-of-way, land use changes, and development are related. New developments will create a more "urban" small-town and pedestrian-friendly Downtown character — through uses that abut and activate the street. Change will be incremental but guided by the vision of this and other Downtown planning documents and initiatives. Recognizing the incremental nature of improvements, and the need to implement improvements as opportunities arise, the Plan categorizes improvements into the following four tiers that can be matched to project scale, budget, funding source, and other opportunities:

Cyclovia event – temporary street closures for autos opens streets for community celebration, recreational cycling, and walking

- Tier 1 – Small-scale, "tactical," temporary improvements or events
- Tier 2 – Middle-scale, piece-meal/a la carte, and opportunistic projects
- Tier 3 – Large scale, major capital improvement streetscape projects
- Tier 4 – New downtown public spaces

Street festival / food truck events

Within the list of improvements identified in Tier 1 and Tier 2, suggested high-impact projects are identified, followed by secondary-priority projects. In some cases, within improvement categories, recommendations are provided for where these types of improvements should be installed first. Additional details on how these projects are to be implemented are provided in the Guidelines provided in Street Plans (3.0) and Identity and Elements (4.0).

Paint used to extend pedestrian safe space beyond the curb to reduce crossing length

Shamrock painted in an intersection for St Patrick's Day

Example of trees illuminated with string lights

Tier 1 Improvements

Tier 1 improvements do not require significant alterations to existing street infrastructure. Sometimes described as "tactical urbanism," these "light" approaches include non-permanent features such as paint, temporary and short-term installations and placemaking, and events. This light approach may include "pilot" projects which are time-limited or reversible that can be used to prototype, collect data and refine concepts, prove the validity of, and build support for longer term improvements and more permanent physical changes. Additionally, Tier 1 improvements can create a greater sense of Downtown as a dynamic and changing place, encouraging, motorists, cyclists, and pedestrians, to slow, stop, and participate in Downtown, and to support the daily life of a growing Downtown community of businesses and residents. For further description and guidelines for these elements, see Street Plans (3.0) and Identity and Elements (4.0). See Figures 3 and 4 for recommended locations.

High Priority

- Painted crossings and intersections
- Parklets
- Street closures

Second Priority

- Temporary art
- Banner arms and pole attachments
- Twinkle lights

Tier 2 Improvements

Tier 2 improvements target specific street improvements with less impact to existing infrastructure and systems than a comprehensive street re-construction. Characteristics of Tier 2 improvements include smaller projects that are more affordable, and for which funding may be more readily obtainable, localized improvements that have a reduced physical footprint and do not significantly change the configuration of existing curbs, utilities, or other infrastructure or projects that involve no construction and are, thus, faster to permit and install (tree plantings, banner replacements). Tier 2 improvements that also include projects that benefit the public realm often move forward under the umbrella of a larger project such as private development that necessitates upgraded sections of the public right-of-way in front of their property and large infrastructure and utility projects that provide an opportunity to add on targeted improvements to the streetscape.

The following streetscape elements and systems are examples of improvements which could be installed individually or in combination as a Tier 2 improvement. For further description and guidelines for these elements, see Street Plans (3.0) and Identity and Elements (4.0). See Figures 3 and 4 for recommended locations.

Examples of Tier 2 improvements are provided below and grouped by suggested priority:

<u>High Priority</u>

- Gateways
- Re-striping / "Road Diet"
- Bulb-outs
- Mid-block crossing

<u>Second Priority</u>

- Art
- Wayfinding
- Tree replacement
- Street furnishings
- Street lighting
- Sidewalk pavement replacement

Example of sculptural art

Example of wayfinding in Fresno and a kiosk in Burlingame

Example of seasonal street trees

Figure 3: *Tier 1 and 2 Street and Pedestrian Enhancements*

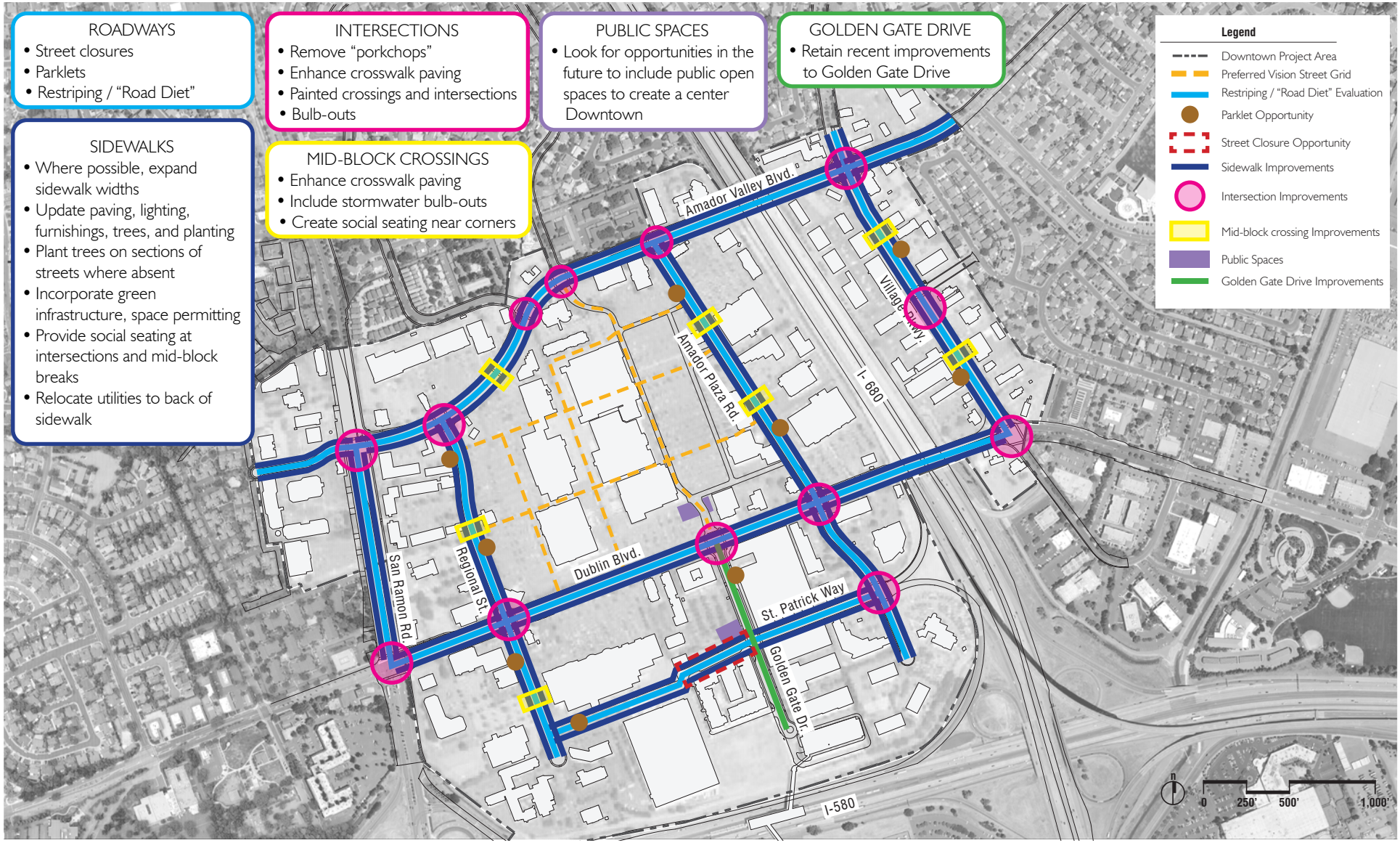
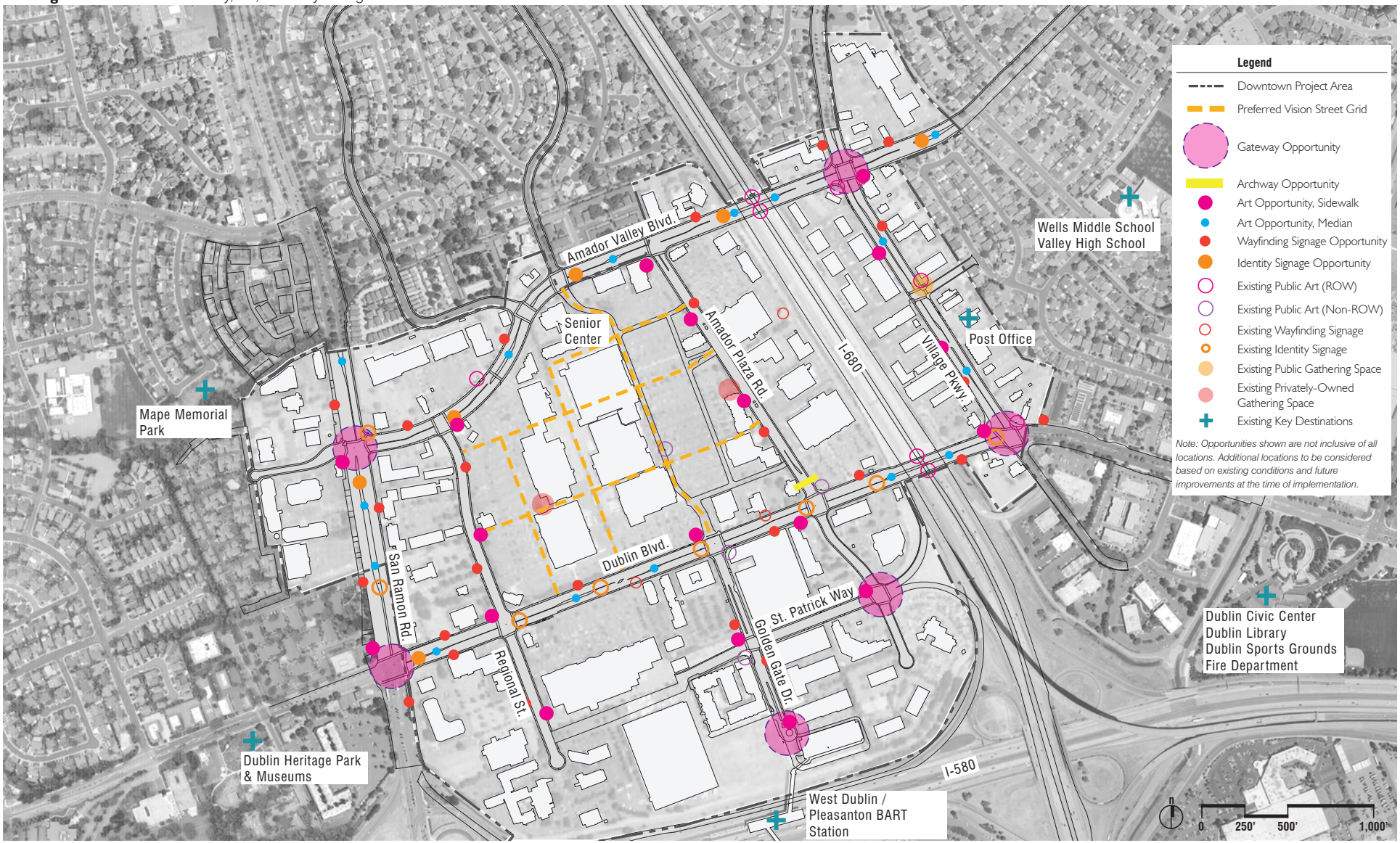


Figure 4: *Tier 1 and 2 Identity, Art, and Wayfinding Locations*



Tier 3 Improvements

Major streetscape capital improvement projects include the comprehensive re-design and re-construction of streets, with opportunities to re-allocate street space — reclaiming "lost" or underutilized space to enhance the street character and create pedestrian space. These are long term projects that require significant planning, capital, and construction. They often involve the redesign of multiple existing systems in order to achieve multiple public improvement goals through a holistic design solution. Examples of significant system adjustments include upgrading or reconstructing streets, curb relocation, utility replacement or relocation, surfacing, and the reallocation of street space.

In conjunction with planning and redevelopment efforts, Tier 3 projects could be conducted as major public works projects which could bring value to adjacent properties, spurring private investment and redevelopment, and create the public infrastructure to create a destination downtown main street.

Chapter 3.0 provides concepts for two potential Tier 3 projects — redesign of Regional Street and Village Parkway.

- Regional Street improvements include re-allocation of roadway space between curb, bike lane, street trees and planting, stormwater gardens, furnishings, paving, street lighting, art, bulb-outs.
- Village Parkway improvements include bike lanes, street trees and plantings, site furnishings, paving, street lighting, art, and bulb-out/curb extensions, green infrastructure/stormwater gardens, and a gateway.

Example of wide sidewalks with dining in the public right-of-way

Example colorful paving in a flexible civic space

Places for children to play allow neighbors to meet and socialize

Conceptual images of Town Square from Downtown Dublin Preferred Vision

Tier 4 – New Downtown Public Space / Gathering Areas

In both community meetings conducted for the Plan, the public expressed a desire to provide Downtown with gathering spaces for children to play, people to meet and relax, and events to take place. The City should continue to evaluate possible Downtown sites that can accommodate different types and sizes of public gathering areas at key intersections along the primary travel corridors. These include Golden Gate Drive, Dublin Boulevard, St. Patrick Way, Village Parkway, and Regional Street.

As part of the Downtown Dublin Preferred Vision, the City Council approved the siting of a new Town Square; a one-acre park and plaza that will serve as Downtown Dublin's primary gather place. The location of the Town Square is one block north of Dublin Boulevard along the proposed extension of Golden Gate Drive. The four-block area surrounding the Town Square referred to as "The Core" creates a downtown character with synergy for a mix of uses to thrive. The streets within The Core are unique and contribute to the vibrancy of the area. Chapter 3.0 provides the guidelines for The Core streets. The Town square should consider including public facilities such as restrooms.

Smaller scale public spaces such as neighborhood parks will be important for Downtown Dublin as its residential population continues to grow. These spaces will strengthen the sense of place, provide residents with outdoor space, and serve to promote pedestrian and biking movement between Downtown destinations. Green spaces will help build a connected community where residents can interact and come together for social events. Once sites are identified, make temporary and affordable improvements such as community tables, seating, and planting while permanent improvements are prepared. When complete, the park should feel part of the neighborhood, festive in nature, and provide space for active and passive uses.

At the smallest level, provide sheltered seating areas along all circulation networks to activate Downtown connections. Provide directional signage, seating, planting, and interpretive elements at gathering areas to assist in navigation.

2. EXISTING CONDITIONS

2.1 URBAN CONTEXT

Photo of the Downtown Dublin crossroads. On the right is the old Lincoln Highway 50, 1946.

The City of Dublin grew up around the crossroads of two major trading routes – one running north-south between Martinez and San Jose and the second moving east-west between the Bay Area and Stockton – located approximately near the intersection of San Ramon Road and Dublin Boulevard. While the small settlement of Dublin was bypassed by the railroads, the small town rapidly expanded after World War II, incorporating in 1982. Consequently, the texture of Dublin's urban fabric is typical of post-World War II suburban development, characterized by single-family homes, automobile-oriented commercial areas and wide streets. Downtown Dublin generally consists of large block sizes with parking lots fronting the streets, wide streets, large building footprints, and expansive parking lots, which foster an environment dominated by automobiles.

Photo of Downtown Dublin and development north of San Ramon Road and Amador Valley Boulevard 1961.

Aerial photo of the intersection of Dublin Boulevard and Regional Street, early 1970s.

Photo of development growing around Village Parkway looking north from I-580 and I-680 Interchange, 1972.

2.2 OVERALL STREETSCAPE CONDITIONS

Space Allocation

The land use character and supporting street network in Downtown Dublin is predominantly designed for motor vehicles. It includes large empty parking lots at the back of sidewalks, multiple driveways to the parking lots, and many wide multi-lane streets (Dublin Boulevard, San Ramon Road, and Amador Valley Boulevard) that carry a high motor vehicle traffic volume. Where these streets meet, intersections are large and often include multiple dedicated turn lanes, and right-turn slip lanes (or "pork- chops"). These intersection configurations and the land use character are designed for traffic flow and circulation of auto traffic and might not fully integrate multimodal access for pedestrians and cyclists. Of the three retail-oriented streets (Village Parkway, Regional Street, and Amador Plaza Road) that run north-south between Amador Valley Boulevard and Dublin Boulevard, the block lengths are long with few store fronts at the back of the sidewalks, and multiple driveways that give limited pedestrian comfort and crossing opportunities. Compounded with narrower sidewalks, non-existent interaction of public space with business frontages, and street furniture (utility poles, newspaper racks, benches, etc.) in the path of travel, the environment does not encourage pedestrian movement and comfort. On several streets, street trees have been planted at the back of sidewalk rather than behind the curb due to store fronts not connected with the sidewalks and where they would provide a buffer between pedestrian path-of-travel and fast-moving traffic. Along the streets, bicyclists and pedestrians will encounter multiple driveways to large parking lots that interrupt their movement and comfort, and also limit opportunities for trees and other amenities. Some bikeways are disconnected. In these locations, Class III bikeways shared with vehicles are provided to close a gap in the Class II striped bike lane network where the right-of-way is restricted. Some of the gaps in the bike network are planned to be implemented per the City of Dublin's Bicycle and Pedestrian Master Plan.

Street Character

The character and quality of Downtown streets varies. Strong features include the recently improved Golden Gate Drive where abutting land uses were moved to the back of the sidewalks by removing large parking lots, Dublin Boulevard "shamrock" identity elements, public art, and mature trees in a variety of locations. However, as a whole, the Downtown streets lack an overall cohesive identity and quality.

Throughout Downtown, street materials and furnishings such as paving, streetlights, benches, trash receptacles, and bus shelters are inconsistent and vary in design and age. Several streets benefit from a strong street tree presence, though many trees are aging, some species are prone to disease, and others lack a memorable visual presence. Sections of other streets on San Ramon Road, Amador Plaza Road, and St. Patrick Way have few trees or none at all. On many streets, street trees are located at the back of sidewalk, and wide setbacks of parking or landscaping between the building and street results in streets that feel uncontained and overly wide. In most places Downtown there is a lack of connection and interaction between building uses and the public realm. This, together with the lack of visible and significant social spaces within the pedestrian realm limits opportunities for Downtown "street life" such as dining, gathering, strolling and promenading.

Existing Trees

Many parts of Downtown Dublin contain large, mature, broad-canopy, deciduous street trees which contribute to the aesthetics of Downtown while providing shade, energy conservation, temperature control, and health benefits such as reduced air pollution and stress mitigation. Key issues for existing street trees:

- Older trees need to be replaced over time.
- Time required to maintain and care for trees increases with the age of the tree.
- A limited number of species are used. This increases the potential for tree loss to disease and impacts to the Downtown's appearance.
- Trees located on the private property side do not buffer pedestrians from street traffic.

Streetscape Elements and Systems

As noted above, streetscape and district character is in large part defined by the surrounding land uses and the visual quality and continuity of the following streetscape elements and systems within the right-of-way: trees and planting; lighting; paving; furnishings; signage and wayfinding; and art. As Downtown Dublin's streets have been developed and modified over the years, the existing elements and systems are mixed in visual character. Adding additional complexity are existing utilities that extend the length of roadways and laterally across sidewalks. Finding adequate space for all street improvements is a challenging endeavor. Redevelopment provides an opportunity to reshape the street to enhance the user experience and improve sustainability.

Trees and planting: The most common trees found in Downtown are London plane, crape myrtle, and pear trees. Other trees used less frequently include Chinese pistache, camphor, pink dawn, ash, purple leaf plum, strawberry tree, and eastern redbud.

Lighting: Cobra head roadway lighting on widely spaced, painted, and galvanized poles is typical throughout the Downtown. Village Parkway is lined by a separate, decorative, pedestrian scale streetlight pole with twin upright fixtures. Golden Gate Drive has its own decorative, modern style pedestrian streetlight fixture.

Paving: Sidewalks typically consist of standard concrete paving. On Village Parkway, special paving is composed of paver bands, while on Golden Gate Drive widened bands of pavers were recently installed. San Ramon Road also includes a sinuous asphalt bike and pedestrian path on the western side of the street. Medians use concrete pavers to provide a maintenance strip around planting and fill in segments where the median tapers and narrows to accommodate turning lanes.

Examples of existing streetscape elements in Dublin

Existing artwork in Downtown Dublin

Furnishings: Furnishings differ across Downtown. Dublin Boulevard, Village Parkway, and Golden Gate Drive each have their own palette with older furnishings present while the remaining streets have few furnishings. Bus shelters vary in design including two shelters installed on Amador Valley Boulevard designed as public art pieces.

Signage/Wayfinding: On Dublin Boulevard, special identity and wayfinding signage where designed with brown structural frames with a green metal shamrock pattern integrated into the middle of the frame. Identity signs are located in the median and include bronze letters and shamrocks mounted on the frame highlighting the City of Dublin as well as the neighborhood district. Wayfinding signs located in sidewalks include arrows and destinations.

Art: Art in or visible from the public right-of-way in Downtown Dublin includes a mix of types and themes – from murals depicting Dublin history, to more contemporary stainless-steel furnishings such as a clock and bus shelters.

Green infrastructure: With the exception of stormwater treatment planters installed as part of the recent Golden Gate Drive improvements, most stormwater on Downtown streets is not treated before entering the storm drain system.

Existing Art

Downtown Dublin currently has seven works of public art in or visible from the public right-of-way, of which four pieces are installed as part of private development. These include the following pieces below and shown on the right:

1. Historic Crossroads, by Daniel Galvez, John Pugh and John
2. Wehrle (qty 4 murals) Dublin Time, by Dan Dykes
3. Bus Shelter, by Dan Dykes (qty 2)
4. Indesign, by Ray Lamb
5. Wellspring, Eric Powell
6. Warbler Migration, Deirdre Murphy and Scott
7. White Utility Box art (qty 2)

2.3 EXISTING CONDITIONS ON REGIONAL STREET AND VILLAGE PARKWAY

Regional Street and Village Parkway were identified as two streets that have the greatest opportunity to re-allocate street space to support the needs of pedestrians and bicycles. Of the three retail-oriented streets (Amador Plaza Road, Regional Street and Village Parkway) that run north-south, Regional Street and Village Parkway are characterized by long block lengths with only one pedestrian crossing opportunity combined. Both streets have their unique challenges but offer a variety of commercial land uses and underutilized space within the rights-of-way. The redesign for these streets is provided in Section 3.3 Regional Street and Village Parkway Alternatives.

2.3.1 Regional Street

Existing Conditions

Regional Street extends south from Amador Valley Boulevard and terminates in a cul-de-sac south of Dublin Boulevard, near the St. Patrick Way extension. One residential community and a variety of commercial land uses are adjacent to Regional Street, including restaurants and cafes, retail, entertainment, services, and hotel. Buildings are set back and have a poor relationship to the street, though in some instances restaurants have outdoor dining facing the street.

North of Dublin Boulevard, the typical street cross section includes center turn lane, travel lane in each direction. Large portions of the street are striped to prohibit parking, resulting in very wide, unused road space. Parallel parking is provided along the street in a few locations, though off-site parking is plentiful in adjacent lots. Sidewalks are approximately eight-foot wide on each side with street trees occurring at back of curb in different sizes of tree openings. Between Dublin Boulevard and Amador Valley Boulevard (approximately 1,100 feet), there are no demarcated crossings.

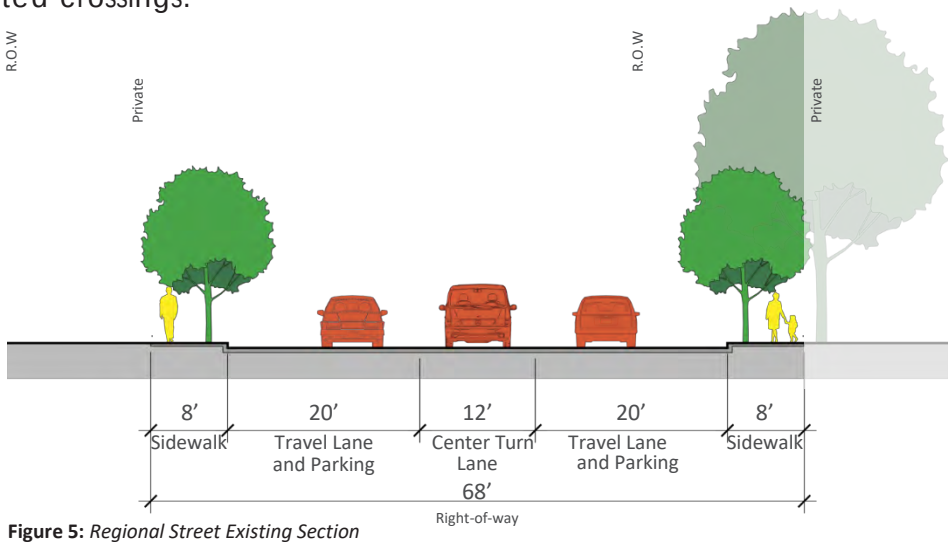


Figure 5: *Regional Street Existing Section*

Existing Conditions

Typical sidewalk conditions

South of Dublin Boulevard, except for the intersection with Dublin Boulevard, street travel lanes are not striped. However, the approximate 51-foot curb to curb dimension generously accommodates one travel lane in each direction as well as on street parking. Sidewalks are approximately eight-foot wide on each side with street trees occurring at back of curb in three-foot by three-foot tree openings. Fire hydrants located at back of sidewalk present obstacles to the flow of pedestrian movement.

No bicycle facilities are provided on Regional Street, though the street is planned as a bicycle route in the Bicycle and Pedestrian Master Plan.

Wide street with one travel lane in each direction, center turn lane, and parking on both sides

Downtown Dublin Specific Plan

North of Dublin Boulevard, Regional Street falls within the Retail District of the Downtown Dublin Specific Plan (DDSP). The Retail District is envisioned to be a pedestrian-scale, walkable environment with businesses including a mix of retail (ranging from small independent retailers to national regional-serving retailers), service, office, and civic.

South of Dublin Boulevard, Regional Street falls within the Transit-Oriented District of the DDSP. Land uses envisioned include mixed-use such as office or residential above ground floor retail, high-density multi-family residential, and office uses with a pedestrian-scale, walkable environment that is more urban in character than the surrounding area.

Perch – a recently constructed development

2.3.2 Village Parkway

Existing Conditions

Within the project area, the segment of Village Parkway between Amador Valley Boulevard and Dublin Boulevard is fronted by a wide variety of commercial uses, including dining, retail, and services. In contrast to other areas within Downtown, Village Parkway is fronted by a greater density of businesses with store fronts at the back of the sidewalk, many of which are smaller in scale and independently owned. The street is punctuated by numerous driveways serving parking areas. Segments of Village Parkway have parking on both sides (23 spaces on the west side and 19 spaces on the east side). Some of the curb is striped red to provide visibility and safety for access – and results in an unused roadway space that gives a perception of a wider street. A raised center median increases the sense of division across the street and a main utility line overhead runs down the center of the street. Crossing of the street is reserved to the intersections. Pedestrian street crossings are inconvenient – crosswalks occur at intersections 760 feet and 880 feet (approximately three min. walk) apart.

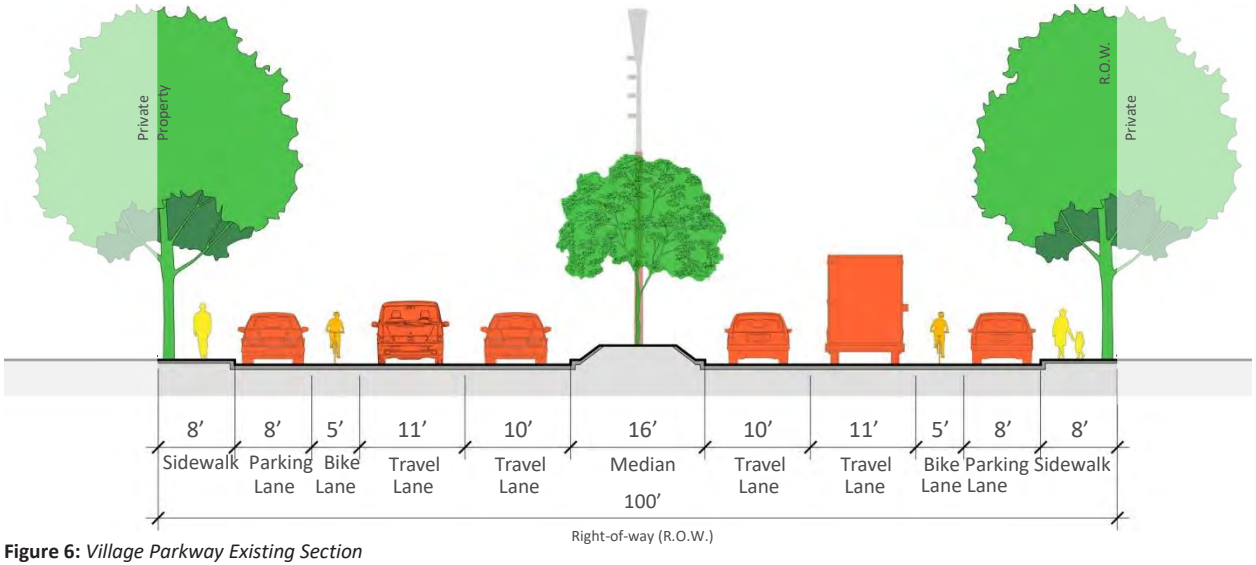
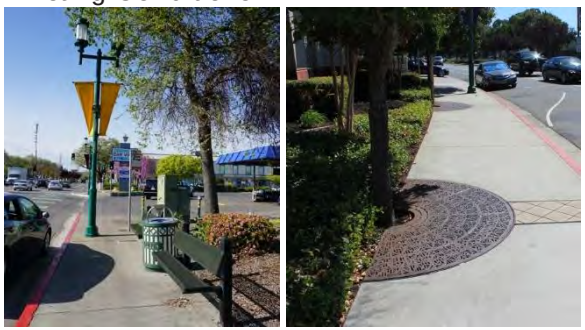


Figure 6: *Village Parkway Existing Section*

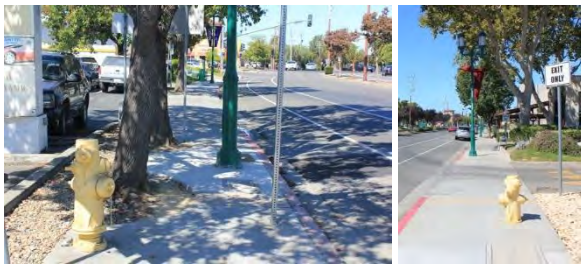
Existing Conditions



Lighting and furnishing palette

Trees at back of Raised center median with transformer walk

Gathering spaces along Village Parkway



Obstructed sidewalk path-of-travel

The typical street cross section includes planted median, two travel lanes, bike lanes, and parking in each direction. The sidewalk is approximately eight-foot wide. Street trees are typically located at the back of walk impeding pedestrian movement, creating pinch-points and providing no buffer from cars.

Downtown Dublin Specific Plan

Village Parkway is located within the Village Parkway District of the DDSP. The Village Parkway District is envisioned to be a pedestrian-scale, walkable environment with diverse and complementary land uses. The district should incorporate live/work units and possibly high-density housing if an appropriate site is identified.

2.4 OPPORTUNITIES AND CONSTRAINTS

The existing conditions present the following general opportunities and constraints for Downtown streets. More specific opportunities and constraints are described in Chapter 4 – Street Plans.

General Opportunities:

- Reclaim "lost" / under-utilized, and over-sized vehicular spaces for more pedestrian oriented uses.
- Within the sidewalk, establish clear zones for pedestrians and furnishings that include a step-out zone from curbside parking and a frontage zone for businesses (Figure 7).
- Build and expand on Dublin's existing public art and signage identities – the shamrock icon, Dublin history, and more modern works.
- Address the frontage zone with streetscape improvements. Businesses need to move to the back of the sidewalk with implementation of the DDSP.
- Create a classic street grid through implementation of the Downtown Dublin Preferred Vision

General Constraints:

- Utility relocations that require time for coordination and implementation and have a high cost.
- Timing of land use changes and developments with Downtown property owners.
- Physical dimensions of streets and managing impacts of changes with existing vehicular traffic volumes.

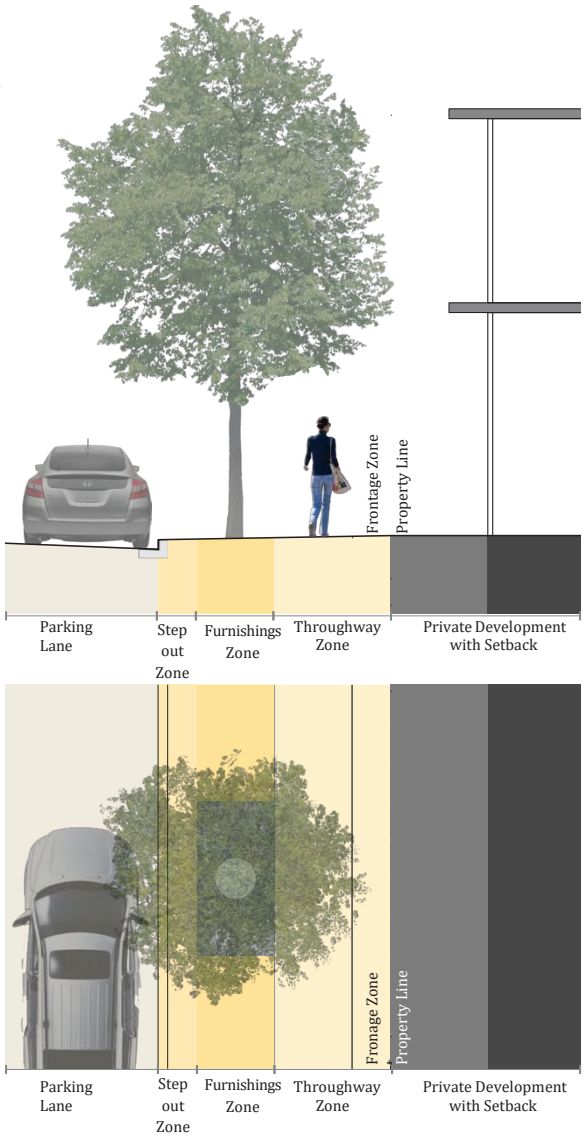


Figure 7: *Sidewalk Layout*

3. STREET PLANS

Downtown is poised to become more vibrant through the addition of new housing, retail, commercial, and mixed-use development. The intent of the street improvements is to create better downtown places for people. Downtown streets should encourage people to move more slowly, and to interact more fully with their surroundings and with one another.

This chapter focuses primarily on creating street space for people – reclaiming space for a safe, expanded, pedestrian-oriented public realm and better accommodating people traveling by bicycle and transit. The space and place-making opportunities described here are supplemented by further definition of street identity concepts and streetscape elements in the following chapter.

3.1 EXPANDING THE PEDESTRIAN REALM

Expanded pedestrian space is needed along sidewalks, at intersections, and at mid-block crossings. Figure 3 in the Executive Summary (1.0) shows opportunities for street space improvements throughout Downtown. General sidewalk space recommendations for all Downtown streets include:

- Where possible, expand Downtown sidewalk widths on Crosstown Boulevards + Parkways, Commercial Throughways, and Downtown Local streets to a typical 12-foot minimum to create a generous Downtown pedestrian realm for strolling, shopping, dining, and socializing.
- Urban Frontage (buildings located at back of sidewalk) – Provide a minimum 12-foot sidewalk, curb to face of building. A portion of sidewalk may be on private property.
- Commercial Frontage – Provide a 12-foot minimum sidewalk. The sidewalk should include a furnishing zone with tree grates, streetlights, street furniture, as well as a minimum five to six-foot clear throughway zone for walking.
- Dublin Boulevard – Provide a minimum 15-foot bike and pedestrian trail (five-foot tree zone and ten-foot path).
- Sidewalk widths are subject to change once each street is looked at more closely with the City's long-term goals.

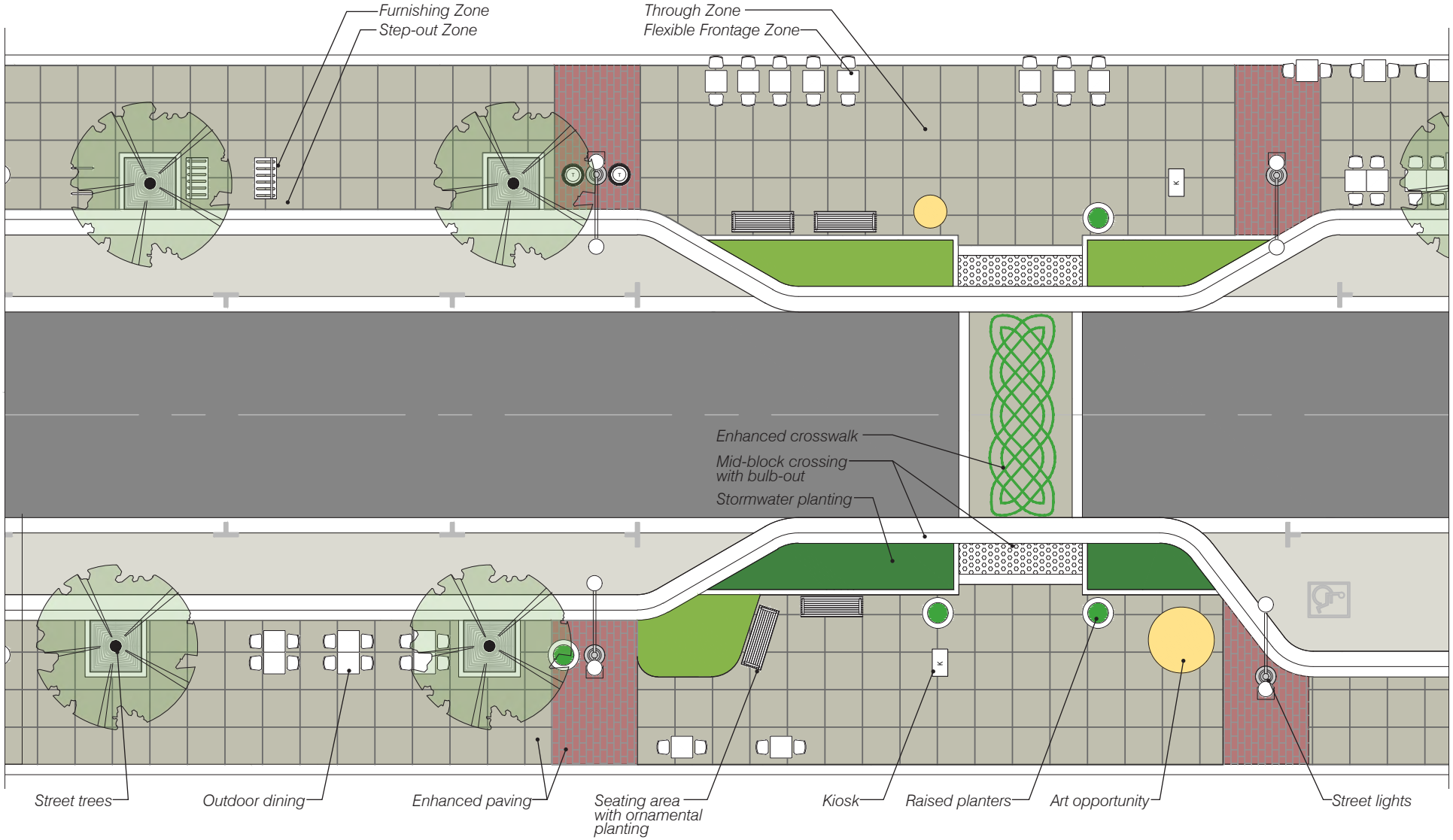
3.2 STREET PLAN GUIDELINES

Guideline 3.2.1 Sidewalk Zones

Organize the sidewalk to limit and buffer interaction with vehicles, create a clear and direct walking route, and create spaces for socializing and activating the streetscape. Proposed zones for expanded sidewalks (Figure 8) include:

- Flexible Frontage Zone – Located adjacent to the property line (up to two feet) or in the private set back to support outdoor dining, and seating. (Not required)
- Through Zone – Provide continuous clear walking zone (five feet minimum).
- Furnishing Zones – Locate trees and utilities at back of curb to provide adequate space for street furnishings, plantings, and other amenities and pedestrians with a pleasurable and unhindered walking experience (five feet minimum).
- Step-out Zone – Provide a clear zone adjacent to parking, where it occurs (required, two feet minimum).

Figure 8: *Enlarged Plan of Typical Improvements*



Guideline 3.2.2 Bulb-outs

Bulb-outs provide safety for pedestrians by reducing street crossing distances and are typically located at intersections and mid-block crossings. Bulb-outs may also be located along a sidewalk in place of a parking space or to narrow an overly wide roadway to expand the pedestrian realm. The space created in the bulb-out can provide for a combination of seating, art, stormwater planters or ornamental planting. These components together improve the visual appearance of a street, making it an inviting place to walk. Bulb-outs are recommended at all intersections, especially larger intersections on the Crosstown Boulevards + Parkways.

Guideline 3.2.3 Mid-block Crossing

Mid-block crossings provide pedestrians with opportunities to shorten the street crossing distances and to increase safety. In addition to existing mid-block crossings on Amador Plaza Road and Amador Valley Boulevard, add two mid-block crossings first on Regional Street and then on Village Parkway. Mid-block crossings should include bulb-outs that provide opportunities for a combination of ornamental planting, stormwater planting, social seating, and art. Crosswalks should include special paving that increases pedestrian visibility and encourages vehicles and cyclists to proceed at a reduced speed.

Guideline 3.2.4 **Roadway Enhancements "Re-striping/"Road Diet"**

Where possible on streets with wide travel and parking lanes, redistribute roadway space by restriping the lanes and parking. Use the saved space to provide bike lanes, buffers for existing bike lanes, or sidewalk expansions. Improve bicycling experience by providing dedicated lanes or cycle tracks and limit the sharing of space with pedestrians and vehicular traffic. At intersections and mid-block crossings, stripe crosswalks to be more visible, improving safety for pedestrians crossing the street.

Example of a raised mid-block crossing

Example of an improved intersection with bulb-outs that reduce crosswalk lengths and enhanced, visible paving

Example of an expanded sidewalk

Parklets expand the sidewalk and create social spaces


Street closures provide opportunities for events that attract people from nearby and regions beyond

Guideline 3.2.5 Enhanced Intersections and Crosswalks

Short-Term/ Temporary - Street painting treatments such as graphics painted across entire intersections can create a high-impact visual "gateway." Paint, along with other temporary elements (such as flexible bollards or planter pots), can be used to create pedestrian space in the form of sidewalk "bulb-outs" or mini-street plazas where curb changes would not be immediately feasible.

Long-Term - Establish a design that can be used in all crosswalks to help make them highly visible, improve pedestrian safety, and tie into an art theme throughout Downtown. At intersections identified as gateways, expand the artwork across the entire intersection using a patterned design reflective of the City of Dublin. This design could be applied with paint, stamped asphalt, or thermoplastic. Its scale and appearance will signal to visitors and residents that they have moved within the boundaries of the Downtown district. The design should be considered public art as created by the Public Art Master Plan and would be subject to a selection process.

Guideline 3.2.6 Parklets

Parklets expand a sidewalk through re-purposing a parking space or stretches of red-striped curb. In these parklets, creative seating, tables and chairs, planting and art can improve the pedestrian experience and the visibility of businesses within the district. Installations near coffee houses or restaurants are ideal locations for parklets.

Guideline 3.2.7 Street Closures

Working together with the City to ensure a safe event, adjacent property owners, groups, or individuals can request that a street be temporarily closed for a special event. Such events include neighborhood block parties, food trucks, music events, art fairs, farmers' markets, and many others. In Downtown Dublin, The Core streets and St. Patrick Way between Golden Gate Drive and Regional Street provides an excellent location to host such events given its existing low traffic volume and close proximity to BART and the retail centers. Other examples of the many street closures around the Bay Area include San Francisco's Play Streets and Sunday Streets, Oakland Museum's Friday Nights, and weekend Farmers' Markets in Burlingame and Berkeley.

Key Map

3.3 REGIONAL STREET AND VILLAGE PARKWAY ALTERNATIVES

Two streets, Regional Street and Village Parkway were studied in greater depth and alternatives developed which re-allocate street space to create space that supports the needs of pedestrians and bicycles and which creates space for improved public amenities such as art, wayfinding signage, gateways, furnishings, and plantings. The alternatives maintain the existing right-of-way width. If, in the future, additional right-of-way is required it shall be allocated to widening the sidewalk.

3.3.1 Regional Street

The redesign of Regional Street retains the existing curb locations and re-allocates road space, removing the center turn lane except at key driveways and intersections, and adding buffered bicycle lanes on each side of the street (Figures 9 and 10). Two mid-block crossings are proposed. Additionally, the plan increases the number of curbside parking spaces. It provides bulb-outs along the length of the street for social gathering with seating, art, and ornamental planting together with stormwater treatment. Improvements on Regional Street must consider future bike access from bike lanes on St. Patrick Way that will connect to businesses on Regional Street and then to San Ramon Road. Accommodate this change as land is redeveloped west of Regional Street between San Ramon Road and Regional Street.

Upgrade furnishings, paving, and lighting per Chapter 5.0. Integrate art in the social spaces and at intersections. At intersections, provide bulb-outs where possible, to reduce crossing distance and improve safety for pedestrians. At these locations introduce green infrastructure stormwater best practices. Main driveways may require a short turn lane. To accommodate them, remove parking adjacent to the driveways to provide space for the turn lanes.

Opportunities

- Street parking maximized
- Bike lanes
- Introduction of mid-block crossings
- New bulb-outs in areas along curbs currently striped red
- Trees at back of curb
- Paving improvements
- Future potential four-foot + sidewalk expansion on private side

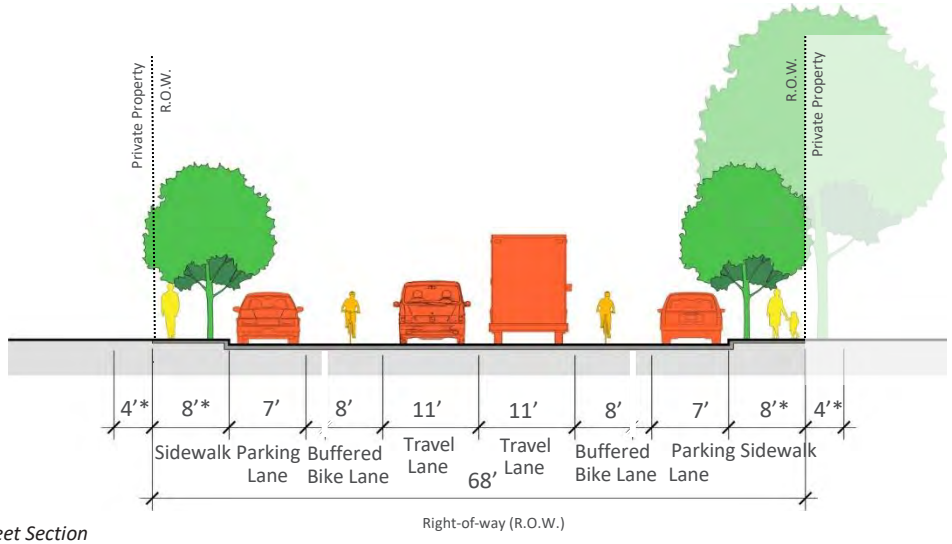


Figure 9: *Regional Street Section*

**Future potential 4'+ on private side*

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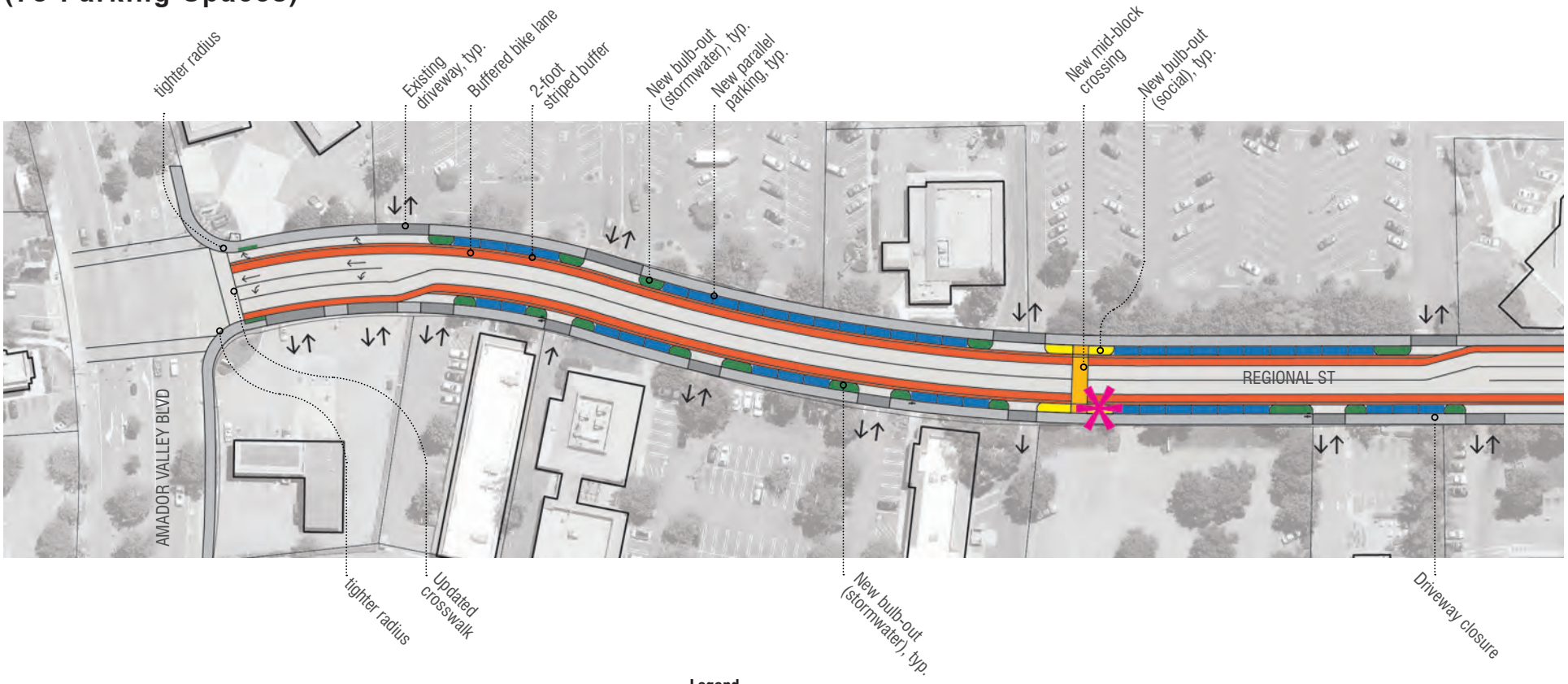
Figure 10: Regional Street Plan
(75 Parking Spaces)



Notes:
1. for clarity of street space allocation, trees and furnishings are not shown.
2. Driveway consolidation locations are examples only and the actual location may vary.

Key Map

N

0 60 180

1" = 120'

Legend

- Social Space
- Mid-block Crossing
- Bike Lane
- Stormwater Planting
- Street-side Parking
- Driveway
- Sidewalk
- Art Opportunity
- Existing Identity Signage

Notes:
1. for clarity of street space allocation, trees and furnishings are not shown.
2. Driveway consolidation locations are examples only and the actual location may vary.

Key Map

3.3.2 Village Parkway

The redesign of Village Parkway retains existing curbs and sidewalks and targets improvements to specific areas (Figure 11). To improve a sense of connection across the street, the raised median is lowered. It recommends relocating trees and utilities to the back of curb to create a clear path of travel for pedestrians on the sidewalk. Mid-block crossings are introduced as are bulb-outs in locations where parking is not possible. Art, stormwater and ornamental planting, and seating can be provided in the bulb-outs to encourage pause and social gathering. This design will require a traffic study before it can be considered for implementation.

The changes include an update to the street tree planting using proposed Columnar Hornbean, Red Maple and Eastern Redbud trees, an upgrade of furnishings, paving, and lighting per Chapter 5, and integrated art in the social spaces and at intersections. Where possible, provide bulb-outs at intersections to reduce crossing distance and improve safety for pedestrians. At these locations, introduce green infrastructure stormwater best management practices. At the intersection with Dublin Boulevard, evaluate an arched gateway together with enhanced paving improvements at both Amador Valley Boulevard and Dublin Boulevard (see Section 5.1 – Signage + Wayfinding).

Key Map

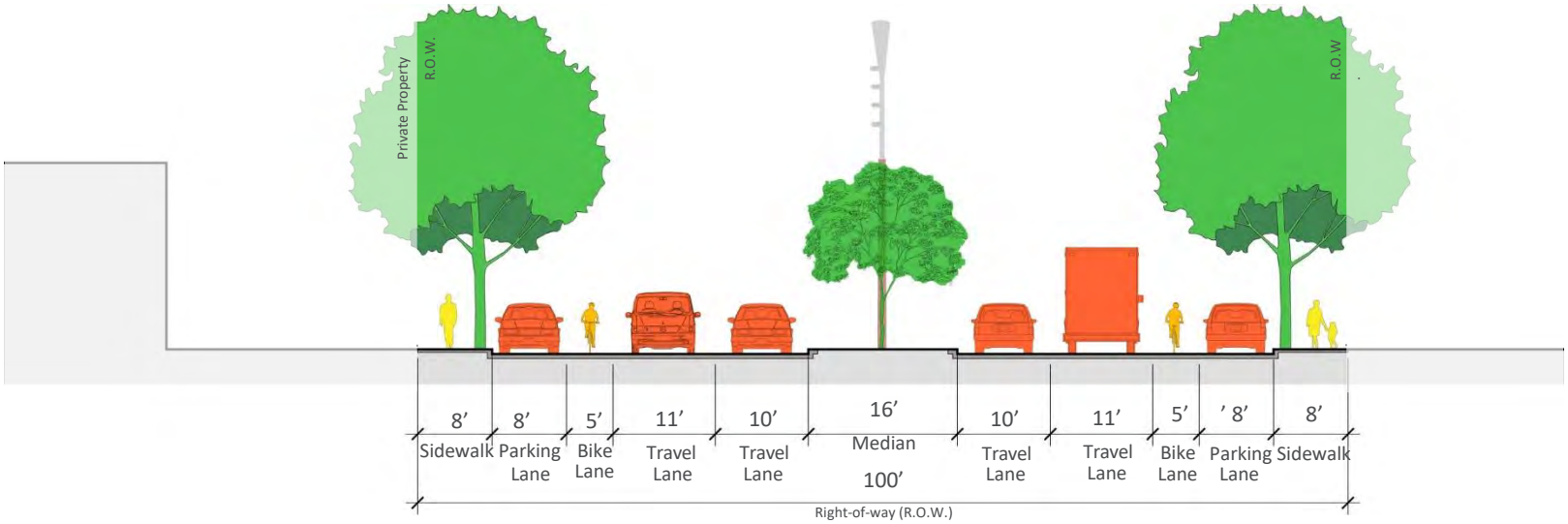


Figure 11: *Village Parkway Section*

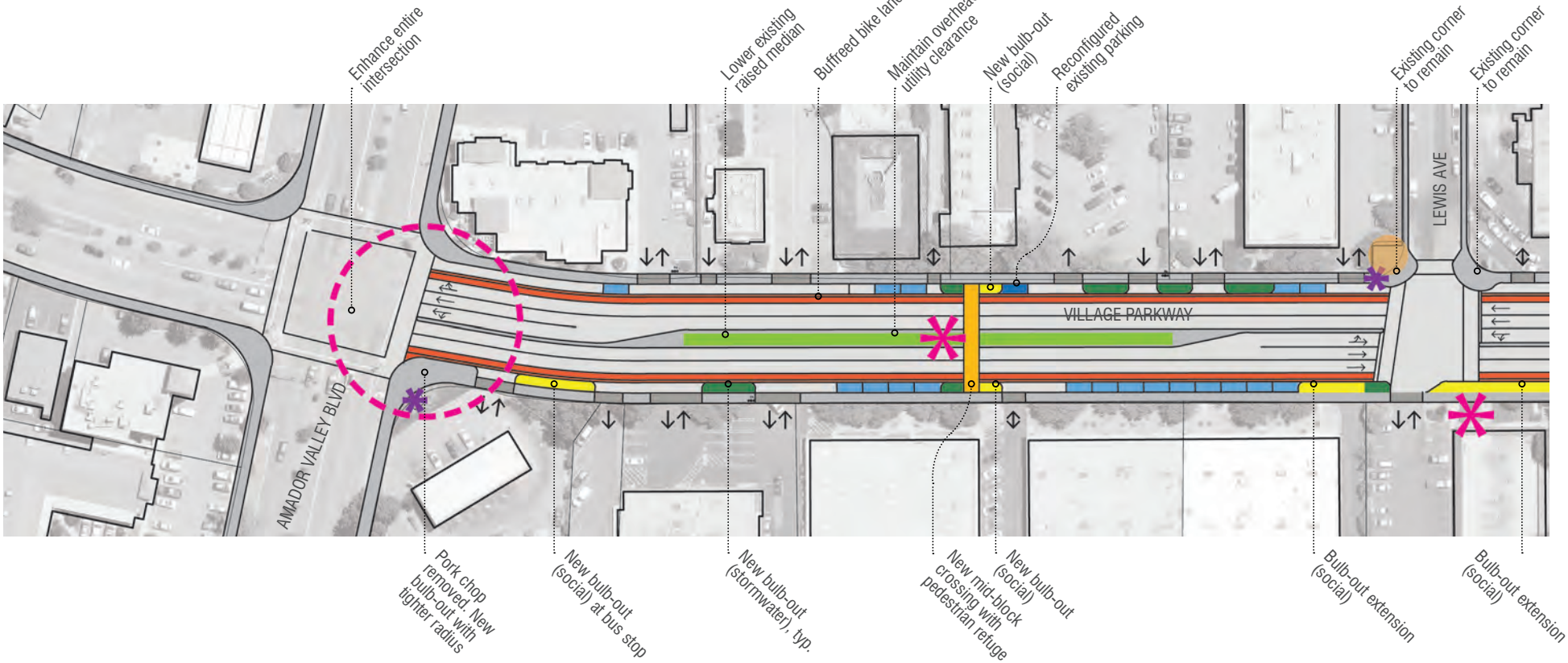
Opportunities

- Retains the existing sidewalk width, center median and turn pockets, and provides a bike buffer
- Evaluate selective driveway closures
- Possible 4-foot easements for sidewalk expansion
- Lower raised median
- Introduction of mid-block crossings with pedestrian refuge
- New bulb-outs in areas along curbs currently striped red
- Stormwater treatment located in bulb-outs along the sidewalk
- Extensions of existing bulb-outs
- Bulb-outs and/or tightening up of radii at intersection corners
- Striped or removal of pork chop configurations at intersections
- Trees at back of curb
- Paving improvements
- Utility relocation (fire hydrant, utility vaults, etc.) to back of curb
- Evaluate the possibity of reducing the width of the median and reallocating that space to bike lane and/or sidewalk

Challenges

- Sidewalk width remains 8-feet

Figure 12: Village Parkway Plan
(36 Parking Spaces)

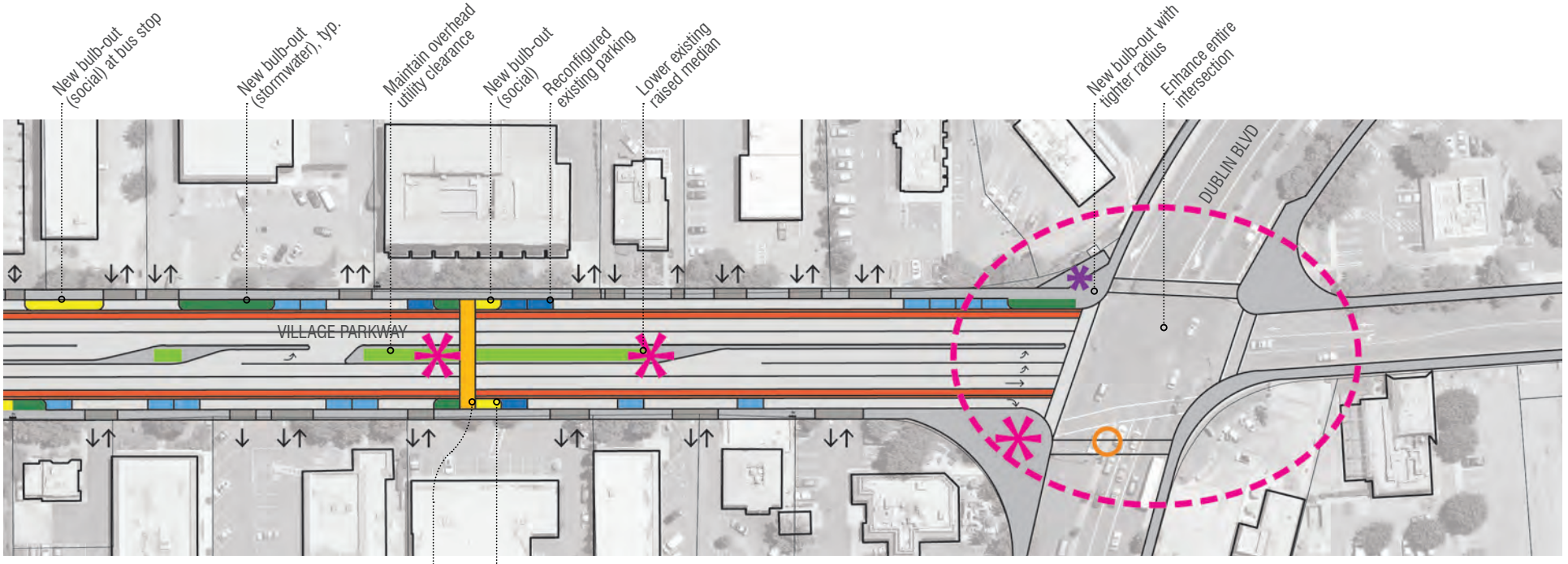


Legend

- Social Space
- Mid-block Crossing
- Bike Lane
- Stormwater Planting
- Street-side Parking
- Driveway
- Sidewalk
- Art Opportunity
- Gateway Opportunity
- Existing Public Art (ROW)
- Existing Identity Signage
- Existing Public Gathering Space

Notes:
1. for clarity of street space allocation, trees and furnishings are not shown.
2. Driveway consolidation locations are examples only and the actual location may vary.

Key Map



Legend

- Social Space
- Mid-block Crossing
- Bike Lane
- Stormwater Planting
- Street-side Parking
- Driveway
- Sidewalk
- Art Opportunity
- Gateway Opportunity
- Existing Public Art (ROW)
- Existing Identity Signage
- Existing Public Gathering Space

Notes:
1. for clarity of street space allocation, trees and furnishings are not shown.
2. Driveway consolidation locations are examples only and the actual location may vary.

3.4 THE CORE STREETS

A key component to the Downtown Dublin Preferred Vision is the new street grid of public and private streets that provide a traditional downtown format. The street grid provides a unifying framework that integrates varied activities and amenities into a coherent district. The Core streets are a key component in this framework and include the four blocks around the Town Square. The extension of Golden Gate Drive from BART through Downtown will become a new main street within a traditional street grid.

3.4.1 Design

The Core Streets are defined by their generous sidewalks creating a comfortable pedestrian realm that supports strolling, shopping, and dining, neighborhood socializing, and events. The Core Streets will serve as an extension of the Town Square in their ability to be closed off for pedestrian only events. The design details create a unique place for Downtown's main street.

Conceptual image of The Core from the Downtown Dublin Preferred Vision

4. IDENTITY AND ELEMENTS

Streetscape elements are the materials and features that compose a streetscape (e.g., paving, furnishings, planting, etc.). In addition to serving a functional purpose, the design and palette of these elements are means to express the Downtown identity. This section provides a conceptual identity and provides guidance and standards for new streetscape elements.

Examples of Downtown wayfinding and signage color palette

4.1 IDENTITY

An improved identity for Downtown Dublin will build from existing strengths – Dublin's stately trees; its public art; its signage which expresses Dublin's "shamrock" brand identity, and recent streetscape improvements on Golden Gate Drive. The identity will also build from the themes expressed by the community at public workshops – the desire for urban vibrancy, bold design statements, distinctive and artistic elements, places for socializing and gathering for all ages, incorporation of play, and decorative night-time lighting. The Downtown streetscape identity will further support the City's brand as "The New American Backyard" – a diverse, forward looking city, with a relaxed atmosphere that is unpretentiously ambitious and casually sophisticated.

Design motifs that support this identity are:

- Color:
  - » Warm browns, vibrant yellows and gold that express comfort and energy
  - » Greens, that express nature and the City's "Irish" identity
  - » Metallic / silver that expresses a future orientation
- Episodic use of bold, bright accent colors in planting, and temporary features that express artful, urban liveliness and transformation
- Patterns and textures: Celtic knot patterning, Irish tartan/plaid, and textures, but with modern materials and variation, expressing layering of influences and connectedness

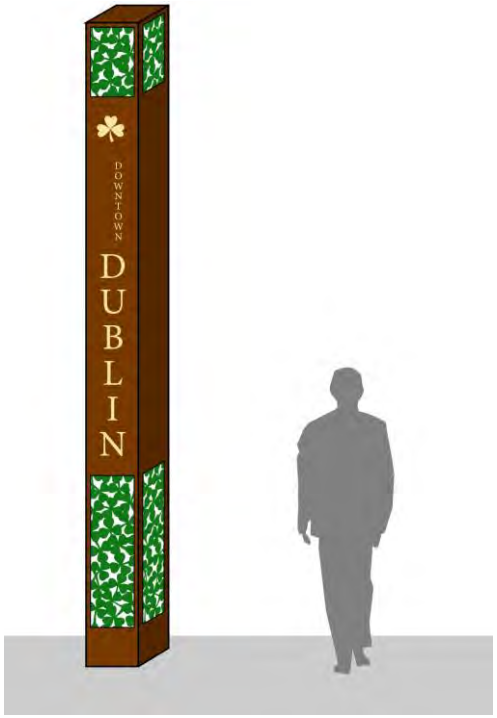
Examples of arched gateways in Oakland and Encinatas and monument entry markers in Burlingame

4.2 SIGNAGE + WAYFINDING

Guideline 4.2.1 Gateways

Use gateways to direct and welcome people to the Downtown district. Gateways elements such as arches or identifiable markers at primary entry points will signal to residents and visitors that they have arrived in Downtown Dublin.

An arch is recommended across Amador Plaza Road. In other locations, consider the use of gateway monuments if spanning the street is not feasible. Other gateway improvements are recommended at the intersection of St. Patrick Way and the I-680 offramp and on Dublin Boulevard at the intersection of San Ramon Road and may require collaboration with Caltrans.



Example of conceptual gateway pylon

4.2.2 Wayfinding

Dublin Boulevard has an existing signage and wayfinding system that uses monuments composed of shamrock cutout panels. Building off this shamrock design new Downtown sign standards that incorporate the shamrock in a unique way can be used on all Downtown streets to provide additional direction to help drivers, pedestrians, and cyclists easily navigate Downtown and arrive at their destination. Wayfinding and signage areas of improvement include:

Connections

Destinations that require better directional signage and safer links include the Iron Horse Trail, connections under the freeway, BART, and destinations beyond the limits of the Downtown district.

Bicyclists and Pedestrians

Signage for bicyclists and pedestrians should include directions to trails, public restrooms, and drinking fountains.

Retail

In key locations around the main retail streets, add pedestrian wayfinding signage to orient people to shops, dining, entertainment, and transit.

Street Signage

The shamrock shall be integrated into street name signs throughout Downtown.

Example of conceptual signage and kiosk

Possible ways to incorporate the Dublin shamrock in street signage

Painted intersection as art

Mosaic tiles inlaid in the ground

Sculpture as art in the median

Art on the sidewalk

Tiled mural on the wall

Existing wall mosaic as storytelling

4.3 ART

Through art, Dublin can tell a story about its history and values, the environment, and how the community sees itself in the future. Building on Downtown's existing public art pieces, the City has an opportunity to turn Downtown into a destination that gratifies, educates, inspires, and uplifts its community.

This plan identifies potential themes, locations, and types of art that would enhance the streetscape. Currently, the City requires all capital projects and private developments to reserve a portion of a project's budget for public art and the City's Public Art Master Plan describes the existing programs, policies, and guidelines. Art elements included as part of streetscape improvement projects would be subject to a selection process determined by the City and consistent with the Public Arts Master Plan.

Proposed Art Locations and Installation Types

Locate art in a manner that it is accessible and visible to the public. Prominent locations will increase appreciation of the art and make its location a destination that people will be encouraged to visit, stop, ponder, and with which they will want to interact. Such places can include intersections, plazas, medians, transit stops, and within the sidewalk. Locating seating nearby helps give the public a place to pause and appreciate the art. Vary the medium and scale of the art throughout Downtown to provide a range of sensory experiences, whether from afar or up close. Possible art and gateway locations and installation methods could include the following:

In the ground – Make use of the sidewalk surfaces to install historical plaques, mosaics, art walk, art as historic markers, or other two-dimensional artworks. Locate these near transit stops, seating areas, and places where people pause and will have ample opportunity to enjoy them.

In the median – Install larger art pieces such as sculpture or kinetic art that can be enjoyed by people crossing the street while pausing in median refuge islands. It may also be appreciated by those traveling by vehicle and by people on nearby sidewalks. Avoid blocking viewsheds near pedestrian crossings.

On the sidewalk – Similar to medians, artwork can also be installed in the furnishing zone within the sidewalk. Ensure that the art does not impede pedestrian movement, car parking, utilities, and sight lines near driveways and intersections.

Walls – Art installed on walls provides an opportunity to tell stories using, for example, murals and mosaics. It is possible to create wall art that allows for public interaction and social media appeal. This art approach would help give Downtown a social media presence.

Art benches –Install colorful art benches with a shamrock pattern, distinct from the standard Downtown bench, throughout the Downtown district. These benches should be comfortable and ADA compliant.

Art bike racks – Where space permits, consider the installation of art bike racks that are whimsical and colorful. These could be designed in the shape of the Dublin shamrock. These bike racks should also be secure and functional.

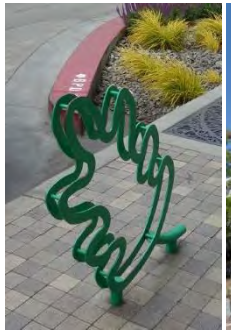
Kinetic – Art that responds to the natural elements whether wind, sun, seasons, movement or other is a successful way to activate spaces. Kinetic art could highlight sustainable energies and generate energy used to power nearby art, lighting, or signage features.

Utility box art – Continue to wrap art around utility cabinets. Consider working with an artist and schools to allow children to participate in the design process. Continue to integrate the shamrock and explore other designs, similar to the playful appearance of utility cabinets in Oakland and other Alameda county cities.

History – Incorporate art that interprets Dublin's history, such as the crossroads of Dublin. Other options include art that educates the community about respected and famous people that have come from or influenced the story of Dublin.

Underpasses – Continue to maintain and upkeep the murals underneath Interstate 680.

Example of art benches in Palo Alto



Bike rack art

Kinetic art

Utility box

Interactive art for social media

4.4 PAVING

Example of paving pattern on Goldend Gate Drive.

Example of herringbone paving pattern in a median.

Pavement replacement can take place incrementally as improvements are made to private parcels or public infrastructure in the right-of-way. With a paving material selected, future paving replacement is to reflect it. As more paving is installed, its appearance will become more continuous and legible, helping to identify the limits of Downtown Dublin. Install paving replacement in the median and behind the curb in the sidewalk furnishing zone and throughway as well as intersection corners and bulb-outs where planting is absent.

Guideline 4.4.1 Sidewalk Paving

Sidewalk paving patterns and colors are inspired by the recent improvements on Golden Gate Drive. Based on the extent of the improvements, install sidewalk paving as follows:

Use City Standard concrete mix with 1-1.5 pounds of Lampblack, introducing interlocking concrete pavers (permeable, where possible) in accent bands every 30 feet, similar to Golden Gate Drive. Bands are to be eight-feet wide and should extend from the back of curb to back of sidewalk.

When possible, implement sidewalk paving improvements on an entire street basis. When smaller segments of a street sidewalk are improved, study the adjacent existing conditions. If accent pavers are already present, continue the pavers using the 30-foot spacing to create an identifiable rhythm along the entirety of the street.

Guideline 4.4.2 Median Paving

Use a four-inch by eight-inch permeable paver in a herringbone pattern within the median. The color is to be similar to the dominant color proposed in the sidewalk. Provide a 20-inch paver strip around planting for maintenance that is retained with an edge restraint. In medians less than 12 feet wide, eliminate pavers and use a walkable planting groundcover.

4.5 STREET FURNISHINGS

The following furnishing guidelines provide consistency throughout the Downtown. Materials have a contemporary appearance in form and material. Consider "art" furnishings to create spontaneity and to add vibrant colors (see Section 5.2). The furnishings listed below are all pre-approved and may only be substituted with a similar design upon approval of the Community Development Director and Public Works Director.

Guideline 4.5.1 Seating

Bench, typical – The typical bench should have a modern appearance and incorporate wood and a metal frame. The bench should include a back and armrests at the bench ends. Wood is to be unfinished, durable, and sustainably harvested. Approved bench is manufactured by Generation 50 with Jarrah wood and black powder coated legs.

Generation 50 bench from Landscape Forms

Art bench – Design an art bench for the Downtown district that is whimsical, ADA compliant, and that varies in paint color throughout the Downtown. The bench could be customized to include shamrock motifs. Install art benches in locations with greater visibility and pedestrian movement including mid-block crossings, gateway intersections, and near BART.

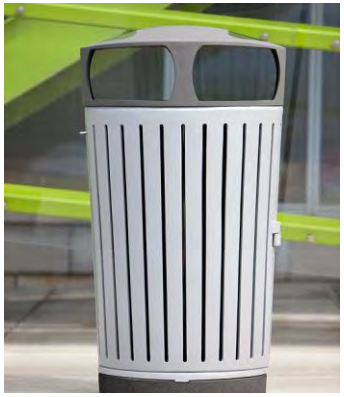
Example of a bench with custom cut-outs

Bench lengths will vary based on available space. An ideal layout would have benches face each other perpendicular to the curb to encourage social interaction with four to five feet of space between benches. Where space is insufficient in the furnishing zone (see Figure 7 – Sidewalk Layout in Chapter 2), run benches parallel to the curb in the furnishing zone, facing the building rather than the street to participate in pedestrian street life rather than the busy traffic in the roadway. Provide a minimum 2-foot clearance between the face of curb and the back of bench, regardless of orientation. Set benches back a minimum of 18 inches from the pedestrian throughway when installed parallel to the street. As street seating layouts are designed, provide a minimum 30-inch by 48-inch clear zone adjacent to benches for wheelchairs. A majority of benches installed are to have back support, armrests, and seat heights between 17 to 19 inches.

Guideline 4.5.2 Bike Racks

Bike racks are to be a shamrock-shaped, have two points for locking, and meet the design guidelines of the Bicycle and Pedestrian Master Plan. Colors are to vary throughout Downtown. The custom bike rack is available from Dero.

Example of shamrock-shaped bicycle racks




Examples of single and split stream powdercoated receptacles

Existing tree grate in Dublin

Existing tree grate with holes for stakes


Existing art and standard bus shelters in Dublin

Guideline 4.5.3 Trash and Recycling Receptacles

Provide black powder coated recycling, trash and compost receptacles throughout the Downtown at intersections and mid-block crossings. Recycling receptacle is to be single stream. Receptacles are to be clearly labeled to communicate the desired waste stream. Trash receptacles are to have wide-mouthed openings to accept larger pieces of trash. Approved receptacles are manufactured by Dispatch by Forms + Surfaces.

Guideline 4.5.4 Tree Grates

Tree grates are to be powder coated black matte and are to match those already in use in the Downtown (Kiva by Urban Accessories). These should measure four feet by eight feet and only be smaller (16 square feet, minimum) if constrained by space. Grates are to be ordered with a center opening expansion of a minimum two feet, six inches to reduce long term maintenance issues when the tree trunk expands. To accommodate tree stakes, knock-outs are to be provided with cover plates to screw into holes when stakes are removed. Provide a minimum of two stakes and three stakes where subject to high winds.

Guideline 4.5.5 Bus Shelters

Retain the existing Public Art Bus Shelters on Amador Valley Boulevard. With the exception of Rapid Bus shelters which are Tri Valley wide, replace all old bus shelters with the new City/LAVTA City standard bus shelter. Coordinate with LAVTA for changes to bus shelters.

4.6 STREET LIGHTING

Street lighting plays an important role in the identity of a district. Similar to trees, streetlights are a memorable vertical element that create a visible rhythm when spaced appropriately. When poles are spaced too far apart, their rhythm is broken by myriad competing visual elements in the surroundings. Furthermore, streetlights provide an opportunity to clearly brand a district through the use of a distinctive decorative pole with banners hung from the side. Incorporate alternating roadway and pedestrian-scaled poles. On the backside of roadway poles, provide pedestrian scale fixtures at the same height as the fixtures on pedestrian poles to safely illuminate the sidewalk path of travel. Roadway poles should be strong enough to support a catenary system running overhead banners or lights across intersections as well as comply with fire code height requirements. On Commercial Throughways, Downtown Local streets, and at intersections, provide poles with GFI receptacles for event power in the base. To limit light pollution, light fixtures are to be full cut-off fixtures and LED. Poles and fixtures are to be powder coated (RAL color to be determined). Retain the recently installed streetlights on Golden Gate Drive to reduce waste and costs.

Prioritize Commercial Throughways, then Downtown Local streets, and finally Crosstown Boulevards +Parkways. Street lighting improvements are encouraged to be reviewed and installed on a block-by-block to provide a uniform, safe, and consistently lit street.

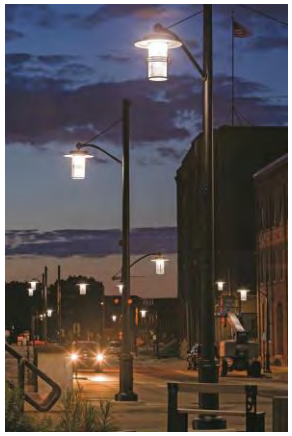
Guideline 4.6.1 Roadway Lighting

In the median, provide a twin head model (preferred) or cobraheads to meet photometric requirements, if necessary. In the sidewalk, provide a roadway fixture facing the street and a pedestrian fixture at a lower height on the back of the pole.

Guideline 4.6.2 Pedestrian Lighting

Between roadway poles in the sidewalk, provide a pedestrian pole from the same roadway pole family with a matching fixture to augment lighting for pedestrians. Poles and fixtures are to be powder coated (RAL color to be determined). In the case of Golden Gate Drive, do not replace the recently installed streetlights.

Example of twin head roadway lighting in the median



Example of roadway lighting with pedestrian lighting on back of pole

Example of post top pedestrian lighting in a similar style to the roadway lighting

Example of banner arms

Street light on Golden Gate Drive

Example of trees wrapped in string lights

Guideline 4.6.3 Banner Arms and Pole Attachments

Banners that highlight community interests can be designed to fasten to existing street poles. Install banner arms on all roadway poles with integrated mounts for break-away arms to allow for banners to be hung celebrating the City of Dublin, Downtown, and any seasonal events that are taking place. Additionally, decorative LED lights mounted on street poles can be added that project RGB color-changing lighting on paving surfaces and can be controlled and dimmed.

Guideline 4.6.4 String Lights and Twinkle Lights

Downtown Dublin is a destination that should feel lively during the day and night. Twinkle lights add to a street's sense of place at night, identifying it as a special evening destination. To encourage use of the Downtown during the evening, install twinkle lights first on Commercial Throughway streets (Village Parkway and Amador Plaza Road), and then on Regional Street, Golden Gate Drive and future Downtown Local streets as shown in Figure 2. Evaluate the success of the lights on a seasonal basis, then consider extending the use of twinkle lights on a year-round basis. Where twinkle lights are used, provide a maintenance plan to ensure that string lights around trunks and branches do not inhibit tree growth and are restrung when required. Standing power receptacles for lighting are not permitted in tree wells and should be installed in adjacent J-Boxes, as required, and in coordination with an electrical engineer and meeting code requirements.

4.7 STREET TREES

A street's unique character is strongly tied to the tree species found on it. Design approach and technical considerations are in Appendix 5.0 Technical Information.

4.7.1 Tree replacement

As Downtown street trees age and require replacement, or as new development improvements trigger updates to the public realm, install the approved trees for each specific street. Where gaps in the Downtown urban forest exist, install new trees. Trees in the sidewalk are to be installed with the approved City tree grate.

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APPENDIX

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5. PLANNING AND COMMUNITY PROCESS

The planning process undertaken as part of the preparation of the Plan involved outreach with the public, City Council, landowners, business owners, etc. This included: one-on-one and small group stakeholder interviews, two community workshops, and online surveys.

5.1 STAKEHOLDER OUTREACH AND COMMUNITY WORKSHOPS

A series of stakeholder meetings were held to gather insights into community perspectives, objectives and actions, concerns, and measures of success on the Plan. The sessions addressed a series of questions:

- What defines Dublin's Downtown and what are its unique strengths?
- List the top objectives for the future of Downtown Dublin Streetscape design.
- List the top concerns about the future of Downtown Dublin Streetscape design.
- Suggest strategies or actions that could help achieve these objectives.
- List measures by which you will judge the success of the Dublin Downtown Streetscape planning process?

The first community workshop was scheduled to listen and learn from the public about their specific needs and desires as they relate to the public streets and spaces that make up Downtown Dublin. The meeting consisted of a presentation of the project, scope of improvements, existing conditions, and opportunities and constraints. The attendees then broke into small groups to discuss and comment on Street Character, Circulation and Traffic, Public Spaces + Street Life, and Identity, Art + Wayfinding.

The second community workshop focused on identity, gateways and art, and street plans for the Downtown streets. The community reviewed prepared alternatives for the distribution of space for two streets to make them safer and more pedestrian-friendly. Input was solicited after the presentation and during a break-out session where community members approached boards closely and inquired and commented on the material.

Stakeholders and consultants discuss the opportunities in Downtown at the first workshop

Community members discuss circulation and traffic concerns at the first workshop

Community members provide input on preferred streetscape elements as well as Village Parkway and Regional Street alternatives at the second workshop

6. TECHNICAL INFORMATION

6.1 STREET TREES AND UNDERSTORY PLANTING

Design Approach and Technical

- Community preferences include a variety of trees that have a strong visual impact, flower, provide seasonal change and shade, and have low allergy-inducing potential.
- Provide each street with a unique identity.
- Use a variety of trees to reduce the risk of large-scale tree loss due to disease.
- When multiple tree species are used on a street, group tree species in a discernible pattern that provides rhythm and structure to the street.
- Provide continuity along Dublin Boulevard, the backbone of the street network in Dublin.
- Planting to be climate adapted.
- Planting to be low, drought and recycled water tolerant.
- Planting to be low maintenance and suitable for urban conditions.
- Tree guards are to be avoided due to maintenance concerns and delayed removal which impacts a tree's trunk and health.
- Plant accent trees intermittently throughout Downtown in social gathering areas and medians.

Example of drought tolerant planting

Example of colorful foliage in the fall

Street Tree Planting Guidelines

Size

Recommended nursery grown container sizes is 36-inch box. Trees are to have a minimum two-inch caliper at breast height.

Tree Species by Street

Each street is to have a consistent and unique palette of street trees in the sidewalk and, where available, in the median (see Figure 13).

Street	Existing Species	Proposed Species
Amador Valley Boulevard	London Plane, Crape Myrtle	Quercus coccinea – Scarlet Oak (sidewalk) Zelkova serrata 'Musashino' – Musashino Zelkova (median) Quercus virginiana –
Dublin Boulevard	London Plane, Crape Myrtle	Platanus x acerifolia – London Plane Tree (sidewalk) Lagerstroemia x indica – Crape Myrtle (median) Zelkova serrata 'Musashino' – Musashino Zelkova (median) Quercus virginiana – Southern Live Oak (median)
St. Patrick Way	Calleryana Pear	Zelkova serrata – Zelkova (sidewalk)
Regional Street	Calleryana Pear	Koelreuteria paniculata – Golden Rain Tree (sidewalk) Cercis canadensis – Eastern Redbud (accent)
Golden Gate Drive	Calleryana Pear, Pink	Gleditisia triacanthos inermis 'Shademaster' – Thornless Honey Locust (sidewalk) Lagunaria patersonii – Primrose Tree (median)
San Ramon Road	Raywood Ash, Calleryana Pear, Crape Myrtle, Strawberry Tree, Chinese Pistache	Pistacia chinensis – Chinese Pistache (sidewalk) Zelkova serrata 'Musashino' – Musashino Zelkova (median) Quercus virginiana – Southern Live Oak (sidewalk and median)
Amador Plaza Road	Ornamental Pear	Ulmus parvifolia – Chinese Evergreen Elm (sidewalk) Cercis canadensis – Eastern Redbud (accent)
Village Parkway	Calleryana Pear, Crape Myrtle, Purple Leaf Plum, Eastern Redbud	Acer rubrum 'Armstrong' – Red Maple (sidewalk) Carpinus betulus fastigiata– Columnar Hornbeam (median) Cercis canadensis – Eastern Redbud (accent)
Future Downtown Local Streets	n/a	TBD – Selected species will be determined with the design of the street based on the guidelines

Figure 13: *Proposed Tree Species by Street*

Note: Accent Trees are to be located intermittently throughout Downtown in social gathering areas and medians.

Soils

Tree openings – Tree opening dimensions in the sidewalk will vary depending on sidewalk widths. A minimum of 32 square feet is to be provided. A minimum width of four feet is recommended.

Soil volume – To ensure greatest potential for large canopy trees, soil volumes are to provide 20 cubic yards of amended soil beyond the root ball. A minimum of 12 cubic yards is recommended, with a soil depth of 42 inches. Soil volumes will vary due to constraints such as existing utility trenches, and infrastructure offset requirements, and foundations. Where possible, soil trenches between trees should connect to one another, effectively expanding the amount of soil available to adjacent trees.

Soil Cells – Soil Cells, ex. Silva Cells, are a suspended pavement system and are recommended for use behind the curb in order to provide trees with an expanded soil volume. This results in larger trees which are able to better shade streets and intercept rain before it runs off into stormwater systems. Where permeable paving systems are proposed, tree roots in soil cells create a porous soil that assists with treating and infiltrating stormwater. It is possible to integrate the cells with both existing and proposed utilities.

Mulch – Tree wells are to be covered with a three-inch layer of aged compost to assist in retaining water and to prevent temperatures from rising, helping to reduce irrigation demand.

Tree grates – Tree grates are required. See Section 5.4 Street Furnishings for tree grate information. Manufacturer is to remove inner rings from grate to provide adequate space for tree trunk to grow freely without encountering resistance. Grates are to be ordered with holes provided for tree stakes to avoid having to install stake in grate opening over the tree root ball. Request lids to cover holes when tree stakes are removed.

Tree stakes – Use non-treated wooden three-stake arrangement and tree ties are to be provided.

Root barriers – Root barriers are required when tree is within five feet of pavement.

Tree canopy in relation to provided soil volume

Suspended pavement systems allow for expanded soil volumes for tree roots

Irrigation

All street trees should receive two bubblers at the rootball. If soil volume extends beyond the tree well, for example through the use of soil cells, drip irrigation is to also be provided. In preparing planting and irrigation designs, anticipate the use of recycled water, even if not immediately available at the time of installation.

Location

Trees are to be planted at the back of curb in the furnishing zone to allow for a clear pedestrian path of travel in the sidewalk throughway and to help buffer traffic and pedestrians. Space trees every 10-30 feet for mature growth (see pages 67-71 for spacing by species) with the intent of providing a continuous canopy. Allow for flexibility to accommodate a greater number of trees planted if a typical spacing is not achievable. Early on in the design process, discuss and agree with City Staff on the canopy goals and desired tree spacing.

Tree locations are to take into consideration City guidelines and required offsets from sightlines, street lights, and utilities and furnishings. Adjacent to parking spaces, locate tree wells a minimum of 18 inches from the face of curb to allow for passengers to enter and exit vehicles easily. Avoid locating trees in front of ADA parking spaces and in bus drop-off and pick-up zones where ADA ramp deployment space is necessary. Typical offsets include:

- Traffic and stop-controlled intersection (near side) – 20 feet
- Traffic and stop-controlled intersection (far side) – 5 feet
- Driveways – 5 feet
- Utilities – 5 feet from the utility lateral center line
- Vaults – 5 feet or vault door openings, whichever is greater
- Street lights – 10 feet
- Street furnishings – 3 feet

In medians, propose large trees in the non-turn pocket areas. Where turn pockets narrow the median, use columnar and upright trees which are better suited to smaller constrained spaces.

Understory Plantings

Understory plantings soften the appearance of a downtown where hardscape is often the dominant surfacing. In addition to their beauty, understory plantings provide multiple benefits – reducing stormwater runoff, providing habitat, and helping to calm traffic.

In the Downtown district, limit understory planting to medians, bulb-outs, and stormwater treatment areas, in an effort to maximize space for pedestrians on sidewalks that in their existing conditions are narrow in width. At-grade planting in planter strips or tree wells within the furnishing zone may be acceptable pending approval and an approved maintenance plan by the City prior to installation. All planting beds must take into consideration any step-out zone required for parked cars.

Selection and Location

Use drought tolerant, native, and climate-appropriate species. Select plants that will attain a natural form without pruning and shearing to achieve a desired shape. For safety and visibility, use species that do not surpass 36 inches in height. Irrigate all understory planting and ensure species are tolerant of recycled water.

The low and medium-size shrubs, perennials and stormwater plants provide a common palette and should be selected to fit the area to be planted. Low shrubs and perennials are appropriate in all locations and are ideal at corners, intersections, mid-block crossings, where pedestrian visibility is critical, and sightlines are to be maintained. Larger plants are more appropriate for medians and sidewalk planting areas where widths are greater and in scale with their size.

Example of median planting

Raised Plants and Potted Plants

Raised planters and potted plants are permitted if irrigated and if they do not block the pedestrian throughway in the sidewalk. Where vaults are located in planting beds, provide sufficient space to accommodate vault doors when open.

Example of potted plants

Hanging Baskets

Hanging baskets, if used continuously along an entire street, can reinforce a sense of arrival and destination. Downtown Dublin should evaluate the use of hanging baskets on slower commercial streets such as Village Parkway, Amador Plaza Road, and Regional Street. Implement hanging baskets only if a robust maintenance plan is in place given the amount of attention required on a seasonal basis to replace plants and maintain their visual appeal.

Hanging baskets provide added color and character to a street

At-Grade Planter Design

Each planter design should be bold in approach, relying on broad swaths and drifts of similar plant species. Where multiple species are proposed in the same median or planter, design using species of a similar color palette to maintain consistency. Avoid deciduous understory plants and plants that require shearing.

Provide a 20-inch maintenance strip of permeable pavers around planting beds in medians.

Design stormwater planting palettes to minimize species complexity to avoid small messy areas. Species included in bioretention areas should be adapted for dry conditions with some intermittent ponding and are to be tolerant of recycled water.

Propose aged compost as mulch which retains moisture, adds nutrients to the soil, and does not heat up.

Trees

Species: Acer rubrum 'Armstrong'

Common Name: Red Maple

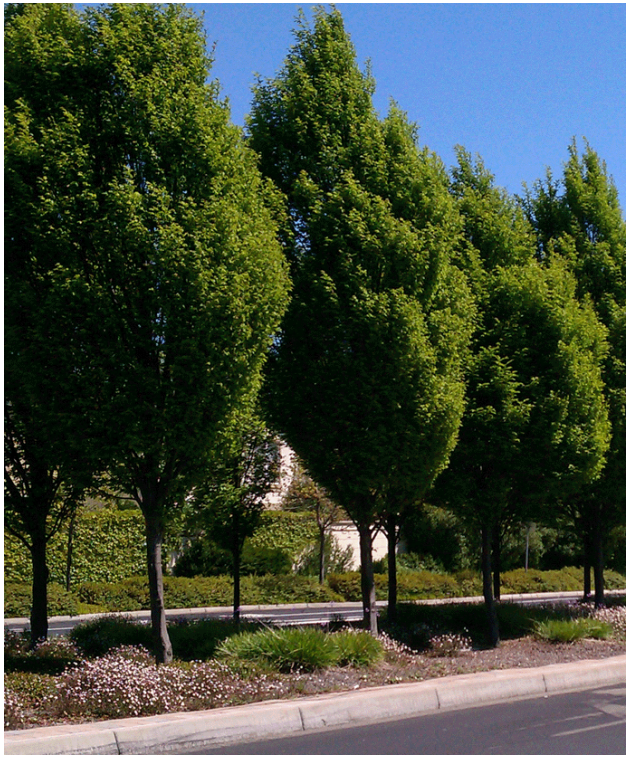
Size: 40' H x 30' W

Form: Rounded to oval

Characteristics: Deciduous. Orange red fall foliage color.

Spacing: 25'

WUCOLS: Moderate



Species: Carpinus betulus 'Fastigiata'

Common Name: Columnar Hornbeam

Size: 30' H x 20' W

Form: Columnar or oval-shaped

Characteristics: Deciduous. Yellow to orange fall foliage color, smooth gray bark with distinctive fluting.

Spacing: 15'

WUCOLS: Moderate

Species: Cercis canadensis

Common Name: Eastern Redbud

Size: 15' H x 15' W

Form: Rounded

Characteristics: Deciduous. Rose-purple flowers in spring.

Spacing: 10'

WUCOLS: Moderate

Species: Gleditisia triacanthos inermis 'Shademaster'

Common Name: Thornless Honey Locust

Size: 45'H x 35' W

Form: Oval or Umbrella Shape

Characteristics: Deciduous. Yellow fall foliage color.

Spacing: 30'

WUCOLS: Low

Species: Koelreuteria paniculata

Common Name: Golden Rain

Tree Size: 30' H x 35' W

Form: Round

Characteristics: Deciduous. Showy yellow flowers and attractive reddish seed pods.

Spacing: 30'

WUCOLS: Moderate

Species: Lagerstroemia x indica sp.

Common Name: Crape Myrtle

Size: 10' H x 10' W

Form: Rounded, umbrella or vase shape.

Characteristics: Deciduous. Showy flowers in summer. Red foliage in the fall.

Spacing: 10'

WUCOLS: Low

Species: Lagunaria pattersonii

Common Name: Primrose Tree

Size: 30' H x 30' W

Form: Oval

Characteristics: Evergreen. Pink star-shaped flowers.

Spacing: 30'

WUCOLS: Low

Species: Pistacia chinensis

Common Name: Chinese Pistache

Size: 25' H x 25' W

Form: Rounded

Characteristics: Deciduous. Fall color in shades of yellow, orange and red.

Spacing: 20'

WUCOLS: Low

Species: Platanus x acerifolia

Common Name: London Plane Tree

Size: 75' H x 60' W

Form: Rounded to oval

Characteristics: Deciduous. Brown bark exfoliates in irregular pieces to reveal creamy white inner bark.

Spacing: 30'

WUCOLS: Moderate

Species: Quercus coccinea

Common Name: Scarlet Oak

Size: 70' H x 50' W

Form: Pyramidal

Characteristics: Deciduous. Scarlet foliage color in fall.

Spacing: 30'

WUCOLS: Moderate

Species: Quercus virginiana

Common Name: Southern Live Oak

Size: 40' H x 60'W

Form: Rounded

Characteristics: Evergreen. Showy brown acorn and attractive green foliage.

Spacing: 30'

WUCOLS: Moderate

Species: Ulmus parvifolia

Common Name: Chinese Evergreen Elm

Size: 40' H x 50' W

Form: Rounded, umbrella shape

Characteristics: Partly deciduous. Multi-colored, mottled bark.

Spacing: 30'

WUCOLS: Low

Species: Zelkova serrata ‘Musashino’

Common Name: Musashino Zelkova

Size: 40’ H x 10’ W

Form: Upright and columnar

Characteristics: Deciduous. Red to yellow-orange foliage color in the fall.

Spacing: 10-15’

WUCOLS: Moderate

Species: Zelkova serrata

Common Name: Zelkova

Size: 50’ H x 50’ W

Form: Rounded, umbrella shape

Characteristics: Deciduous. Red to yellow-orange foliage color in the fall.

Spacing: 30’

WUCOLS: Moderate

Medium Sized Shrubs

Anigozanthos spp.
Kangaroo paw
Size: 2-6ft x 2-3ft
WUCOLS: Low

Arctostaphylos densiflora 'Harmony'
Harmony manzanita
Size: 3-4ft x 6ft
WUCOLS: Low

Calamagrostis x acutiflora 'Karl Foerster'
Foerster 's feather reed Grass
Size:2-3ft x 2-3ft
WUCOLS: Moderate

Callistemon 'Xera Compact'
Green bottlebrush
Size: 3-4ft x 3ft
WUCOLS: Unknown

Callistemon 'Little John'
Little John Bottlebrush
Size: 3-5ft x 3-5ft
WUCOLS: Low

Dietes bicolor
Fortnight lily
Size: 2-3ft x 2-3ft
WUCOLS: Low

Dietes iridiodes
Fortnight lily
Size: 3ft x 3ft
WUCOLS: Low

Epilobium canum
California fuchsia
Size: 3ft x 3ft
WUCOLS: Low

Muhlenbergia rigens
Deergrass
Size: 4-5ft x 4-5ft
WUCOLS: Low

Pittosporum tobira 'Wheeler 's Dwarf'
Wheeler 's Dwarf Mock Orange
Size: 2ft x 3ft
WUCOLS: Low

Low Shrubs and Perennials

Achillea millefolium
Yarrow (CA native cultivars)
Size: 2ft x 2-3ft
WUCOLS: Low

Calandrinia spp.
Rock Purslane
Size: 1ft x 2-3ft
WUCOLS: Low

Ceanothus gloriosus
Point Reyes Creeper
Size: 2ft x 6ft
WUCOLS: Low

Correa 'Dusky Bells'
Australian fuchsia
Size: 1-2ft x 2-3ft
WUCOLS: Low

Frangula californica 'Seaview'
Seaview coffeeberry
Size: 2-3ft x 6ft
WUCOLS: Low

Grevillea lanigera Prostrate
Prostrate woolly grevillea
Size: 2' x 4'
WUCOLS: Low

Lantana 'New Gold'
New Gold Lantana
Size: 2ft x 6ft
WUCOLS: Unknown

Lomandra longifolia 'Breeze'
Spiny Headed Mat Rush
Size: 2-3ft x 2-3ft
WUCOLS: Low

Rosmarinus officinalis 'Mozart'
Mozart rosemary
Size: 2-3ft x 4-6ft
WUCOLS: Low

Stormwater Plants

Carex divulsa
Berkeley Sedge
Size: 1.5ft x 2ft
WUCOLS: Low

Chondropetalum tectorum
Cape rush
Size: 3ft x 3ft
WUCOLS: Low

Epilobium canum
California fuchsia
Size: 1ft x4ft
WUCOLS: Low

Fragaria chiloensis
Strawberry
Size: 6in x spreading
WUCOLS: Moderate

Frangula californica
Coffeeberry
Size: 3ft x 6ft
WUCOLS: Low

Iris douglasiana
Douglas Iris
Size: 1-2ft x 2-3ft
WUCOLS: Low

Juncus patens
California Gray Rush
Size: 1-2ft x 1-2ft
WUCOLS: Low

Lavandula spp.
Lavender
Size: 1.5ft x 1.5ft
WUCOLS: Low

Leymus triticoides
Creeping Wild Rye
Size: 3ft x 1ft
WUCOLS: Low

Mimulus aurantiacus
Monkeyflower
Size: 3-4ft x3ft
WUCOLS: Very Low

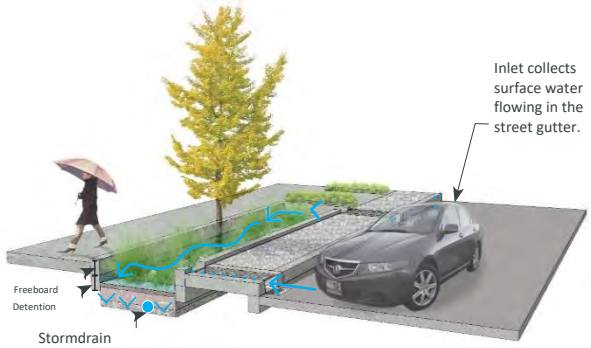
Muhlenbergia rigens
Deergrass
Size: 3ft x 3ft
WUCOLS: Low

Pittosporum tobira 'Wheeler 's Dwarf'
Wheeler 's Dwarf Mock Orange
Size: 2ft x 3ft
WUCOLS: Low

6.2 GREEN INFRASTRUCTURE

Stormwater planters at bulb-outs capture runoff before entering the storm drain system

Seating areas and stormwater planters define intersection corners in Healdsburg, CA



Stormwater is cleansed as it flows through the planter and filters down to the subgrade drain

Green infrastructure refers to a set of landscape and engineering techniques used to reduce stormwater runoff and the square footage of non-porous material while cleansing stormwater locally and alleviating flooding in downstream stormwater infrastructure. Examples of streetscape green infrastructure include stormwater planters, and porous pavement. Stormwater runoff is slowed as it flows through these specially designed systems, removing pollutants such as sediment, trash, and motor oil, before stormwater runoff is discharged to the storm drain system, local creeks, and ultimately San Francisco Bay. Pollutants in the stormwater runoff are removed by the soil and plants in green infrastructure systems.

In addition to ecological benefits, green infrastructure enhances the pedestrian experience and the visual appearance of a street, providing greenery, shade, color, and change of season through flowers and leaves. These characteristics enhance the sense of place and help reinforce a Downtown's identity.

At the start of each streetscape project design, a Geotechnical Report that details soil conditions and the soil's ability to accept and infiltrate runoff will be required, as well as consideration for which of the Best Management Practices (BMPs) below are appropriate for the project site. Refer to the City's Green Infrastructure guidelines for the most current requirements.

Development within Downtown will be required to follow the City's standards for Green Infrastructure as they apply to a project's site.

Components of a green infrastructure system may include:

- Flow Through Planters

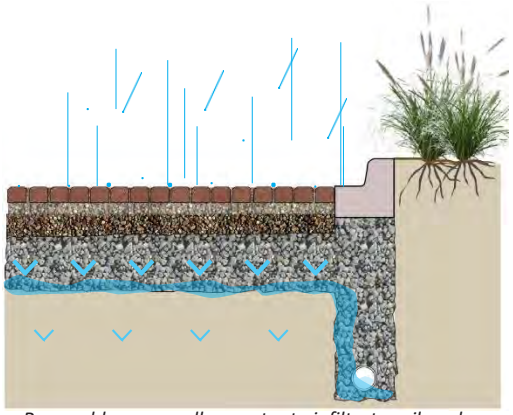
  Flow through planters are a vegetated approach to treating stormwater, typically in contained concrete "boxes" located behind the curb in bulb outs, furnishing zones, or medians. Stormwater runoff flows through an opening in the curb face, where it collects in the planter, is treated, and infiltrates either into the soil, or is detained for a slow release through an underdrain. Flow through planters allow for pollutants and debris to settle out of the stormwater before infiltration or release. If there is parking, ensure that a step-out zone separates the planter from the curb face.

- Permeable Pavers

  Permeable interlocking concrete pavers can be used for stormwater treatment. Stormwater hits the pavement, passing through the paver joints rather than running off untreated into gutters and the storm drain system. Water percolates through a rock base which acts as a reservoir and stores water in the porous space between rocks as the water infiltrates into and is cleaned by a soil subbase. The pavers can also be used for stormwater detention. If the soil is not suitable for infiltration, a drainage system can be installed to collect water that does not infiltrate and carry it back to a storm drain system. In this case, the permeable paver system acts as a reservoir slowing the movement of water downstream and not overloading the storm drain system. Compared with stormwater planters, permeable pavers can potentially reduce maintenance costs if planting and soils require more frequent maintenance and replacement. Permeable pavers can be used in the accent band of the sidewalk following the Golden Gate Drive pattern, parking aisles, and roadways and intersections depending upon speeds and use. Aesthetically, the color and texture of permeable pavers provides an enhancement over standard concrete or asphalt.

Example of a bulb-out used to capture stormwater runoff

Example of a flow through planter



Permeable pavers allow water to infiltrate soils or be conveyed to a storm drain system

Green Infrastructure Maintenance

When deciding which green infrastructure solution to implement, evaluation of the short and long-term maintenance requirements is needed to ensure that these factors and life costs are incorporated into a project's budget.

6.3 UTILITIES

Example of utility boxes grouped together to reduce visual clutter in the sidewalk

Example of an above ground utility box integrated into the streetscape

Locate utility lids and vaults in clustered groups to reduce their footprint within the sidewalk and to limit their impact on the placement of trees and street amenities. Position these clustered groups where trees are not allowed such as near street corners and adjacent to streetlight poles. Align proposed utilities perpendicular to the curb and at the back of the curb. If possible, relocate existing utility lids and vaults to the back of curb.

This will open up opportunities for trees and planting, creating a greener and more sustainable street. When required or advantageous, relocate existing utilities to facilitate an improved streetscape design that maximizes space for trees and improves the pedestrian experience. Project owners are responsible for the costs associated with relocating existing utilities, as required by their project.

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7. MAGNITUDE OF COSTS

PROJECT TYPE		ESTIMATED COST RANGE / ALLOWANCE
TIER 1 & 2 IMPROVEMENTS		
Art	Art installation costs are dependent upon the art medium, size, and installation method. Installation can include impressions in concrete, to large sculptures located in the median.	$5,000 - $100,000+
Pavement	Sidewalk and median pavement improvements include interlocking concrete pavers, concrete paving, and sub-base.	$25-$35/sf (Interlocking concrete pavers, pedestrian)
Bulb-out	Bulb-out improvements include new curb and gutter, pavement improvements, drainage, and stormwater planting. Amenities such as furnishings or art are listed separately below.	$25,000 -$35,000 (Bulb-out)
Site furnishings	Site furnishings include: -Benches -Bike racks -Trash, recycling, and compost receptacles - 4' x 8' tree grates - Bus shelters	$3,000-$4,000 (Bench) $1,000-$1,500 (Bike rack) $2,000-$2,500 (Trash/recycling/ compost receptacle) $5,000 (Tree grate) $15,000-$25,000 (Bus shelter)
Stormwater treatment	Stormwater treatment includes the cost to introduce a stormwater planter area at a corner bulb- out or install a flow through planters behind the curb. The cost includes piping and drain within the stormwater planter.	$400-$500/lf (Stormwater
Tree replacement	Tree replacement includes the cost to install a 24" box tree with soil and staking. Cost excludes tree grate (see above) and irrigation.	$3,000 (Tree replacement)
Silva Cells	Silva Cell costs will vary based on the number of cells proposed for each tree. This cost range includes 6 cells per tree, including excavation, labor and materials, sub-base and base course over the cells. It excludes paving, tree or soil.	$7,500 - $12,000 (Silva cells per tree)
Gateways	Gateways range from paving improvements in the intersection to the installation of vertical columns, or an archway (see below). Vertical gateway columns include internal illumination.	$45/sf (Interlocking concrete pavers in intersection) $20-35/sf (Stamped AC, colored) $50,000-$75,000 (Vertical gateway column)
Archway	An archway includes the installation of a gateway arch that spans the intersection of Dublin Blvd and Village Parkway. Art-themed design with a shamrock is included.	$300,000
Lighting	Lighting costs include vehicular lighting and pedestrian lighting with banner arms as well as twinkle lights. Costs vary based on spacing of light poles, style, and size. Cost of electrical infrastructure varies based on conduit runs. For twinkle lights, assume power is available.	$12,000-$18,000 (Roadway light pole and fixture) $10,000-$15,000 (Pedestrian light pole and fixture) $2,000 (Twinkle light per tree)

PROJECT TYPE		ESTIMATED COST RANGE / ALLOWANCE
Mid-block crossing	Mid-block crossing includes the cost to install bulb-outs on opposite sides of the street and provide high visibility or enhanced paving in the crosswalk.	$60,000-$75,000 (Bulb-outs on opposite sides of the street with curb and gutter, curb ramp, paving) Crosswalk costs: $2,000/crosswalk striping (Paint) $30-$40/sf (Interlocking concrete pavers) $15-$20/sf (Concrete)
Wayfinding	Identity signage and directional signage similar in appearance and size to those currently Downtown. Costs include illuminated kiosks.	$5,000 (Directional signage) $10,000-$15,000 (Identity signage) $30,000 (Kiosk)
Temporary Art	Temporary art installations assume minimal disturbance to the existing median or sidewalks. Art media can vary and will impact cost.	$500-$20,000
Painted Crossings and Intersections	Painted crossings and intersections include the painting of asphalt. Intersection painting requires a traffic rerouting plan.	$5,000-$7,500 (Intersection)
Parklet	Parklet costs are based on the size of reclaiming one parking stall. Materials and design will result in a range of costs.	$10,000 - $25,000
Street closure	Street closures costs include power, barricades, portable toilets. Excludes traffic rerouting plans.	$10,000-$20,000
Pole attachments	Pole attachments include banners and LED lights mounted to a pole.	$2,000-$3,500 (Attachment per pole)
TIER 3 IMPROVEMENTS		
Village Parkway (R.O.W. = 100ft)	Cost includes undergrounding utilities new curb and gutter, new roadway surfacing, new sidewalk paving, furnishings, lighting, traffic, street trees, ground planting, stormwater planting, irrigation, and artwork.	$23 million ($11,200/lf)
Regional Street (R.O.W. = 68ft)	Cost includes new curb and gutter, new roadway surfacing, new sidewalk paving, furnishings, lighting, traffic, street trees, ground planting, stormwater planting, irrigation, and artwork.	$18 million ($8,400/lf)

Notes:

1. Costs provided are 2019 estimates intended to help prioritize the decision- making process and are not intended to be used for construction budget purposes.
2. It is recommended that a cost estimator provide a cost estimate based on construction drawings prepared by the City of Dublin or a design consultant and reviewed by all relevant agencies.
3. Costs include labor, materials, and overhead.
4. Utility replacement and relocation costs are excluded from cost estimates.

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ACKNOWLEDGMENTS

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