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Figure 17: District Theme

DISTRICT THEME

Conceptual Rendering

Furnishings & Lighting

Equiparc Ipe Bench: EP 1690-IPE Bench

Architectural Area Lighting: Parkway Square-PKWM

Equiparc Waste Receptacle: EP 3690- IPE

Bus Shelter

Southcoast Lighting Signal Pole (Irwindale square pole with Murrieta base and cap, Architectural Area Lighting Parkway Square Luminaire, bronze color)

Enhanced Pavement

Crosswalk with integral color, stamped asphalt

Coordinating brick-colored paver trim band on sidewalk

Figure 18: Landscape Enhancement Plan

LANDSCAPE ENHANCEMENT PLAN

Street Trees & Planted Medians

4.4 Shopping Center Enhancements

The present auto-oriented layout of the three shopping centers provides little accommodation for shoppers arriving on foot or bike. There are no sidewalks or bike lanes at the shopping centers' main ingress/egress points. There are only a few dispersed bike racks throughout the shopping centers. In addition, shoppers that arrive by car have little pedestrian accommodation once they leave their car and walk to their destination. The lack of pedestrian accommodations coupled with the vast areas of parking lots, deters people from walking from one shopping center to the next. The current tendency is for shoppers to drive from one shopping center to the next. However, many of the shopping centers' cafes and restaurants have outdoor dining that could be enhanced with better pedestrian and bicycle connectivity. There is a real opportunity for the shopping centers to collectively increase their sales by creating a destination experience – an environment that encourages shoppers to stay longer and patronize multiple retail establishments within a single visit.

Potential pedestrian and bicycle improvements are listed below in a menu of short, mid, and long-term options. These improvement options are only suggestions. Any improvements on private property would be at the owner's discretion.

Short-term improvements could include:

- Reorganizing parking bays to provide striped pedestrian walkways
- Adding sidewalks at shopping center entries
- Adding bike racks

Mid-term improvements could include:

- Creating temporary space for events such a farmers market or seasonal café
- Creating a sustainably-designed, demonstration project where asphalt is replaced with pervious pavement, lighting is solar-powered, landscape islands are composed of native plants, benches are made from recycled materials, and an interpretive panel explains the design components and environmental benefits.

Long-term improvements could include:

- Infilling parking lot area with pedestrian plazas with adjacent storefronts
- Providing tree-lined pedestrian walkways

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Figure 19: Shopping Center Potential Improvements

SHOPPING CENTERS

SHORT-TERM IMPROVEMENTS

Painted Pedestrian Walkways

MID-TERM IMPROVEMENTS

Temporary Events & Flex Spaces

LONG-TERM IMPROVEMENTS

Pedestrian Plazas

Potential short, mid, and long-term improvements are only suggestions. Any improvements on private property would be the owner's discretion.

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4.5 Medea Creek Multi-Use Path

A key component of the project is to develop the east side of the Los Angeles County Flood Control District's Medea Creek channel (canal) with a 10-foot wide multi-use path from Kanan Road/Hillrise Drive to the northern edge of the Twin Oaks shopping center with a link to Willow Elementary School. The trail would provide access points for neighborhood walking and biking trips to and from the shopping centers, as well as recreational opportunities for walkers, joggers, and cyclists. From the northern edge of the Twin Oaks shopping center, the multi-use paved trail would transition to a decomposed granite foot path along the greenway (owned by the City) to Laro Drive. A sitting area is proposed at the south end of this greenway, near the Agoura Hills City Mall. The west side of the canal would remain as flood control equipment and vehicle access. With additional connections, the trail would ultimately provide a new route for students to walk or bike to Agoura High School and Willow Elementary, as well as Chumash Park. The segment of the creek channel that runs along the west perimeter of the shopping centers and is currently paved with asphalt would be redeveloped with the following trail design features:

- Railing between the trail and canal that provides safety while allowing visibility to the canal.
- Plantings along the eastern edge of the trail to soften the hard edge between the shopping centers and the trail.
- Porous asphalt or concrete trail paving for stormwater management, with decorative elements.
- Interpretive panels.
- Benches.
- Integrated public art, i.e., custom designed gates, railings, special pavement treatments, etc.
- Gate access points between trail and shopping centers.
- Bollard lighting.
- A new signalized pedestrian crossing of Thousand Oaks Boulevard where the trail intersects with the street.
- An enhanced crosswalk at Kanan Road/Hillrise Drive with integral brick-colored asphalt with stamped running bond pattern.
- An ADA switch-back trail down the eastern embankment of Kanan Road (across from Hillrise Drive) to connect to the trail extention described below.

To the south, there is also an opportunity to naturalize a portion of the west side of Medea Creek, just east of its crossing of Kanan Road, and extend the multi-use trail. This additional segment is part of a separately proposed project. Currently, there is a concrete-lined channel. The City intends to conduct a Planning Study to explore the best means of accomplishing this project from an engineering standpoint, and then complete design and construction. The west side is preferred for multi-use trail and naturalizing project, since there is sufficient open space land for the naturalizing; the east side is constrained by the back yards of existing homes. The south slope would be planted with stabilizing, native vegetation. South of the area to be naturalized, the creek is semi-naturalized and has been restored with native riparian habitat for the full length to Canwood Street, after which it is channelized under the US-101 freeway. A future pedestrian/bike bridge is envisioned to allow for crossing of the creek from the west side to the east side to connect with an existing informal foot trail that continues north to Chumash Park and Agoura High School, and an existing trail that is located on the east side of the creek that connects to the Oak Creek Apartments and shopping centers beyond along Canwood Street.

In order to confirm that the new proposed, signalized trail crossing of Thousand Oaks Boulevard would not impact the operations of the Kanan Road / Thousand Oaks Boulevard intersection, a Synchro modeling analysis was also performed at this location. For this new trail crossing signal, the worst case scenario was modeled, which is the AM peak hour with the highest vehicular traffic. The trail crossing signal was set up with a 60 second cycle that featured a pedestrian call every 60 seconds. The analysis showed that the resulting level of service to be at LOS B with a delay of 13.0 seconds. The westbound queue length was determined to be 125 feet. The trail crossing signal was then modeled with the traffic signal at Kanan Road and Thousand Oaks Boulevard as a connected network. This resulting analysis showed no change in the delay and LOS for both signals. The traffic signal at Kanan Road / Thousand Oaks Boulevard is located approximately 700 feet away from the proposed signalized trail crossing, therefore there is no vehicle queue that backs up to the existing intersection.

Table 14: Thousand Oaks Blvd Mid-Block Pedestrian Signal - AM Peak Hour Results

Pedestrian Signal Delay / Level of Service	13.0 / B
Westbound Queue Length	125 Feet
Eastbound Queue Length	186 Feet

Figure 20: Medea Creek Multi-Use Trail

MEDEA CREEK MULTI-USE TRAIL

Existing Conditions

Canal borders Chumash Park

Canal runs behind shopping centers

Maintenance road adjacent to canal

Design Concept

Existing

Proposed

Design Ideas

Pavement Materials

Recycled Colored Glass

Colored Concrete

Colored Asphalt

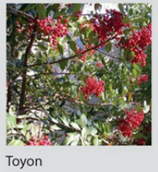
Porous Asphalt

Trail Gateways

Fencing and Screening

Amenities

Native Landscape Plants



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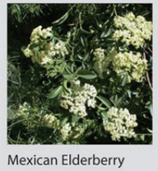
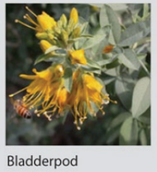


Mexican Elderberry

Sugar Bush

California Wild Rose

Desert Grape



Bladderpod

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4.6 Demand Projections

The following methodology was used to project the additional number of commuters expected by the completion of the recommended Medea Creek multi-use trail segment:

4.6.1 Define Analysis Area

The analysis area is intended to capture geographic locations where travel behavior is likely to reflect the construction of a new trail. For this trail project, a one mile buffer was used, capturing much of the nearby neighborhood of Agoura Hills, north to the County line, east nearly to Liberty Canyon, south to the City limits, and west past Forest Cove Lane.

The trail is located directly in the center of the analysis area, and fronts moderate density residential neighborhoods and retail uses. It is thus strategically located to capture a significant percentage of neighborhood walking and bicycling trips. The analysis assumes that the proposed facility will capture 40 percent of walking and bicycling trips in the neighborhood and 30 percent of the pedestrians and bicycles counted at an adjacent intersection.

4.6.2 American Community Survey Data

American Community Survey Data were analyzed at the Census Tract level for this neighborhood, and numerically adjusted for census tracts that extend beyond the analysis area. In addition to estimates for the number of commuters by each mode, data were queried for the number of students in the study area and the current travel time to work.

To establish a baseline for the number of pedestrian and bicycle trips, the American Community Survey was complemented with assumptions regarding the number of trips for children walking and bicycling to school and the number of walking or bicycling trips that someone working at home or commuting on transit may take. A significant number of college and graduate students live in the analysis area, and a 5 percent bicycle mode split (consistent with a study of seven universities) was assumed for that population.

These modifications increased the estimated daily bicycling trips to 219 and the walking trips to 398.

4.6.3 Latent Demand

An estimate of latent bicycling demand was generated by considering the number of commuters whose travel time to work was less than 10 or 20 minutes. Such commuters are considered to have high potential for walking and bicycling to work. As the additional trail segment would add approximately 28 percent to the length of designated bicycle facilities in the analysis area, including its first designated multi-use path, it is assumed that 10 percent of commuters traveling for less than 10 minutes and 5 percent of commuters traveling between 10 and 19 minutes. This analysis concludes that the potential for walking and bicycling for these short commute trips could significantly increase (as much as 50 percent) with the implementation of the multi-use trail and other pedestrian and bicycle-related improvements at the study intersection.

4.6.4 Count Data

Commute trips represent only a fraction of all trips taken in any community. Pedestrian and bicycle count data near the trail location were considered to determine what level of discrepancy there may be between American Community Survey commuting data and peak-hour and weekend counts. Significantly higher

counts were observed than would be predicted by the Census, and higher weekend counts were observed than weekday counts, suggesting that the trail may serve an important recreational function.

464 bicyclists and 536 pedestrians were counted at the intersection during six hours of a weekend and 95 bicycles and 396 pedestrians were counted at the intersection during 6 hours of weekday peak period traffic. Using the National Bicycle and Pedestrian Documentation Project extrapolation methodology (for both paths and pedestrian districts), it is assumed that the count hours account for 40 percent of daily trips.

The count data were projected upward based on the latent demand factor considered earlier and the projected population growth for Agoura Hills (5.4 percent by 2030[3]).

4.6.5 Trail Demand Estimate

The Medea Creek trail can be expected to accommodate:

- 313 pedestrians per weekday and 424 pedestrians per weekend day
- 122 bicycles per weekday and 595 bicycles per weekend day
- 126,000 annual pedestrian trips, and 93,000 annual bicycle trips.

These trips would be primarily utilitarian transportation trips by neighborhood residents going to the shopping center. Some additional level of pure recreational use would be expected but is difficult to quantify. Expected recreational demand would increase if the trail were expanded southward and connected via a footbridge to Chumash Park.

4.7 Cost Estimates

Cost estimates for the recommended improvements are provided below. These are broken out into two tables: **Table 15** provides engineer's costs for the recommended bicycle, pedestrian and streetscape improvements within the public right-of-way in and around the study intersection; and **Table 16** provides planning-level costs related to development of the Medea Creek shared-use pathway.

[3] Southern California Association of Governments, Integrated Growth Forecast, 2012

Table 15: Kanan Rd and Thousand Oaks Blvd Enhancements - Planning Level Cost Estimate

Item Description	Unit	Qty	Unit Cost	Total
Install striping complete per plans.	LS	1	$ 7,700.00	$ 7,700.00
Install signing complete per plans.	LS	1	$ 1,200.00	$ 1,200.00
Install countdown pedestrian heads.	EA	8	$ 800.00	$ 6,400.00
Install bicyclist push buttons.	EA	4	$ 800.00	$ 3,200.00
Install decorative traffic signal poles at the intersection of Kanan Rd and Thousand Oaks Blvd.	EA	4	$ 19,000.00	$ 76,000.00
Remove and construct ADA curb ramp.	EA	4	$ 3,200.00	$ 12,800.00
Install stamped integral-color asphalt for enhanced crosswalks at the intersection of Kanan Rd at Thousand Oaks Blvd.	SF	3,900	$ 10.00	$ 39,000.00
Trim band along sidewalks – interlocking pavers	SF	9,553	$20.00	$191,060.00
Remove and construct median island curb.	LF	520	$ 50.00	$ 26,000.00
Install median landscaping and irrigation system.	SF	3,600	$ 10.00	$ 36,000.00
Construct 8-inch AC over compacted native.	SF	1,040	$ 8.00	$ 8,320.00
Install decorative paving in median.	SF	520	$ 15.00	$ 7,800.00
Install stamped integral-color asphalt for enhanced crosswalk at the intersection of Kanan Rd at Hillrise Dr.	SF	900	$ 7.00	$ 6,300.00
Install steel pedestrian luminaires.	LS	1	$ 152,000.00	$ 152,000.00
Estimated Direct Costs				**$573,780.00**
Contingency	15%			$86,067.00
Engineering / Design	15%			$86,067.00
Project Administration	10%			$57,378.00
Estimated Construction Costs (40% burden)				**$803,292.00**

Table 16: Medea Creek Shared Use Path - Planning Level Cost Estimate

Item Description	Unit	Qty	Unit Cost	Total
Install mid-block pedestrian signal on Thousand Oaks Blvd.	LS	1	$ 72,000.00	$ 72,000.00
Install signal interconnect complete from traffic signal at Kanan Rd and Thousand Oaks Blvd to Thousand Oaks mid-block pedestrian signal.	LS	1	$ 36,000.00	$ 36,000.00
Construct median island curb.	LF	850	$ 40.00	$ 34,000.00
Install class A topsoil in median.	CY	266	$ 60.00	$ 15,960.00
Construct ADA curb ramp.	EA	2	$ 3,200.00	$ 6,400.00
12' Concrete path*	LF	2,620	$200.00	$524,000.00
12' Concrete ramp and retaining wall*	LF	250	$840.00	$210,000.00
Widen sidewalk	SF	1,220	$8.00	$9,760.00
Decorative crosswalk paving - Interlocking pavers	SF	1,800	$20.00	$36,000.00
Fencing and gates	LF	4,270	$55.00	$234,850.00
Solar powered LED lighted bollard	EA	144	$1,700.00	$244,800.00
12' Decomposed granite trail*	SF	16,800	$6.00	$100,800.00
Decomposed granite shoulder and pads*	SF	5,000	$4.00	$20,000.00
Benches	EA	6	$1,000.00	$6,000.00
Bicycle Racks	EA	4	$300.00	$1,200.00
Drinking fountain, with pet fountain	EA	1	$2,500.00	$2,500.00
Trash receptacles	EA	4	$500.00	$2,000.00
Removable bollards	EA	6	$1,100.00	$6,600.00
Regulatory and warning signs	EA	6	$300.00	$1,800.00
Trail directional signs	EA	4	$350.00	$1,400.00
Interpretive signs	EA	2	$1,200.00	$2,400.00
Landscape planting*	SF	6,790	$4.50	$30,555.00
Drip irrigation	SF	6,790	$6.00	$40,740.00
Estimated Direct Costs				**$1,639,765.00**
Contingency	25%			$409,941.25
Construction / Overhead / Mobilization	15%			$225,964.75
Engineering / Design	20%			$337,953.00
Project Administration and Permitting	10%			$163,976.50
Estimated Construction Costs (70% burden)				**$2,787,600.50**

Notes:
Planning level estimates do not include ROW acquisition costs; costs for potentially required bridges or retaining
* Unit costs accounts for site prep and grading

Appendix A: Regulatory Setting

This section provides a summary of plans and policies that relate to bicycle and pedestrian activities, including the City's General Plan, Municipal Code, and Trails & Pathways Master Plan.

City of Agoura Hills General Plan, 2010

The City of Agoura Hills recognizes that the retail centers must be able to meet changing market demands in order to remain economically viable and compete with newer retail centers developed in neighboring cities. To this end, the General Plan's Land Use & Community Form Element contains the goal of "Improvement of the economic vitality of the existing commercial centers and re-positioning as a focal point of neighborhood identity, activity, and socialization." The policies for achieving this goal include:

- Working with property owners to promote the upgrade of the shopping centers for pedestrian activities and events. Such improvements may include expanded sidewalks and improved pedestrian connections between the sidewalks and the buildings, pedestrian way finding, expanded sidewalks along building frontages, improved pedestrian amenities and public spaces, and increased outdoor-oriented activities such as dining.
- Allow mixed-use development that includes a limited amount of multi-family housing to be located on the upper floors of buildings containing ground-floor commercial or retail uses.
- Improve the compatibility with neighboring residential neighborhoods by requiring that the edges of the shopping centers be designed to minimize noise and lighting impacts, and impacts associated with truck deliveries.
- Improve the pedestrian environment of adjacent streets through the implementation of sidewalk and crosswalk improvements that include decorative paving materials, improved bikeway connections, pedestrian-oriented amenities, and improved inter-connectivity between the shopping centers where feasible.
- Improved vehicular circulation among the three shopping centers including access and egress points.

Land Use and Community Form (LU)

GOAL LU-4 City Form and Structures

Structure and form of development that respects Agoura Hills' natural setting; maintains distinct and interconnected places for residents to live, shop, work, and play; and is more compact to reduce automobile dependence

Policies

LU-4.2 Connected Open Space Network – Maintain and, where incomplete, develop a citywide network of open spaces that is connected to and provides access for all neighborhoods and districts incorporating greenbelts, drainage corridors, parklands, bicycle and pedestrian paths, equestrian trails, and natural open spaces.

LU-4.6 Building Scale and Design – Encourage the development of buildings and exterior spaces that are of human scale and encourage pedestrian activity, and discourage structures that do not relate to the exterior spaces and designs that do not consider such features.

LU-4.7 Building Relationship to Public Spaces – Require buildings to be oriented to and actively engage the public realm through such features as location, incorporation of windows, avoidance of blank walls, and articulation of building elevations fronting the sidewalks and public space, and location of parking to their rear or side.

LU-4.8 Connectivity – Promote the development of complete pedestrian, bicycle, and vehicular connections that provide access for all residential neighborhoods to commercial, employment, cultural, civic, recreational, and open space destinations.

LU-4.9 Integration of Open Space Areas within Development – Incorporate sufficient open space in development projects to maintain a sense of openness, such as paths, sidewalks, gathering areas, and/or passive and active recreation.

LU-4.10 Community Identity – Provide enhanced paving, entry monuments, and other special design features at key entry points to the City.

GOAL LU-27 Community Serving Shopping Centers

Improvement of the economic vitality of the existing commercial shopping centers and re-positioning as a focal point for neighborhood identity, activity, and socialization.

Policies

LU-27.1 Development Improvements – Work with property owners to promote the upgrade of shopping centers for pedestrian activity and events, including such elements as:

- Expanded sidewalks along the building frontages and incorporation of a public plaza containing benches, trash receptacles, trees and plantings, public art, and other amenities
- Outdoor-oriented uses such as restaurants
- Pedestrian corridors connecting parking areas with buildings that are clearly defined by paving materials, landscape, lighting; and well-designed way-finding signage
- Site landscaping that contributes to the aesthetic and economic value of the center and provides a tree canopy reducing the heat island effect and greenhouse gas emissions

LU-27.2 Mixed-Use Development – Encourage the renovation of the existing shopping centers by allowing the limited development of multi-family housing on the upper floor of buildings containing ground-floor retail or office uses in accordance with Policies LU 14.1 through LU 14.5, and contingent on the development of resident-serving amenities.

LU-27.3 Compatibility with Residential Neighborhoods – Require that the edges of the shopping centers be designed to avoid noise, lighting, odor, and truck delivery and unloading impacts on adjoining residential neighborhoods.

LU-27.4 Streetscape Improvements – Improve sidewalks and crosswalks with distinctive paving materials and pedestrian-oriented amenities, provide bikeway connections, where feasible, to improve the interconnectivity of the shopping centers with one another and adjoining residential neighborhoods.

Economic Development (ED)

Goal ED-1 Economic Base

A strong and sustainable economic base that supports continued growth in City revenues

Policies

ED-1.4 Infrastructure Improvements – Enhance Agoura Hills' attractiveness to new business by identifying infrastructure improvements that facilitate business development, particularly improvements in accessibility and congestion management

Mobility (M)

Goal M-1 Local Circulation System

A safe and efficient roadway system in Agoura Hills that facilitates the movement of goods and people while utilizing advanced technologies to minimize travel delays.

Policies

M-1.1 Safety – Maintain a safe and efficient system of circulation.

M-1.3 Level of Service Standards – Establish flexible criteria for minimum acceptable level of service (LOS) based on the roadway characteristics. Maintain an LOS C on most roadways within the City. A reduced LOS standard of D, E, or F is considered acceptable in the following roadways (Year 2035 Peak Hour Segment Level of Service) as described below:

- Kanan Road, due to heavy existing and projected traffic volumes and desire to maintain existing 4-lane cross-section with sidewalks, bicycle lanes, and landscape median islands

M-1.4 Roadway Improvements – Promote effective, innovative, and safe solutions for roadway improvements and consider other solutions that would facilitate reduced reliance on physical roadway improvements, where appropriate

M-1.5 Roadway Character – Implement street beautification programs to improve roadway character and create City gateways

Goal M-2 Complete Streets

A transportation system that serves all modes of travel and meets the needs of all users, as specified in the Complete Streets Act of 2007

Policies

M-2.1 Complete Streets – Ensure that the existing and future transportation system serves multiple modes of travel, such as driving, walking, biking, and transit

M-2.2 Equal Mobility for all City Residents – Provide a transportation network that meets the needs of a wide range of users including adults, children, seniors, and the disabled.

M-2.3 Transportation Planning – Encourage desired land use patterns, such as mixed-use walk able developments, through transportation planning and design.

M-2.4 Interconnected System – Develop an interconnected mobility system that allows travel on alternate routes and modes

M-2.5 Comprehensive Bicycle and Pedestrian System – Develop and maintain a safe, integrated, and comprehensive bicycle and pedestrian system that serves all ages and abilities in Agoura Hills.

Goal M-6 Alternative Transportation

Reduce reliance on single-occupancy vehicle travel through the provision of alternative travel modes and enhanced system design

Policies

G-6.1 – Efficient System – Promote the most efficient use of the City's existing transportation network and encourage the integration of alternative modes into design standards for future improvements.

G-6.2 – Mode Choice – Expand the choices of available travel modes to increase the freedom of movement for residents and reduce reliance on the automobile. Ensure that existing and future infrastructure will be adequate for future transportation modes.

G-6.3 – Design of Alternative Modes – New roadways and future street improvement projects shall be bicycle and pedestrian-friendly in design.

G-6.4 – Design Enhancements – Enhance bus stops with amenities such as street trees, benches, bus shelters, waste receptacles, public art, and other measures.

G-6.5 Education – Promote non-motorized transportation through encouragement and education

M-6.6 Alternative Mode Funding – Identify funding sources and allocate funds, including potential formation of assessment districts, for pedestrian, bicycle, transit, and streetscape improvements in existing neighborhoods.

Goal M-7 Pedestrians

Transportation Improvements and development enhancements that promote and support walking within the community

Policies

M-7.1 Walkability – Create a pedestrian environment that is accessible to all and that is safe, attractive, and encourages walking. Maintain and promote the walkability within the City by identifying and competing efficient links within the sidewalk system.

M-7.2 Pedestrian Connectivity – Preserve and enhance pedestrian connectivity in existing neighborhoods and require a well connected pedestrian network linking new and existing developments to adjacent land uses including commercial uses, schools, and parks.

M-7.3 Pedestrian Experience – Promote walking and improve the pedestrian experience with streetscape enhancements and by orienting future development towards the street, where appropriate.

M-7.4 Walkable Developments – Encourage mixed-use development so that it is possible for a greater number of short trips to be made by walking.

M-7.5 Safe Routes to Schools – Establish and implement appropriate recommendations of the National Safe Route to Schools Program, and work with local schools to encourage more children to walk and bicycle to school.

M-7.6 Inventory of Pedestrian Facilities – Conduct an inventory of pedestrian facilities and routes in the City to identify missing in deficient links, such as pedestrian crossing or intersection treatments

Goal M-8 Bikeways

Enhance bicycle facilities throughout Agoura Hills for short trips and recreational uses.

Policies

M-8.1 Bikeway Linkages – Provide bikeway connectivity between residential and surrounding natural resources areas, parks, schools, employment centers, and other activity centers in the community.

M-8.2 – Continuous Bikeway Connectivity – Provide a bicycle network that is continuous, closes gaps in the existing system, and permits easy bicycle travel throughout the community and region.

M-8.5 Bikeway Design – Develop guidelines and standards for the design of bikeways

M-8.6 Bicycle Facility Design – Develop guidelines and standards for the design of bicycle facilities including bicycle racks.

M-8.7 Bicycle Parking – Developments shall provide for bicycle parking facilities.

City of Agoura Hills Code of Ordinances – Article IX – Zoning

Part 5. – CS-MU Commercial Shopping Center-Mixed Use District

9341 – Purpose

- Provide planned shopping centers with land and compatible retail stores and associated facilities including multi-family residential units…
- Residential units are allowed in order to encourage improvements to existing shopping centers, and to provide opportunities for an individual to participate in multiple activities on the site, thereby promoting vehicle trip reduction
- Development, remodel, and renovation of the centers shall integrate and promote pedestrian activity with pathway connections between center business areas and parking areas, and to adjoining neighborhoods and districts, as well as incorporate pedestrian amenities like seating areas and outdoor gathering spaces to accommodate pedestrians, outdoor dining, and other activities
- Pathways shall be clearly articulated with enhanced paving and other design features, landscaping, and wayfinding signage

9343.10 Required Amenities

A. Clearly articulated pedestrian paths through parking lots to the center businesses and residences with distinguishing design characteristics
B. Well-designed pedestrian pathways connecting adjoining shopping centers, and between the centers and adjacent neighborhoods and districts
C. Outdoor searing and gathering areas new the businesses, including expanded sidewalks or plazas, designed as an integral part of the overall architecture and design
D. Bike racks or other public bike storage in convenient locations in the center, integrated within the overall architectural and sign design of the center

9343.11 Required Landscaping

A. Berming (undulating or embanked) shall be required with a minimum variation of elevation beginning thirty (30) inches
B. One (1) native oak tree, twenty-four inch box in size per fifteen thousand (15,000) square feet of building area shall be provided within the said area or at alternative locations as approved by the city
C. Landscaping shall minimize the visual dominance of the parking areas, shall complement the on-site pedestrian amenities and circulation, and serve to modulate pavement temperature
D. No other uses or storage shall be permitted within the required landscaping

9343.12 Required Walls

Unless waived by the city, all development shall be screened according to the following:

A. A decorative wall at a minimum height of six (6) feet shall be provided on all property lines except for those adjacent to a public right-of-way.

City of Agoura Hills Citywide Trails & Pathways Master Plan

Purpose

To provide a pedestrian, bicycle, and equestrian system that will link homes, schools, businesses, parks, and natural resources to each other

The plan will serve as a guide for the planning, design, and construction of future trail projects.

Local Support

Approximately 85 percent of the participants of the 2006 General Plan Survey (conducted as part of the General Plan update) indicated that they would support the development of a system of pedestrian friendly paths within the city that would allow residents to walk between schools, shopping facilities, libraries, and residences; and 75 percent supported a multi-use trail network for bicycles, horses, and pedestrians.

Key Guiding Principles

Make completion of the following two trail and pathway systems a high priority when seeking grants and funding:

- Medea Creek pedestrian/bicycle system that provides access to a linear scenic pathway system traversing the entire community in a north/south direction along Medea Creek
- Old Agoura equestrian trail system that provides access to an equestrian bridle path system planned through the Old Agoura community

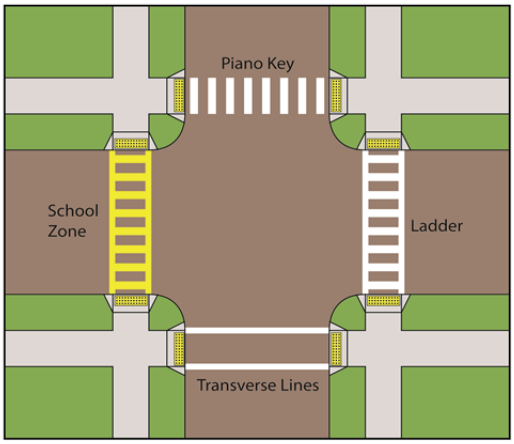
Appendix B: Technical Criteria for Bicycle and Pedestrian Facilities

Pedestrian Recommendations

Crosswalks

Per the California Vehicle Code, crosswalks, whether marked or unmarked, exist wherever two streets intersect, except where pedestrians are otherwise prohibited.

Marked crosswalks may use transverse or high-visibility ladder or piano key designs, and should be painted yellow in school zones. They may be accompanied by advance yield lines to provide additional space and visibility.



Crosswalk Design Types

An accessible pedestrian signal

Crosswalks should be marked at signalized intersections and at unsignalized intersections where they:

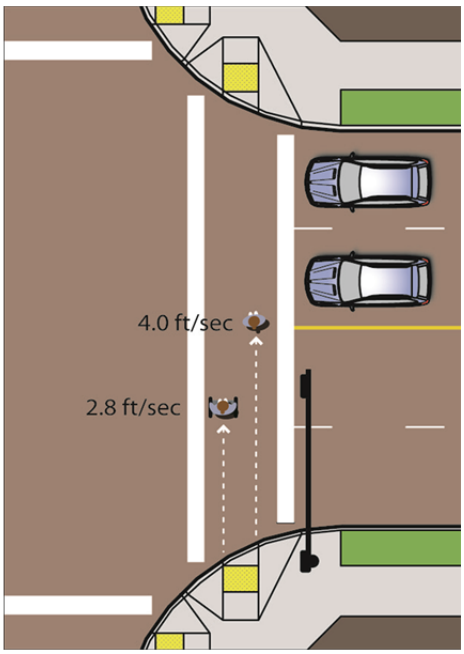
- Help to orient pedestrians through a complex intersection,
- Direct pedestrians to the shortest route across traffic with the least exposure to vehicular traffic and traffic conflicts, or
- Help position pedestrians where they can best be seen by oncoming traffic.

Crosswalks may be marked at mid-block locations where there is a demand for crossing and there are no nearby marked crosswalks.

Accessible Pedestrian Signals

Accessible pedestrian signals shall be used in combination with pedestrian signal timing. The information provided by an accessible pedestrian signal shall clearly indicate which pedestrian crossing is served by each device.

When used, accessible pedestrian signals shall be used in combination with pedestrian signal timing. The information provided by an accessible pedestrian signal shall clearly indicate which pedestrian crossing is served by each device.

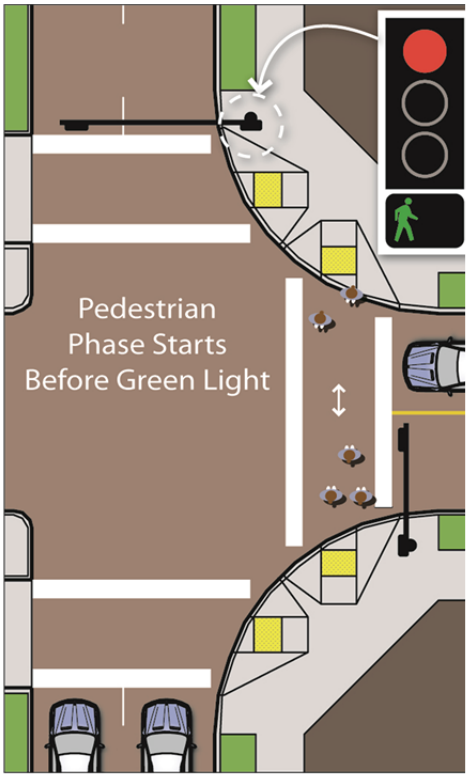


Pedestrian Signal Timing

Pedestrian Signal Timing

The California MUTCD provides guidance on the timing of pedestrian phases at signalized intersections: Pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait.

Where older or disabled pedestrians routinely use the crosswalk, a walking speed of 2.8 feet per second may be used in determining the pedestrian clearance time.



Leading Pedestrian Interval

Leading Pedestrian Interval

At intersections with high pedestrian volumes and high conflicting turning vehicle volumes, a brief leading pedestrian interval, during which an advance WALKING PERSON (symbolizing WALK) indication is displayed for the crosswalk while red indications continue to be displayed to parallel through and/or turning traffic, may be used to reduce conflicts between pedestrians and turning vehicles.

If a leading pedestrian interval is used, it should be at least 3 seconds in duration and should be timed to allow pedestrians to cross at least one lane of traffic or, in the case of a large corner radius, to travel far enough for pedestrians to establish their position ahead of the turning traffic before the turning traffic is released.


Pedestrian Countdown Signals

Pedestrian Countdown Signals

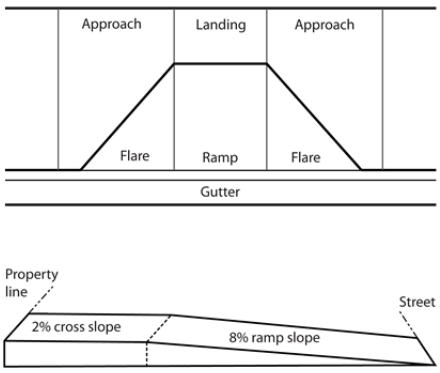
Pedestrian countdown signals display the time remaining in a pedestrian phase, providing helpful information for crossing pedestrians. Countdown heads are most beneficial at multi-lane arterial roadways where pedestrians have a long distance to cross. If a median is provided, pedestrians may rest and wait for the next pedestrian phase to cross the remaining roadway.


Pedestrian Refuge Island

Median Refuge Islands

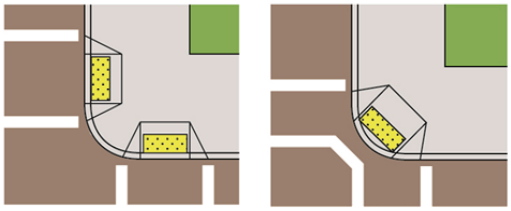
Raised islands or medians of sufficient width that are placed in the center area of a street or highway can serve as a place of refuge for pedestrians who are attempting to cross at a midblock or intersection location. Center islands or

medians allow pedestrians to find an adequate gap in one direction of traffic at a time, as the pedestrians are able to stop, if necessary, in the center island or median area and wait for an adequate gap in the other direction of traffic before crossing the second half of the street or highway. The minimum widths for accessible refuge islands and for design and placement of detectable warning surfaces are provided in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)"



Curb Ramps

Curb ramps are necessary for people who use wheelchairs to access sidewalks and crosswalks. ADA requires the installation of curb ramps in new sidewalks, as well as retrofitting existing sidewalks. Curb ramps may be placed at each end of the crosswalk (perpendicular curb ramps), or between crosswalks (diagonal curb ramps). The ramp may be formed by drawing the sidewalk down to meet the street level, or alternately building up a ramp to meet the sidewalk.



Curb Ramp Design Specifications

Bicycle Recommendations

Caltrans Bicycle Classifications

Bicycle infrastructure in Agoura Hills is governed by design standards developed by the California Department of Transportation (Caltrans). Local jurisdictions may modify the Caltrans design standards, based on sound engineering judgment, but generally the Caltrans design standards are followed. This plan categorizes bicycle infrastructure based on Caltrans standards. The figure below illustrates Caltrans' three types of bikeways as defined by the Highway Design Manual: Class I multi-use paths, Class II bike lanes, and Class III bike routes.

Multi-use Paths

Multi-use paths, or Class I facilities, allow for two-way, off-street bicycle use and may be used by pedestrians, skaters, people in wheelchairs, joggers and other non-motorized users.

Bike Lanes

Class II bicycle facilities are defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. They are generally four to six feet wide and often found in commercial, retail, and mixed-use districts.

Several publications provide guidance for the use of bike lanes. According to the Caltrans Highway Design Manual, bike lanes are intended to delineate the right of way assigned to bicyclists and motorists and to provide for more predictable movements by each. But a more important reason for constructing bike lanes is to better accommodate bicyclists through corridors where insufficient room exists for safe bicycling on

existing streets. This can be accomplished by reducing the number of lanes, reducing lane width, or prohibiting parking on given streets in order to delineate bike lanes.

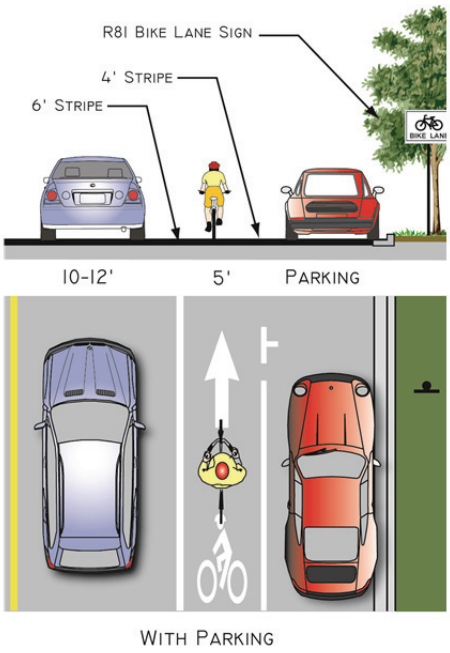
According to the AASHTO Guide for the Development of Bicycle Facilities, a bike lane should be delineated from the motor vehicle travel lanes with a 150-mm (6-inch) solid white line. Some jurisdictions have used a 200-mm (8-inch) line for added distinction.

The California MUTCD provides guidance on the placement for Bike Lane (R81 (CA)) signs: they should be placed at every arterial street and at 1/2 mile intervals of each designated Bike Lane.

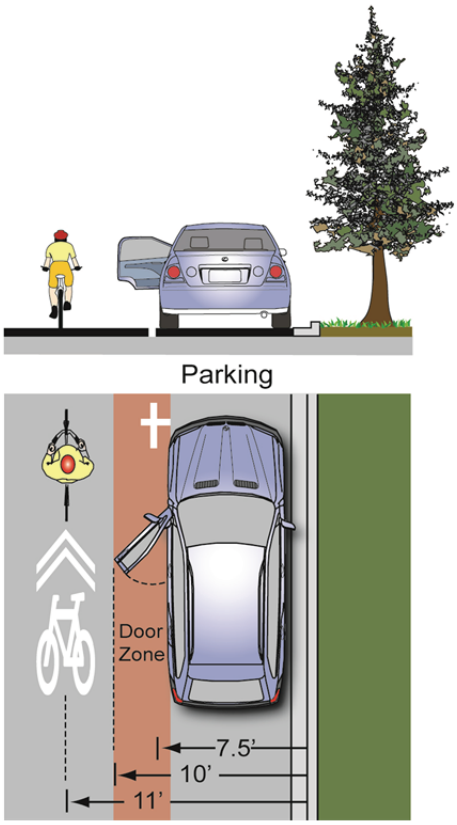
Bike Routes

Bike Routes (Class III) are facilities shared with motor vehicles and signed for bicyclists. While typically used on roads with low speeds and traffic volumes, they can be designated on higher volume roads with wide outside lanes or shoulders. Bike routes are often found on local or collector streets in residential areas. Many state routes that connect cities have Class III shoulder bikeways.

Shared Lane Marking stencils are included in the California Manual of Uniform Traffic Control Devices (2012) as an additional treatment for bike routes and are currently approved in locations with or without parking. As shown at right, the stencil can serve a number of purposes, such as making motorists aware of the need to share the road with bicyclists, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent "dooring" collisions.



Minimum specifications for bike lanes with parking

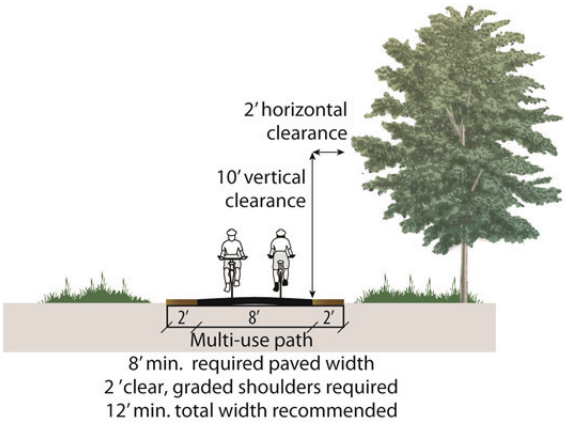


Shared Lane Marking

Figure 21: Caltrans Design Standards for Bicycle Facilities

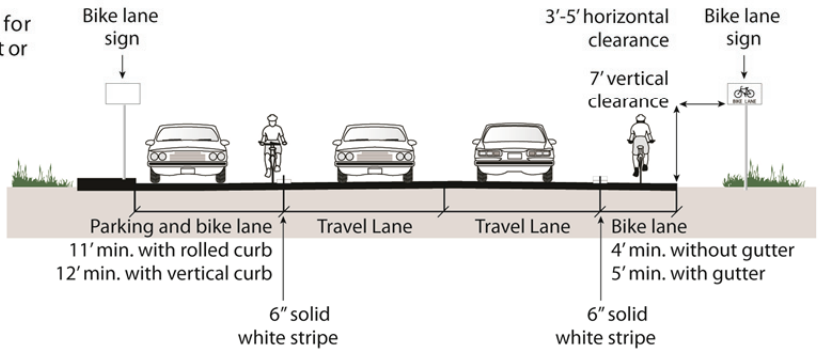
CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



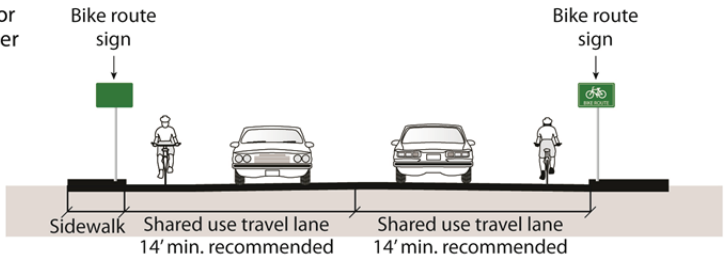
CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.



Colored Pavement

Color applied to bike lanes helps alert roadway users to the presence of bicyclists and clearly assigns right-of-way to cyclists. Motorists are expected to yield to cyclists in these areas. Some cities apply color selectively to highlight potential conflict zones, while others use it to mark all non-shared bicycle facilities in high volume traffic situations.

Green is the recommended pavement color for on-street bikeways. The Federal Highway Administration has granted interim approval for their use, though specific MUTCD guidance is not available.

Green bike lane application (Portland, OR)

Colored bike lanes are appropriate for heavy auto traffic streets, at transition points where cyclists, motorists and/or pedestrians must weave with one another, conflict areas or intersections with a record of crashes, and to emphasize bicycle space when used with design treatments that may be unfamiliar or unique.

Bicycle Detection

Bicycle loop detectors activate traffic signals at intersections, similar to standard loop detectors used for auto traffic. Where bicycle loop detectors are not present, bicyclists are forced to wait for a motor vehicle to trigger a signal; where motor vehicle traffic is infrequent, they may cross against a red signal. Type A, C, or D loop detectors best detect bicyclists. Bicycle loop detectors should be identified with pavement markings that show cyclists where to position themselves to trigger the traffic signal.

Traffic Operations Policy Directive 09-06, issued August 27, 2009 modified MUTCD 4D.105 (CA) to require bicyclists to be detected at all traffic-actuated signals on public and private roads and driveways. The Policy Directive requires a limit line detection zone in which a bicycle rider must be detected with 95% accuracy. If more than 50% of the limit line detectors need to be replaced at a signalized intersection, then the entire intersection should be upgraded so that every line has a limit line detection zone.

Bicycle detection must be confirmed when a new detection system is installed or when the detection system is modified. Where limit line detection zones are provided, minimum bicycle timing should be 14.7 feet per second, plus a 6-second start-up time. Table 4D-109(CA) provides the minimum bicyclist phase length for intersections of different lengths.

Appendix C: Survey Questionnaire

Prepared by:

Alta Planning and Design

Prepared for:

City of Agoura Hills

Appendix D: Intersection Traffic Analysis

Prepared by:

Willdan Engineering

In Partnership with:

Wiltec

Prepared for:

Alta Planning + Design and City of Agoura Hills