

monterey on the move

multi-modal mobility plan
for the city of monterey

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The City of Monterey (hereinafter, “City”) is committed to supporting and promoting alternative modes of transportation such as bicycling, walking and transit. In 2009 the City Council adopted a Bicycle Transportation Plan which, due to budget constraints, did not address pedestrian facilities and circulation and end of use bicycle facilities. In recognition of the need to enhance mobility options for residents and visitors, the 2009 Bicycle Transportation Plan has been expanded to address all bicycle, pedestrian and transit rider needs. In February 2012, the City received a Community-Based Transportation Planning grant from Caltrans to develop a Multi-Modal Mobility Plan. The result of this effort is “Monterey on the Move”.

Generally, the City’s major arterials are saturated and cannot be easily expanded to improve vehicle level of service (LOS). Therefore, to address impacts of future growth, the General Plan Circulation Element goals focus the expansion and improvements of the City’s circulation system on increasing accessibility by bicycles, pedestrians, and transit. The Circulation Element provides thresholds of significance to measure impacts to the City’s circulation system using a Multi-Modal Level of Service (MMLOS) that is determined by specific criteria or “measures of effectiveness”. This plan:

- Defines target MMLOS for certain areas of the City;
- Identifies projects that, once implemented, will achieve the target;

- Defines the measures of effectiveness used to determine whether the target is met; and,
- Defines the monitoring that is required to measure the overall progress of the multi-modal mobility plan towards achieving the General Plan goals.

The General Plan Circulation Element Vision is that Monterey will be a City where alternative forms of transportation are so attractive that the use of an automobile is a choice, not a necessity. The transportation system will be safe for all users, and support the local economy while maintaining the historic character of the City. Circulation Element goals, policies and pro-



grams are intended to reduce the overall duration and frequency of traffic congestion and parking shortages without relying on expansive infrastructure projects. This requires a multi-modal transportation system that provides an excellent level of service, defined as one that is easily available, efficient, and well coordinated.

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Circulation Element policies require that the City adopt a Travel Demand Management program to reduce the number of auto trips made during peak travel times; and, direct visitors to attractive transportation alternatives as they park at satellite sites served by the local transit system.

These policies also require the development of a multi-modal mobility plan that identifies a pedestrian, bicycle, and local transit system that provides connectivity between neighborhoods and major destinations, such as parks, public facilities, schools, commercial service and employment centers, residential neighborhoods, and parking structures.

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: “In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit. Therefore, the Monterey General Plan already meets these requirements and Monterey on the Move furthers the City’s identification and implementation of complete streets that equally serve automobiles, bicycles, pedestrians, and transit.

The City must update the multi-modal mobility plan every five years to ensure that it continues to estab-

lish defined benchmarks or objectives; monitor and measure policy impacts and results; and, develop response strategies should the City begin moving in a direction away from the Vision Statement.

Once established, these indicators must tell us when a circulation system is in place that provides safe, efficient, convenient, and inviting connections between most origins and destinations that are designed for pedestrians, bicyclists, and transit riders. This system must be effective to a level that causes people’s decision to drive their car to be a choice and not a necessity. Such measures of effectiveness were used to identify and develop projects outlined in this multi-modal mobility plan.

The project area includes the City of Monterey. Monterey on the Move maximizes linkages between surrounding regional facilities, the City’s mixed-use areas, visitor destinations, recreation and open space areas, educational facilities, and residential neighborhoods. The plan will create a comprehensive, citywide plan that will further the goals to maintain, manage, and enhance the movement of goods and people; and to spur the economic development and growth, job creation, and trade. The main plan objectives are to:

- Improve pedestrian circulation Citywide by providing safe convenient connections between residential, commercial and recreational areas;
- Update the 2009 City of Monterey Bicycle Transportation Plan and identify ways to

strengthen the connection between bicycling, walking and transit;

- Ensure that the plan serves the diverse needs of the community while contributing to economic growth;
- Ensure that the plan supports local, regional and State goals to reduce greenhouse gas emissions; and,
- Engage all relevant stakeholders in the planning process including those who are traditionally under-represented.

PLAN ORGANIZATION

Monterey on the Move is organized as follows:

Introduction

Describes the planning process and contains background and demographic information specific to Monterey.

Objectives and Programs

This chapter lists the plan objectives; and programs that will work to measure or achieve those objectives. Objectives and programs are further supported in later chapters.

Bicycles

This chapter provides an analysis of existing infrastructure and bicyclists needs, and identifies projects that support plan objectives.

Pedestrians

This chapter provides an analysis of existing infrastructure and pedestrian needs and identifies projects that support plan objectives.

Safe Routes To School

This chapter identifies bicycle and pedestrian infrastructure improvements that surround schools and outlines programs that will educate and encourage students to walk and ride safely and frequently.

Multimodal Level of Service

This chapter defines MMLOS targets for certain areas of the city; and the measures of effectiveness used to achieving plan objectives and programs as Monterey on the Move is implemented.

Funding & Implementation

This chapter identifies potential sources of funding for plan programs and projects.

PLANNING PROCESS

The planning process executed a scope of work that included research, outreach, data collection, and objectives, projects, and program identification. The following summarizes the planning process:

Formed Advisory Committee

The first step of the Monterey on the Move planning process was to form an Advisory Committee of key stakeholders who identified and further defined the project objectives, scope of work and schedule. The group was composed of representatives from:

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- Transit and transportation agencies
- Local bicycle and pedestrian advocacy groups
- The Blind & Visually Impaired Center of Monterey
- Presidio of Monterey
- Bicycle commuters
- City of Monterey Planning staff

The Advisory Committee had several meetings to discuss the content and direction of the plan, develop a public outreach strategy, and develop and execute a field work strategy.

Existing Policy Review

The Advisory Committee and City staff reviewed existing local and regional policies to ensure consistency with Monterey on the Move.

Public Outreach

A multi-media public outreach strategy was developed to reach and receive input from a broad segment of the community. Staff attended and organized several neighborhood meetings and community events, such as farmers market and Bike to Work Week, to discuss which pedestrian, bicycle and transit improvements are most needed in the City. Input was also received through a community survey, which was distributed both online, and in hard copy form.

Once the draft plan was released for public review, members of the community had an opportunity to share their ideas and comment on the draft during

public meetings of the Parks and Recreation Commission, Planning Commission, City Council and Transportation Agency of Monterey County (TAMC) Bicycle and Pedestrian Committee. The availability of the plan and the public meeting schedule were advertised online, through a public service announcement video, and in local newspapers and flyers.

Data Collection

The Advisory Committee assisted staff in surveying existing bicycle and pedestrian facilities throughout the City and conducting informal field interviews to identify user needs and infrastructure in need of improvement. Transportation Engineering staff counted bicyclists and pedestrians at various locations to identify popular routes, track user volumes, establish baseline pedestrian counts, and observe behavior.

Draft Plan Development

Staff developed Objectives and Programs, Bicycle, Pedestrian, Safe Routes To School, Multimodal Level of Service, and Funding and Implementation chapters. The Advisory Committee reviewed and commented on the initial draft plan.

Environmental Review

Staff prepared an environmental analysis to address all potential environmental impacts that could result from the implementation of the plan and prepared the required environmental documentation according to the California Environmental Quality Act.

Presentations to Decisionmakers

The draft plan was reviewed, discussed, recommended, and/or adopted by the following advisory bodies:

- City Council/Planning Commission Study Session (January 2013)
- Parks and Recreation Commission (February 2013)
- Planning Commission (February 2013)
- City Council (March 2013)
- TAMC Bicycle and Pedestrian Committee (March 2013)

DEMOGRAPHICS

The transportation needs of a population are directly related to the local general, physical and economic demographics. Mode choice is affected by various different factors such as age, physical ability, urban form and economic status. For example, some individuals within the community cannot drive a car because they are either too young and do not have their driver's license, are visually impaired or have other physical or mental challenges, or cannot afford one. This group of non-drivers includes youth, college students, physically and mentally disabled, seniors and low-income individuals. In order to serve the trans-

Age	Gender (2010)		Total 2010	Total 2000	Percent Change
	Male	Female			
Under 10 years	1,346	1,239	2,585	2,898	-11%
10 to 14 years	500	509	1,009	1,263	-20%
15 to 19 years	948	724	1,672	1,961	-15%
20 to 24 years	1,629	1,212	2,841	2,695	5%
25 to 34 years	2,656	2,367	5,023	5,382	-7%
35 to 44 years	1,793	1,658	3,451	4,638	-26%
45 to 54 years	1,717	1,740	3,457	4,031	-14%
55 to 64 years	1,634	1,841	3,475	2,396	45%
65 to 74 years	920	1072	1,992	1,974	1%
75 to 84 years	566	804	1,370	1,699	-19%
85 years and over	281	654	935	737	27%
Total	13,990	13,820	27,810	29,674	-6%

U.S. Census Table DP-1-Geography-Monterey city, California: Profile of General Population and Housing Characteristics: 2010; Table DP-1. Profile of General Demographic Characteristics: 2000

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portation needs of all users, it is imperative that alternatives to the car such as walking, bicycling and transit be widely available and easy to access.

An analysis of U.S. Census data uncovered demographic trends in Monterey, which informed the development of citywide transportation objectives and policies incorporated in this plan.

Monterey has a slowly shrinking population that is heavily influenced by the presence of the U.S. Navy, U.S. Army, and local colleges and universities. From 2000 to 2010 the overall population of Monterey decreased from 29,674 people to 27,810 (Table 1). However, the number of residents ages 20 to 24 years increased by five percent which suggests that local college enrollment is stable. College students are less

likely to own their own car and more likely than working adults to utilize transit and active forms of transportation such as bicycling and walking. Therefore it is important that transit routes serve the needs of students. Transit can serve students by syncing service schedules with class schedules, providing direct routes between campus and activity centers where many students work, shop for essentials and/or live, and offering schools discounted passes so that every student may have easy access to the bus.

The national recession of 2008–2012 also impacted the local economy and job market. From 2000 to 2010 there was a seven percent reduction in employed Monterey residents (U.S. Census). A portion of this percentage can be attributed to individuals leaving the workforce for retirement. However, it is likely that

TABLE 2: MONTEREY COMMUTING TO WORK

MODE	2000		2010		Percent Change %
	Estimate	Percent	Estimate	Percent	
Workers 16 years and over	16,699	100%	15,479	100%	-7%
Car, truck, or van -- drove alone	10,854	65%	8,566	55%	-21%
Car, truck, or van -- carpooled	1,524	9%	1,257	8%	-18%
Public transportation (excluding taxicab)	523	3%	675	4%	29%
Walked	2,691	16%	2,876	19%	7%
Other means (bicycle, motorcycle, taxi)	464	3%	835	5%	80%
Worked at home	643	4%	1,270	8%	98%
Mean travel time to work (minutes)	15.7	(X)	15.1	(X)	

U.S. Census Table DP03. Selected Economic: 2010; U.S. Census Table DP-3. Profile of Selected Economic Characteristics: 2000

Weekly California All Grades All Formulations Retail Gasoline Prices

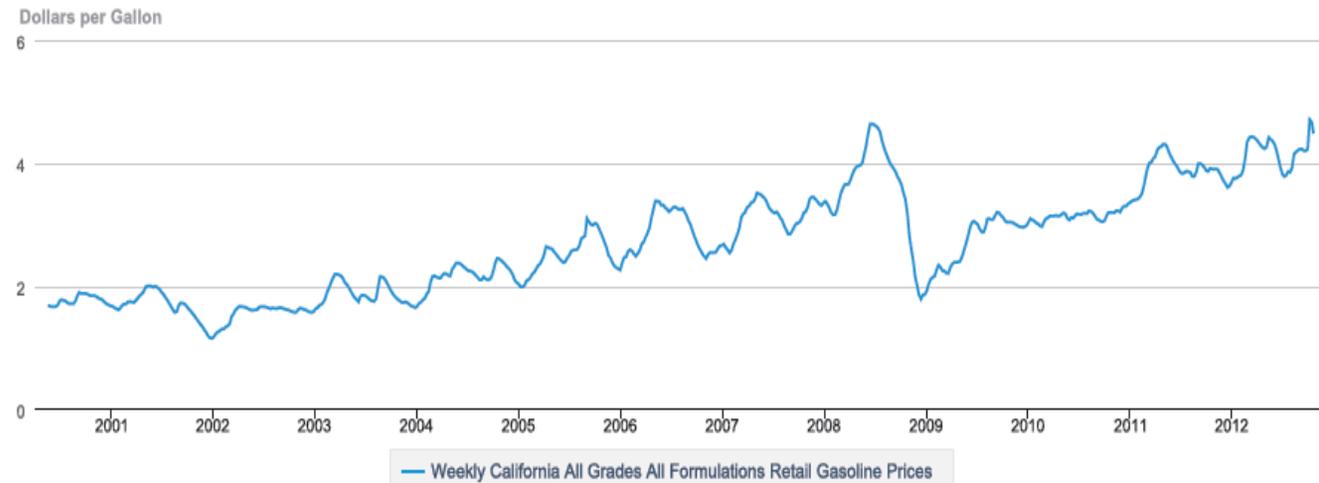


Figure 1: Weekly California Retail Gasoline Prices, U.S. Energy Information Administration

lay-offs and job scarcity are larger contributing factors. The greatest declines in population during this period were seen in age groups 35 to 44 years and 10 to 14 years (Table 1). Some of these individuals may represent families who were victims of the economic downturn, and had to move away in order to find work or more affordable housing.

The age group 55 to 64 experienced the most substantial increase in population from 2000 to 2010. This group represents the “Baby Boom” population who were born shortly after WWII. This group tends to be more physically active than previous generations at this age and bicycle, walk and jog for exercise and recreation. However, Baby Boomers are also more likely to drive a car as their primary mode of transportation for most trips. As this population retires and ages, there will be an increased demand

for recreational bicycle and pedestrian facilities and transit and paratransit services that are attractive to individuals who are accustomed to convenient, direct and comfortable transportation.

The percentage of Monterey residents who walked, rode the bus or travelled by bicycle, motorcycle or taxi to get to work increased from 2000 to 2010 (Table 2). Conversely, fewer individuals travelled to work by car, truck, van or carpool. This trend may be a result of the steady rise in gas prices over the past decade. Since 2000, gas prices have risen from \$1.70 per gallon to over \$4.00 per gallon in California (See Figure 1). As gasoline-intensive transportation modes increased in cost, more individuals switched to less expensive alternative modes for more of their trips or worked from home. Gasoline is a finite resource and the trend of increasing cost is projected to continue on into the fore-

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seeable future. This means the demand for alternative modes of transportation such as transit, bicycling and walking will necessarily increase.

Advances in communication technology over the past decade have enabled many professionals to work from home, and working from home has become a commonly accepted practice. The percentage of Monterey workers who worked at home doubled from 2000 to 2010. In order to compete with Silicon Valley and major metropolitan areas for talent the City should consider policy to allow employees the option to work from home when appropriate to reduce vehicle miles travelled and resulting greenhouse gas emissions.

Disabled

When planning a transportation network it is important to consider the needs of all residents and visitors especially those who may have special needs such

as those with physical or cognitive disabilities. The American Disabilities Act (ADA) sets forth infrastructure requirements to accommodate those with disabilities and the City has made it a priority to improve ADA access throughout the city. In 2011, the City began an in-depth analysis and cataloguing of ADA access at all intersections in Monterey. The final product will be a report of existing conditions and Geographic Information Systems inventory of intersections that require the addition of ADA ramps.

The majority of those who have physical and cognitive disabilities in Monterey are seniors (Table 3). Most were not born with their disability and had to adapt later in life. So too will the transportation network need to adapt to the increased demand for ADA ac-

TABLE 3: CITY OF MONTEREY DISABILITIES BY AGE (2010)						
AGE	DISABILITY CHARACTERISTIC					
	Hearing	Vision	Cognitive	Ambulatory	Self-Care	Independent living
Under 5 years	0	0	NA	NA	NA	NA
5 to 17 years	0	59	135	40	51	NA
18 to 64 years	191	162	466	584	134	415
65 years and over	541	219	338	789	390	652
TOTAL	732	440	939	1413	575	1067
U.S. Census Table S1810: Disability Characteristics. 2008–2010 American Community Survey 3–Year Estimates						

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cess, maintenance of pedestrian facilities and transit/paratransit service.

The Blind and Visually Impaired Center of Monterey County is a valued resource in the community and offers orientation and mobility training and support. In addition to teaching those with low or no vision to adapt to the existing environment, pedestrian infrastructure can be enhanced or redesigned to make it safer or easier to navigate. For example audible countdown devices at signalized intersections let those who cannot see the pedestrian display how much time they have left to cross. Improvements such as this instill confidence in those who are blind and visually impaired and enable mobility and ultimately personal independence.

Low-Income Households

Low-income households are less likely to have access to a personal vehicle and more likely to spend a high percentage of their household income on gasoline if they do own a car. In 2010, those who lived in low-income households were more likely to carpool, walk and work from home than moderate and high-income households. A higher percentage of those who lived in moderate-income households rode public transportation and bicycles than other income groups (Table 4).

LAND USE

Transportation and land use are intrinsically connected. The goal of transportation is to serve land

TABLE 4: COMMUTE MODE CHOICE BY ECONOMIC STATUS

Mode	Economic Status					
	Below 100% of Poverty Level	% Of Group	100% to 149% of Poverty Level	% Of Group	At or above 150% of Poverty Level	% Of Group
Car, truck, or van – drove alone	294	44%	400	58%	7,795	68%
Car, truck, or van – carpoled	72	11%	52	8%	1,083	9%
Public transportation (excluding taxicab):	32	5%	48	7%	284	2%
Walked	119	18%	75	11%	807	7%
Taxicab, motorcycle, bicycle, or other means	21	3%	62	9%	697	6%
Worked at home	123	19%	56	8%	791	7%
TOTAL	661	(X)	693	(X)	11,457	(X)

U.S. Census Table B08122: Means of Transportation to work by Poverty Status in the Past 12 Months. 2006–2010 American Community Survey 5–Year Estimates

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uses, and land uses can be organized to maximize mobility and overall efficiency of a transportation network. Historically, the available and dominate mode of transportation greatly influenced urban form. The older portions of Monterey near downtown and the waterfront were developed when most people walked for daily transportation. This resulted in a compact “grid” network of narrow streets and residences located within ½ to 1 mile of shops, entertainment and employment.

The transportation network is heavily influenced by travel behavior, user preferences and land use. Certain land use patterns such as those that allow mixed-use development and transit-oriented development generate high volumes of pedestrian and bicycle activity. Low-density residential and commercial land uses are spaced further apart and are more dependent upon motorized transportation.

Most trips either originate or end at the home, which means the organization of residential land uses in relation to other trip generators is vital to creating an efficient transportation network. In order to reduce traffic congestion, improve air quality and enable multimodal transportation, residential areas should be located within walking distance (¼ to ½ mile) of job centers, academic institutions, shopping, parks, entertainment and transit.

Most land uses identified in the City’s General Plan are organized to maximize mobility. However, existing low density, single land-use development such as

those along Ragsdale Drive, Ryan Ranch Road and in the Skyline Forest neighborhood present a challenge to providing multimodal transportation.

These areas are further than 1/2 mile to major activity centers in Monterey and rely heavily on motorized transportation. Although they are outside of the comfortable walking distance for most people, they are within an acceptable bicycling range of two to three miles from major trip generators and transit. Future plans to allow for mixed-use development will encourage more pedestrian and bicycle activity within the area. Private transit or carpool programs provided by employers could also reduce single-occupant vehicle trips to and from these areas.

The land uses identified in the General Plan are shown in Figure 2 and are described as follows:

Residential

Very Low Density Residential

Single-family residences may be developed at an average density of fewer than two dwelling units per acre. This type of development is solely residential and focuses on highlighting and preserving natural resources. The topography of the area under this designation as well as the desire to maintain privacy has resulted in narrow winding roads with little connectivity.

Low Density Residential

Single-family residences may be developed at an average density of two to eight dwellings per acre.

Medium Density Residential

Single-family residences, duplexes, condominiums and apartments may be developed at an average density of eight to thirty dwelling units per acre.

Public/Semi-Public

This category applies to all publicly owned facilities and those private facilities operated to serve the general public except for parks and recreation facilities, which are a separate category. Included in this category are: public and private schools, military facilities, airports, cemeteries, large public parking facilities, hospitals, museums, conference centers and publicly-owned historic buildings.

Parks, Recreation and Open Space – This category applies to all parks and recreation facilities such as neighborhood, community and county parks, community centers, greenbelts and other open space areas.

Industrial

This category applies to existing and future industrial areas in the city. There are four areas in this category in the Land Use Plan. In most cases, industrial areas are taking the form of business parks with a combination of office and industrial uses.

Commercial

This category applies to all types of commercial areas and allows the full range of commercial uses including retail, office, visitor commercial and professional offices. Commercial areas are also a primary resource for new housing in mixed use or apartment developments.

LONG RANGE PLANNING

Long range development is greatly influenced by the City's planning documents, which include the General Plan, Area Plans, Specific Plans and Master Plans. The General Plan goals set the overall tone for land use and transportation in the City. All other implementation tools must serve to further the General Plan goals.

Each planning document contains a transportation component that determines how land uses within each planning area will be served. Monterey on the Move was developed to tie together the City's land use documents to create a citywide, comprehensive multi-modal transportation system that serves as an implementation tool for the City's overall transportation goals, policies, and objectives.

The purpose of Monterey on the Move is to implement the General Plan Circulation Element.

The primary role of the Circulation Element is to provide policy guidance for planning and implementing the transportation system needed to serve proposed development as defined in the Land Use element of the General Plan. The transportation system affects the growth patterns, environment, and quality of life of Monterey's residents and workers. Much of Monterey's charm for both residents and visitors springs from its historic buildings, irregular street pattern, old plazas, and waterfront views. Through the 2005 General Plan update process, Monterey citizens recognized that trying to solve traffic problems by simply widening roads

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will negatively impact the quality of life that residents enjoy. Building expensive parking improvements to serve peak seasonal demand will lead to facilities being underutilized most of the year when demand is not at peak. The Circulation Element's policies and programs are intended to reduce the overall duration and frequency of traffic congestion and parking shortages without relying on expansive infrastructure projects. Instead, the focus is on developing alternative modes of transportation to reduce auto use but also identifying long term roadway solutions along the principal arterial streets. Specifically, Monterey on the Move strives to implement the following Circulation Element Goals:

Goal a. Improve transportation and parking systems by managing them more effectively before investing in costly roadway and parking expansion projects.

Goal c. Provide a safe, efficient, well-maintained, and environmentally sound roadway system that supports the "complete streets" concept of equality of choice among all modes of transportation.

Goal d. Promote a pedestrian/bicycle-friendly environment where public spaces, streets, and off-street paths offer a level of convenience, safety, and attractiveness that encourage and reward the use of alternative modes of transportation.

Goal f. Provide an attractive and convenient transit service for Monterey citizens, especially those in the community who cannot or choose not to own a private automobile.

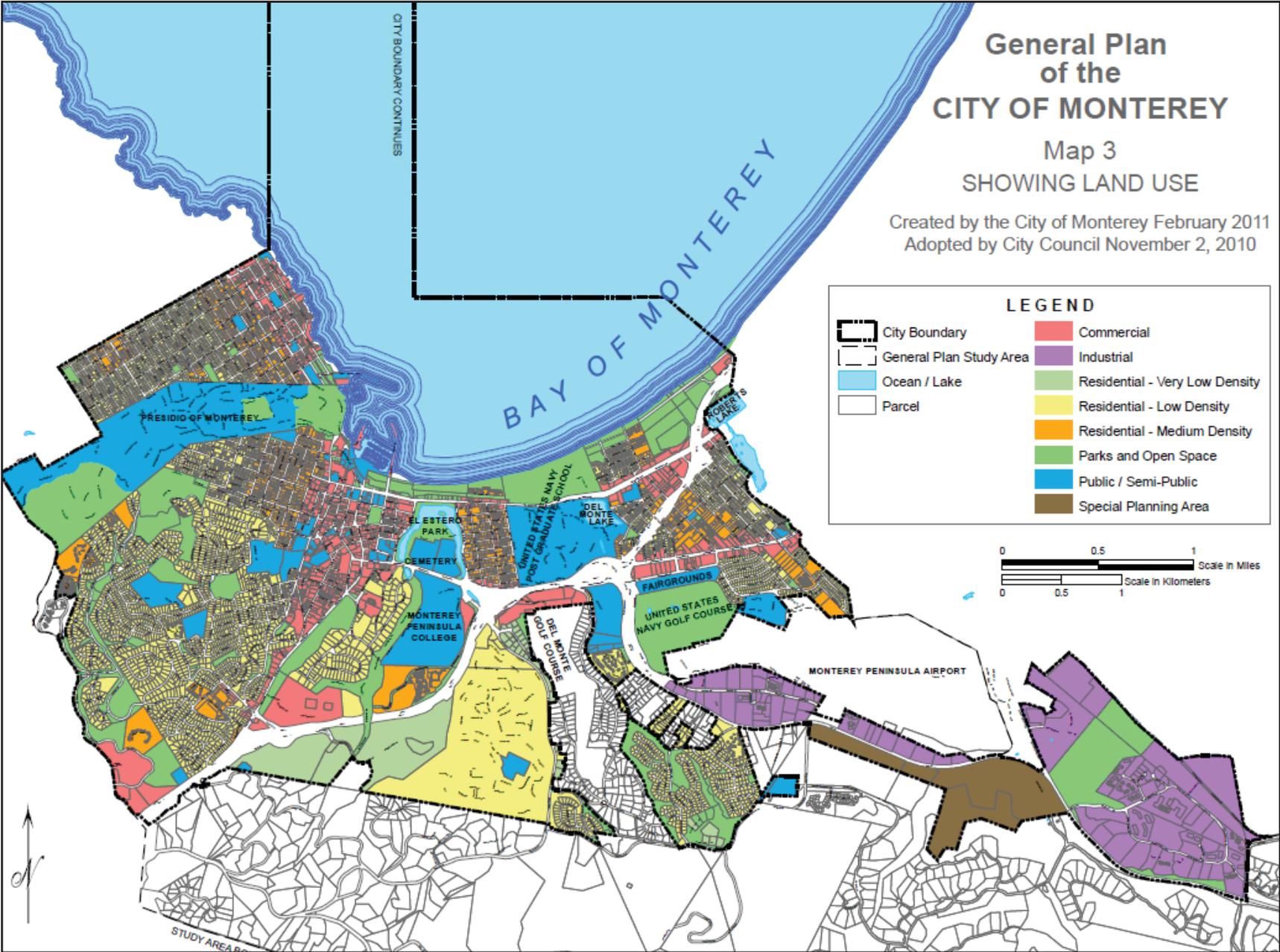
Goal j. Measure the effectiveness of the transportation system and its ability to safely and effectively move people and goods, not simply vehicles.

In order to provide accessible, convenient, and efficient transportation options throughout the City, popular origins and destinations must be identified, and then connections designed and implemented.

Major origins and destinations throughout the City include:

- Residential neighborhoods
- Monterey Bay Aquarium
- Downtown – shops, restaurants, conference center, farmers markets, events, walk of history
- Schools
- Universities – Naval Postgraduate School, Defense Language Institute, Monterey Peninsula College, Monterey Institute of International Studies
- Parks, community centers, trails, and open space areas
- Recreation Trail
- Airport
- Major employment centers – Garden Road, Ryan Ranch, Del Monte Shopping Center, City Hall
- Other commercial areas – Lighthouse/Cannery Row, Del Monte Avenue, North Fremont Street.

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02 objectives & programs

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objectives & programs

02 INTRODUCTION

To best implement the General Plan goals, policies, and programs, specific objectives were developed for Monterey on the Move. These objectives are measurable and will help gauge whether the community is achieving its goal of developing a multimodal transportation network. The six major categories of objectives are:

- Health, Safety, Education & Enforcement
- Connectivity & Access
- Encouragement & Convenience
- Wayfinding, Visitor Serving & Supportive Amenities
- Construction & Maintenance
- Funding & Implementation

Programs and projects designed to meet these objectives are listed below and supported by the needs analyses in the following chapters. The objectives are also used to establish a system for prioritizing projects for funding (Appendix A). A matrix showing the method for measuring the effectiveness of each project can be found in the Multimodal Level of Service chapter.

HEALTH, SAFETY, EDUCATION AND ENFORCEMENT

Objective 1: Reduce the number of collisions involving pedestrians and bicyclists each year.

Program 1.1 – Analyze collision data biannually, document patterns and prioritize projects to address safety issues.

Program 1.2 – Study all marked uncontrolled midblock crosswalks and develop warrants to install or remove midblock crosswalks. Use the California Vehicle Code public notification procedure for removing crosswalks.

Objective 2: Create safe environments for youth walking and bicycling to school.

Program 2.1 – Support a volunteer crossing guard program to assist students walking to school.

Program 2.2– Work with Parent Teacher Associations, school administrations and local organizations to establish a volunteer network of walk/bike to school chaperones.



objectives & programs

Program 2.3– Establish permanent drop-off and walk locations one-half to one mile away from schools and inform parents and guardians.

Program 2.4– Coordinate with Monterey High School to establish a buddy program.

Program 2.5– Develop Safe Routes To School walking maps that identify preferred walking and bicycling routes for all public schools within the city; update maps as pedestrian and bicycle infrastructure is constructed and safer routes become available.

Project 2.1 – Construct a roundabout at the intersection of Soledad/Soledad/Mar Vista to calm traffic and provide a safer and more comfortable walking route for students travelling to and from school.

Project 2.2 – Construct an ADA accessible sidewalk on the north side of Via Gayuba from Mar Vista Drive to Walter Colton Drive to close the gap between existing sidewalks on Walter Colton Drive and Mar Vista Drive.

Project 2.3 – Construct a concrete sidewalk with vertical curb along Soledad Drive from Via Descanso to Via Paraiso to increase the safety of these common routes.

Objective 3: Ensure that all pedestrian and bicycle infrastructure and crossings are safe and well lit.

Program 3.1– Inventory the condition of existing lighting; continue to identify and prioritize necessary upgrades.

Project 3.1– Sloat Ave/Fifth Street Curb Extensions crossing treatments and lighting.

Project 3.2 – Cannery Row/New Monterey Recreation Trail Crossing Safety and Lighting Improvements.

Project 3.3 – Casa Verde/Recreation Trail Bicycle crossing Improvements.

Project 3.4 – Park Avenue/Recreation Trail Crossing Improvements.

Project 3.5 – Figueroa/Recreation Trail Crossing Improvements, re-route recreation trail/roundabout.

Project 3.6 – Audible count-down at all signalized intersections.

Project 3.7 – All pedestrian phase “Pedestrian scramble” at the intersection of Alvarado and Del Monte.

Objective 4: Reduce obesity rates and increase overall health in the City of Monterey.

Program 4.1 – Partner with health providers and advocates to lead the effort on a public awareness campaign about obesity and the benefits to walking and bicycling in combating excessive weight gain.

Program 4.2– Work with local health advocates to develop a community fitness challenge program to meet or exceed the U.S. Department of Health and Human Services minimum requirement for physical activity (60 minutes/day for youth, 20 minutes/day for adults). Encourage participants to reach their fitness goal by walking and bicycling to school, work or lunch.

objectives & programs

Objective 5: Educate the community how to safely and legally operate a bicycle and practice safe pedestrian behavior.

Program 5.1 – Develop and execute a multi-media education and safety campaign.

Program 5.2 – Continue to provide school resources officers who teach laws and safety to youth.

Program 5.3 – Conduct bicycle “rodeos” at schools to teach bicycle operation skills.

Program 5.4 – Increase enforcement of pedestrian and bicyclist violations such as jaywalking or walking or bicycling during the red phase at a signalized intersection; offer bicycle/pedestrian traffic school as an alternative to a monetary fine.

Program 5.5 – Increase enforcement of code violations that have to do with blocking pedestrian and bicycle right-of-way (ex//vehicles parked in/on sidewalk or bicycle lane).

Program 5.6 – Instruct waste management not to block sidewalks or bicycle lanes with garbage and recycling bins.

CONNECTIVITY AND ACCESS

Objective 6: Enhance connections between modes of transportation to reduce congestion and provide flexibility within the transportation network.

Program 6.1 – Install bicycle racks on City Carpool/Vanpool vehicles.

Program 6.2 – Install secure/weatherproof bicycle parking at or near transit stations and stops.

Program 6.3 – Work with Monterey Salinas Transit (MST) to add larger bicycle racks to buses that do not travel on the freeway or an additional rack to the back of the busses; also encourage the installation of bicycle racks on trolleys when the demand exists.

Program 6.4 – Design and install a pedestrian and bicycle wayfinding system to and from transit.

Program 6.5 – Provide on-demand access to bicycles.

- Research the feasibility of a bicycle share program focused on connections to transit and academic institutions.
- Purchase bicycles and electric bicycles for the City vehicle pool. Encourage employees to use pool bicycles for trips of 2 miles or less for field work and inspections.

Program 6.6 – Investigate the possibility of establishing a zero interest loan program to assist employees in purchasing bicycles from local bike shops. Require recipients to complete a bicycle safety component either through written test or video.

Program 6.7 – Continue to identify, prioritize and fund bicycle and pedestrian projects that connect major activity centers, employment centers, parks and open space and residential areas.

Program 6.8 – Continue to identify and prioritize and fund projects that improve bicycle and pedestrian access and network connectivity.

objectives & programs

Program 6.9 – Continue to identify locations and install bicycle parking at building entrances. Survey bicyclists annually to determine a need and locations for additional bicycle parking. Work with business owners to install bicycle racks and bicycle lockers in the public right-of-way near businesses and inform them of other resources such as the TAMC Bicycle Protection Program to purchase and install racks on private property.

Program 6.10 – Encourage the development of bicycle corrals in the downtown area; develop a process for converting an on-street parking space to a bicycle corral.

Program 6.11 – Encourage the use of bicycle valet services at public events.

Project 6.1 – Construct bikeways and end of use facilities as identified in Figures 5–7 according to the priority listed in Appendix A

Objective 7: Improve ADA access and accommodations throughout the city.

Program 7.1 – Update the City of Monterey ADA Transition Plan to include sidewalks near transit, senior housing, schools and other major trip generators.

Program 7.2 – Update all signalized intersections with audible countdown pedestrian phases.

Program 7.3 – Work with PG&E to modify utility pole wires so they are out of the path of blind and visually impaired pedestrians.

Project 7.1 – Improve the Van Buren/Artillery Road connection in two phases: install a curb ramp to provide access to the sidewalk on Artillery Road; replace the existing bridge (Figure 5) with one that will expand over the creek and above the existing stairs to provide ADA and bicycle access from Artillery Road to Van Buren Street.

Project 7.2 – Hawthorne/Bolio Bicycle/Pedestrian Connection (See Bicycles Chapter, pg 32).

ENCOURAGEMENT & CONVENIENCE

Objective 8: Promote active transportation and increase mode share by improving user convenience and through encouragement activities and programs.

Program 8.1 – Provide bicycle detection at signalized intersections along bicycle routes.

- Test existing bicycle detection annually.
- Update wide intersections with video detection or detection technology that can distinguish between bicyclists and other vehicles to allow for an extended green cycle.
- Install bicycle detection equipment that will detect bicycles in the left-turn lane.
- When feasible, install detection that additionally counts pedestrians and bicyclists so that data may be collected regularly.

Program 8.2 – Encourage City employees to lead by example and commute by alternative transportation.

objectives & programs

- Develop an incentive-based alternative commute program that encourages City employees to commute to work by walking, bicycling, transit, carpool or hybrid vehicle.
- Provide discounted transit passes to employees.
- Provide priority carpool/vanpool parking at City Hall.
- Develop a bicycle commute facility with shower at City Hall.

Program 8.3 – Organize/Support Bicycle Commute Groups. Partner with local organizations, schools and businesses to organize bicycle commute groups. Potential organizers/facilitators of these groups are City staff, PTA members, Monterey Bay Bicycle Coalition, Monterey Bay Aquarium, Velo Club of Monterey, Naval Postgraduate School, Presidio of Monterey, Monterey Institute of international Studies and Monterey Peninsula College.

Program 8.4 – Organize/Support Citywide Active Lifestyle Encouragement Events.

- Temporarily close down certain streets to automobile traffic to celebrate active transportation and fitness activities examples from other cities are CycLAvia in Los Angeles, CA and Summer Streets in New York City, NY.
- Distribute health and safety equipment, such as water bottles, reflective pant straps, bicycle lights, and wheel lights.
- Hold the event at the end of the Monterey Bike/Walk to Work & School Week (April/October).

- Incorporate the Path of History in the festivities by developing a scavenger hunt.

Program 8.5 – Hire or work with a Safe Routes to School Coordinator to plan, seek funding for and execute programs and events for all Monterey schools.

WAYFINDING, VISITOR SERVING & SUPPORTIVE AMENITIES

Objective 9 – Encourage tourists to walk, bicycle and ride transit to explore Monterey.

Program 9.1 – Work with TAMC to update the Monterey portion of the Monterey County Bike Map.

Program 9.2 – Develop a user-friendly bicycle and pedestrian guide map that highlights visitor destinations, bicycle parking and connections to transit. Distribute guide to local hotels and bicycle rental shops.

Program 9.3 – Research and develop policy allowing and regulating pedicab businesses in Monterey.

Program 9.4 – Develop wayfinding signage along the Recreation Trail, popular pedestrian routes and bicycle routes that have distance and travel time information, and are consistent with Master Plans and Specific Plans.

Program 9.5 – Install interactive kiosks with isochrone maps that show distances and travel times in locations downtown, Cannery Row and the Del Monte Shopping Center, and are consistent with Master Plans and Specific Plans.

objectives & programs

Program 9.6 – Provide pedestrian infrastructure near visitor-serving land uses to encourage visitors to walk to their destinations instead of driving.

Project 9.1 – Install public toilets in the downtown/waterfront area and Lighthouse/Cannery Row area.

Objective 10 – Create engaging and pleasurable pedestrian environments that enhance the visitor experience.

Program 10.1– Establish a public art competition to enhance pedestrian facilities near activity centers and along the Recreation Trail. Focus on “playable” public art that is accessible, interactive and iconic.

Program 10.2 – Support businesses along Alvarado that would like to provide pedestrian infrastructure such as outdoor seating.

DESIGN, CONSTRUCTION AND MAINTENANCE

Objective 11: Apply design standards and maintenance programs for bicycle and pedestrian facilities to ensure safety and longevity of facilities.

Program 11.1 – Add or improve on-street bicycle facilities when repaving/restriping. Grind down seam between pavement and concrete gutters.

Program 11.2 – Merge bicycle striping project list with street resurfacing schedule.

Program 11.3 –Survey all sidewalks in the city annually to identify facilities in need of maintenance. Prioritize

sidewalk replacement/maintenance for areas with potential tripping hazards.

Program 11.4 – Apply the following design standards to all projects:

Bicycle parking shall be permitted within the sidewalk right-of-way permitted it does not prevent or inhibit pedestrian access. A minimum of four feet of sidewalk shall remain to preserve ADA access.

Bicycle parking shall be located as close to the front entry of the destination as possible and be well-lit and visible.

Bicycle racks shall offer at least two points at which the bicycle can be secured and preferably support at least one wheel. Develop a comprehensive list of acceptable bicycle rack designs.

Bicycle racks shall support the wheel and provide at least two points at which the bicycle can be secured to the rack.

Indoor bicycle parking areas shall be well lit and have controlled and secure access.

The conversion of one on-street parking space to a bicycle corral should be designed hold 10 or more bicycles.

All future rail plans, public transit stations and car pool locations shall incorporate bicycle parking and storage areas in their design.

objectives & programs

Bicycle lanes shall be 6'. In restricted locations bicycle lanes may be reduced to 5'.

In residential neighborhoods or near small parks, sidewalks shall be a minimum width of 5' (4' unobstructed for adequate ADA access). Wider sidewalks (6' minimum) are recommended for commercial areas that have higher volumes of pedestrians.

Objective 12 – Provide advanced warning of bicycle lane closure and provide alternative routes or accommodation for bicycles during road work/construction.

Program 12.1 – Apply standards from the Manual on Uniform Traffic Control Devices.

FUNDING & IMPLEMENTATION

Objective 13 – Secure funding to implement bicycle, pedestrian and safe routes to school projects.

Program 13.1– Apply for grants annually to fund programs and projects identified in Monterey on the Move.

Program 13.2 – Establish a funding mechanism to fund programs and projects identified in Monterey on the Move.

Program 13.3 – Work with neighborhood representatives to fund programs and projects identified in Monterey on the Move or provide grant matches through the Neighborhood Improvement Program.

objectives & programs

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03 INTRODUCTION

This chapter embodies and expands upon the 2009 City of Monterey Bicycle Transportation Plan. It contains an analysis of bicyclist needs, describes existing programs and infrastructure and identifies tools, programs and projects that will improve bicycling in Monterey. As Monterey on the Move will replace the 2009 Bicycle Transportation Plan, the plan satisfies the requirements set forth in the California Street and Highway Code Section 891.2 and is consistent with local, regional and state law and planning documents. Additionally, the policies and programs herein seek to achieve the 5 E's as recognized by the Safe Routes to School National Partnership and League of American Bicyclists: Evaluation, Engineering, Education, Encouragement and Enforcement.

Since their invention in the early 1800s bicycles have made a lasting impact on human mobility, culture and experience. Before automobiles became affordable and widely used, bicycles were one of the most popular modes of private transportation. Testament to this fact the initial paving of roads in many cities was done not to benefit motorists, but instead to provide bicyclists a smooth surface to ride.

The history of bicycling in America and across the globe demonstrates the direct relationship between increased mobility and economic growth, social equity and individual freedom. Bicycles specifically have contributed to the enhanced mobility of traditionally disenfranchised groups such as women, children and low-income households because they are affordable,

accessible and safe. In the late 1800s, women suffragists in the U.S. encouraged bicycling as means to empowerment.

"Let me tell you what I think of bicycling. I think it has done more to emancipate women than anything else in the world. It gives women a feeling of freedom and self-reliance. I stand and rejoice every time I see a woman ride by on a wheel... the picture of free, untrammelled womanhood" – Susan B. Anthony, 1896

PostWorldWarIItheautomobilesucceededthebicycleasthe dominant private mode of transportation in the United States, and planning for bicycling did not significantly reemerge until the late 1970s during the U.S.energycrisis. Nationally the bicycle has seen a resurgence in popularity over the past decade, especially in major metropolitan areas such as Portland Oregon, Minneapolis Minnesota, New York New York, and San Francisco California. Todaybicyclesremainaffordable,efficient,emission-free and uniquely fun.



President John F. Kennedy once famously said "nothing compares to the simple pleasure of riding a bike". A sort of hybrid between walking and driving

bicycles

bicycling is one of the safest, healthiest and most accessible modes of transportation. Equally suited for recreational, shopping and commute trips, not only can bicycling replace driving as a primary mode of transportation for many local trips, it can enhance multi-modal trips as well. As an alternative to walking, bicycling can reduce the time it takes to access transit. When bicycles are carried aboard transit it is also possible to reduce the travel time from transit to a final destination.

A bicyclist is both a driver of a vehicle and a pedestrian and must know where and when to act like one or the other. When riding on the street the California Vehicle Code requires that bicyclists must act and be treated as a vehicle. However, when a bicyclist dismounts they instantly become a pedestrian and are protected as one under the law.

This adaptability can be both a blessing and a curse. As a driver, a bicyclist can take advantage of the fastest path of travel and can then access their destination more directly as a pedestrian than someone driving a car who must first locate parking before walking to their destination. However, when bicyclists do not behave like either a vehicle or a pedestrian they put their safety and the safety of others at risk.

In summary, for all of the potential economic, health, and environmental benefits, bicycling remains a highly valued mode of transportation. The City has a history of supporting and encouraging bicycling through policies and programs such as the City's General Plan, Climate Action Plan, Area Plans, Specific Plans

and the 2009 Bicycle Transportation Plan. Increasing the number of trips taken by bicycle would help the City reach important goals ranging from transportation demand management to greenhouse gas emissions reduction.

BENEFITS TO BICYCLING

Bicycling promotes and improves a community's health, environment, economy, congestion, synergy and social equity, and transportation as follows:

Health – bicycling is a low-impact form of aerobic exercise that can help reduce obesity rates.

Environmental – bicycles do not produce any greenhouse gas emissions when operated, and therefore do not contribute to air pollution, water pollution or climate change. Bicycles also do not produce noise pollution as motorized transportation does.

Economy – bicyclists spend less money per trip than motorists, but make more frequent trips. Properties near bicycle facility projects see an increase in value after completion. Reduced demand for automobile parking frees up valuable land for more profitable endeavors than parking.

Traffic – a bicycle is a much smaller vehicle than a car or truck and takes up less space on the roadway. Replacing commute trips taken by car or truck with trips taken by bicycle would significantly increase roadway capacity and reduce traffic congestion on local streets.

Social Equity—Most low-income persons who cannot afford a car for personal transportation can afford a bicycle. Bicycles enhance mobility for disadvantaged groups. Bicycles are accessible to many non-drivers and provide freedom and opportunity especially in the case of youth.

Transportation Synergy – Bicycling can be a stand-alone mode of transportation or be used to enhance another mode such as transit.

BICYCLE TOOLBOX

California bicycle facilities are subject to the California Manual on Uniform Traffic Control Devices. California also maintains its own Highway Design Manual, which includes a chapter on bikeways. All planned facilities and design standards in Monterey on the Move are consistent with these two sets of guidelines.



Mark Thomas Drive Class II Bicycle Lanes

Bikeways

Bikeways are on-street or off-street rights-of-way designated for bicycle transportation and designed to meet the needs of bicyclists. According to the California Highway Design Manual, the role of a bikeway is to “improve bicycling safety and convenience”. There are three types of bikeway facilities: class I, class II and class III. Each type of bikeway has a place and purpose, and all types are necessary to a comprehensive bicycle network. There are over 25 miles of existing class I bicycle paths and class II bicycle lanes in Monterey (Table 5).

Class I Bicycle Path

A class I bicycle path is physically separated from motorized traffic either vertically, by barrier or both. Bicycle paths are best suited along corridors with few interruptions from cross-traffic. They are primarily designed to improve mobility and offer recreational opportunities, but provide limited access to on-street facilities, businesses and residences. Class I bicycle paths can greatly enhance a bicycle network, however, they should be used in addition to and not in place of on-street bicycle facilities. A functional bicycle network requires both on-street and off-street facilities to accommodate users of all experience levels.

There are several existing class I bicycle paths in Monterey. The best-known and most used path is the Recreation Trail which hugs the Monterey Bay coastline for 18 miles from Pacific Grove to Castroville. The Recreation Trail meets the State designated design standards of a class I bicycle path but operates as a

bicycles

multi-use trail and is shared between bicyclists, pedestrians and skaters.

Other class I paths in the city are much smaller than the Recreation Trail, but still provide important connections within the bicycle network. The path that runs adjacent to Munras Avenue from El Dorado to Soledad Dr provides a direct connection between two major activity centers (downtown and the Del Monte Shopping Center). The short class I path along Mark Thomas from Santa Catalina School to the Old Salinas Highway offers a corridor that may feel safer and more comfortable for inexperienced bicyclists due to the physical separation from motorized traffic.



Some class I paths exist to offer scenic detours away from the street. The path along Aguajito Rd from Allen Dr to Farragut Rd is an example of this, as well as the Recreation Trail.

Class II Bicycle Lane

A class II bicycle lane is an on-street facility marked by a striped line on the pavement, symbols and let-



tering. The preferred width of bicycle lanes along collector and arterial streets is six feet, however a minimum width of five feet is acceptable if the site is constrained. Bicycle lanes are desirable on streets with high volumes of fast-moving traffic as separation between slower moving vehicles (bicycles) and motorists is critical to preserving speedy travel for both modes. Bicyclists particularly benefit from bicycle lanes during peak travel times when collector and arterial streets are congested. While travel lanes for motorists are stopped, bicycle lanes remain unaffected by the congestion and often enable bicyclists to travel

faster than motorists. Without bicycle lanes, bicyclists would be forced to travel in congested travel lanes along with motorists. The presence of bicycle lanes reassures bicyclists as to where they should travel on the road and reminds motorists to watch for bicyclists.

As shown in Table 5, there are approximately 20 miles of existing class II bicycle lanes in the city.

Class III Bikeway Facility: Bicycle Boulevards & Shared Roadway/Sharrows

Per the California Highway Design Manual, a class III facility is established by placing bike route signs along roadways. One type of class III facility is a shared roadway or “sharrows”, which is an on-street bicycle facility marked by a stencil of a bicycle/bicyclist with a chevron sign. The purpose of the sharrow is to show bicyclists their proper placement on the street (outside of the “door-zone” where there is on-street parking), and remind drivers to watch for and share the road with bicyclists.

Bicycle boulevards are a series of connected class III facilities that prioritize bicycle transportation and provide alternative routes for bicyclists away from high speeds and traffic. When possible, bicyclists are given right-of-way at most intersections along the route to increase convenience and ease of travel.

Bicycle boulevards and sharrows are particularly useful on narrow streets where there may not be room for a class II bicycle lane. Many streets in the older parts of Monterey such as Downtown and Old Town are narrow and will benefit from class III bicycle facilities.

Traffic calming features such as curb extensions and medians complement bicycle boulevards as they reduce vehicle speeds so they more closely match the speed of bicyclists.

Bicycle boulevards serve as the backbone of the proposed bikeway network. A bicycle boulevard is a shared roadway that has been optimized for bicycle traffic. In contrast with other high volume roadways with bicycle lanes, bicycle boulevards are placed on low volume local or collector streets that maximize the



connectivity for bicycles. They also direct cyclists and motorists to safely share the road on streets that are too narrow for class II bicycle lanes and where widening the street is infeasible.

Bicycle boulevards can be beneficial to all types of cyclists. They offer an alternative route on streets with low traffic volumes and travel speeds, which is typically more comfortable for less experienced bicyclists.

bicycles

Bicycle boulevards provide important connections between residential areas and popular destinations.

Monterey on the Move identifies two bicycle boulevards that will provide safe passage for bicyclists between key residential and commercial areas and the three future growth areas identified in the General Plan: North Fremont, Downtown and Lighthouse/Foam. These future growth areas and nearby residential neighborhoods are divided by three major

geopolitical barriers: the Presidio of Monterey, Naval Postgraduate School and Lake El Estero/Cemetery.

Bicycle boulevard safety enhancements, such as sharrows and traffic calming devices are key elements for transitioning a roadway to a safe and functional bicycle boulevard. Specific safety enhancements have been identified and will be implemented as funding becomes available.

Table 8: Bicycle Treatments	
Treatment	Location
Colored Lane Markings	Madison St and Pacific St Mark Thomas Drive at Josselyn Canyon Road and Old Salinas Hwy
Sharrows	All Class III bikeways
Bicycle Boxes	Del Monte Ave/Camino Aguajito Fremont St/Camino Aguajito Alvarado St/Pearl St Munras/El Dorado Along N. Fremont
Mileage and Destination Signs	Recreation Trail Aquarium/Cannery Row Sports Center Alvarado Street/Downtown Fisherman's Wharf Fairgrounds Academic Institutions
Bicycle Detection	Signalized intersections along bicycle routes
Floating Bicycle Lane	Camino El Estero

Bicycle Treatments

The following bikeway design treatments are intended to enhance the safety and usability of bikeways. They will be used in accordance with the Manual on Uniform Traffic Control Devices guidelines, issued by the Federal Highway Administration, and other relevant existing laws and regulations. Treatments that are not currently in the Manual on Uniform Traffic Control Devices, such as colored lane markings and bicycle route wayfinding signs, are considered “experimental” and will require Federal Highway Administration Experimental Project Approval before implementing. A summary of proposed locations for bikeway design treatments is provided in Table 8.

Colored Lane Markings

Colored pavement markings at selected bikeway locations alert motorists and bicyclists of potential conflict areas and assign the right-of-way to bicyclists. Increasing the visibility of bikeways reduces the number and severity of incidents between motor vehicles and bicycles. Examples of potential areas for this treatment in Monterey include Madison Street and Pacific Street where motorists traveling north on Pacific Street have poor visibility when turning right onto Madison Street; and Mark Thomas Drive at Josselyn Canyon road and Old Highway Road where cyclists re-enter the roadway with motorists.

Wayfinding and Signs

Bicycle mileage markers and wayfinding signs indicate the distance and direction to popular destinations. These are similar to mileage markers used on

roadways for cars. They provide a resource for cyclists to estimate travel time to destinations, they also benefit athletic riders who use the markers for training.

Key destinations such as the Aquarium, Sports Center, Alvarado Street/Downtown, Cannery Row, Fisherman’s Wharf, Fairgrounds and all major educational institutions should be included on wayfinding signs.

Monterey has many narrow streets that do not allow for expansion, which creates challenges to developing new bicycle facilities. Where on-street parking is allowed, bicyclists are presented with the potential safety hazard of car doors opening and obstructing the path of the bicyclist. By state law, bicyclists are permitted to ride with traffic away from hazardous conditions. Signs can remind motorists that bicyclists have this right. Signs that remind motorists to share the road are proposed on the downward side of steep streets listed in the proposed routes.

Bicycle Detection

Bicycle Detection at signalized intersections along bicycle routes increase convenience and encourage correct placement of bicyclists at the intersection. Bicycle detection technologies sense bicycles in a travel lane and trigger the green phase at a signalized intersection. Currently the City uses “E” loops (inductive), which are installed below the pavement and marked by a bicycle symbol and line to show optimal alignment for detection. Inductive loop sensors are the least expensive to install typically, but are not easy to

bicycles

maintain or repair and may not detect bicycles that are made mostly of carbon fiber.

Microwave and video sensors are other bicycle de-



Inductive Loop pavement markings and signage

tection options. Both are more expensive up-front, but are easier to access for maintenance and repairs. Most video detection can distinguish between bicycles and other vehicles and can monitor multiple lanes.

Bicycle Boxes

The bicycle box provides bicyclists a protected space in front of queued motor vehicles at traffic signals, giving them a head start and extra visibility when the light turns green. This treatment is particularly helpful for bicyclists trying to turn left at a busy intersection. Pro-



Bicycle Box

posed locations for this treatment in Monterey include the intersections of Del Monte Avenue and Camino Aguajito, Fremont Street and Aguajito Road, Abrego Street and El Dorado Street and along North Fremont Street.



Floating Bicycle Lane in San Francisco

Floating Bicycle Lane

Floating bicycle lanes are used to meet the demand for travel during peak commute hours and that of on-street parking during off-peak hours. Essentially bicyclists and parked cars share the same right-of-way just during different times of the day. The markings can cause some confusion for those who have never used floating bicycle lanes, but they offer an opportunity for new bicycle lanes where they have been rejected in the past due to the desire to keep on-street parking. This treatment is identified as a project along Camino El Estero.

Bicycle Parking

The location of bicycle racks largely determines how much they are used. Bicyclists prefer to park as close to their destination as possible and in a highly visible location to reduce the chance of theft. Observation of bicycle rack use in the downtown area has revealed that bicycle racks that are far away from the entrance to businesses and are partially hidden by foliage or structures are used infrequently if at all. Instead of using these existing racks, bicyclists lock their bicycles to lampposts, telephone poles, benches and railings sometimes blocking or inhibiting pedestrian access.

Bicycle rack design also affects use. Some bicycle racks, such as the wheel rack design provide insufficient support and can damage wheels. Other racks such as the serpentine style racks are difficult to secure a bicycle to with certain types of locks and do not use space efficiently. There are several different types of existing bicycle racks in Monterey, some are more

desirable than others due to superior support and security features. The most desirable bicycle designs are those that offer multiple points to lock to, wheel support and frame support. Peak Racks and Inverted-U racks best meet this criteria. Serpentine racks and wheel racks are the least desirable and their use should be limited or discontinued.

The conversion of on-street parking to bicycle parking has been successful in Europe and the United States. This is a cost-effective way to provide equitable parking opportunities in the downtown area while maintaining visibility and safety for bicyclists. A formal process should be developed to handle requests to convert on-street parking spaces to bicycle corrals. Bicycle corrals that do not involve a loss of on-street parking may be installed at the discretion of the City Traffic Engineer.

Bicycle valet service should be available at any public event if resources are available. Bicycle valets provide a secure area for bicyclists to park for the duration of an event. Local bicycle clubs and community groups offer bicycle valet services for interested venues.

EXISTING CONDITIONS

Since the adoption of the 2009 Bicycle Transportation Plan the following projects have been completed:

- Class II Bicycle lanes on Camino Aguajito from Mark Thomas Drive to Del Monte Avenue
- Class II Bicycle lanes on the south side of Fremont Street from Mesa Road to Aguajito Road

bicycles

- Class II Bicycle lanes on Figueroa Street from E. Franklin Street to Wharf II
- Class II Bicycle lanes on Mark Thomas Drive from Sloat Avenue to Aguajito Road
- Class II Bicycle lanes on English Avenue from Encina Avenue to Del Monte Avenue
- Class II\III Bicycle lanes on the uphill portions of Glenwood Circle
- Design of Bicycle Ramp at Hawthorne Street/Private Bolio Road
- Installation of bicycle racks in the downtown area

Existing Parking and Changing Facilities

Automobile parking consumes an enormous amount of land and is typically the limiting factor in modern urban development. In downtown Monterey alone, roughly 1.7 million square feet of developed area is devoted to on-street and off-street parking, consisting of:

- 320 sf/parking space in surface lots
- 500 sf/single-family home off-street parking
- 160 sf/on-street parking space

Bicycles are much smaller than cars, but similarly require secure storage space at the end of a trip or destination. For reference, an average sized on-street parking space can accommodate eight bicycles. Despite the small size and low-cost of bicycle parking, the availability of automobile parking far outweighs that of available bicycle parking in the city.

Throughout the community there are over 100 bicycle parking racks and lockers. Each rack or locker is suited to fit between one and ten or more bicycles depending on the type of rack used. Bicycle rack locations are shown on Figures 5–7 and Table 6.

The majority of bicycle racks are concentrated in the downtown and Cannery Row areas. Currently, the only existing changing location for bicyclists that is open to the public is located at the Coast Guard Pier.

Table 5: Existing Bikeway Miles 2012

Location	Facility Type	Distance (mi)
Aguajito Rd	Class II	3
Camino Aguajito	Class II	0.8
Canyon Del Rey Blvd	Class II	3.8
Casa Verde Way	Class II	0.08
Garden Rd	Class II	2.6
Mark Thomas Dr	Class II	1.33
Monholland Rd	Class II	3.9
Ragsdale Dr	Class II	3.56
Sloat Ave	Class II	1
Total Class II Lanes = 20.07 miles		
Aguajito Rd	Class I	0.25
Munras Ave	Class I	0.8
Recreation Trail	Class I	4.75
Total Class I Paths = 5.8 miles		

bicycles

EXISTING BIKEWAYS		
Street	Limits	Class
Aguajito Rd	Allan Dr to Farragut Rd	I & II
Aguajito Rd	Farragut to Castro Rd	II
Aguajito Rd	Mark Thomas Dr to Allen Dr	II
Aguajito Rd	Mark Thomas Dr to Fremont Ave	II
Camino Aguajito	Fremont St to Del Monte Ave	II
English Ave	Encina Ave to Del Monte Ave	II
Figueroa St	E. Franklin to Wharf I	II
Fremont St	Mesa Rd to Aguajito Rd	II
Garden Rd	Fairgrounds Rd to Olmstead Rd	II
Harris Ct	Ragsdale Dr to end	II
Justin Ct	Ragsdale Dr to end	II
Lower Ragsdale Dr	Ragsdale Dr to Wilson Rd	II
Mark Thomas Dr	Aguajito Rd to Sloat Ave	II
Mark Thomas Dr	Sloat Ave to School Rd	II
Mark Thomas Dr	School Rd to Old Monterey Salinas Highway	I/II
Monterey Recreation Trail	Pacific Grove City Limit to Seaside City Limit	I
Munras Ave	El Dorado to Soledad	I
Pearl St	Bridges	II
Ragsdale Dr	Hwy 69 to Wilson Rd	II
Sloat Ave	Del Monte Ave to Mark Thomas Dr	II
Owens Way	Harris Ct to end	II
Viejo Rd	Caltrans Right of Way	I
Wilson Rd	Ragsdale Dr to York Rd	II
Monhollan Dr	Aguajito Rd to Hwy 68	II



There are additional changing locations at private companies and institutions, such as the Naval Postgraduate School, Monterey Institute of International Studies, and Monterey Peninsula College, and at public locations that can be accessed through membership, such as the Sports Center. Public restrooms are also sometimes used for changing, however they lack showers.

In 2012 the City installed two Peak Rack bicycle racks in the Trader Joe's shopping center. The Peak Rack design is simple, but uses space efficiently, offers good wheel support and a security bar that accommodates most if not all types of locks. Several other potential peak rack locations have been identified in the downtown area (Figure 6).

Existing Programs

Existing programs are in effect that relate to health, safety, education and enforcement. The safest place for a bicyclist to ride is on the street where they are more visible to motorists, have further separation from driveway entry and exit points and do not conflict with pedestrian activity. Of course, not everyone feels comfortable riding with motorized traffic, which is why

bicycles

Class I facilities such as the Recreation Trail, are so popular. Unfortunately when used improperly, even the Recreation Trail can feel unsafe, especially when crowded with a mix of user types and speeds.

Community Action Team

Because multi-use trails such as the Recreation Trail are shared by several different modes, the City adopted rules of conduct to mitigate user conflict. When the rules are followed, the facility operates smoothly. The Monterey Police Department currently has two full time officers assigned to the Community Action Team who conduct patrol by bicycle. These officers patrol the Recreation Trail and the Old Monterey Business District day and night. These officers have the same responsibilities as officers inside a patrol car. In addition, the Community Action Team officers educate the public on proper bicycle safety laws. These safety laws include riding with a helmet for youth under 18 years of age and proper equipment function (such as breaks or lights). They also educate motorists on sharing the road with bicyclists and the rules of the road.

Community Action Team's goal is to provide the community and its visitors with a police presence in areas that are not easily accessible by patrol car.

Bicycle Rodeos

The Community Action Team works closely with the Monterey Police Department School Resource Officer to educate students on bicycle safety and laws. In the Spring of 2008, Monterey Police Department and the

TABLE 6: EXISTING BICYCLE RACKS

Location	Bicycle Racks
Cannery Row	2
Aquarium	1
Coast Guard Lot and Navy Pier	2
Wave Street	2
Foam Street and Drake Avenue	1
Hilltop Park	1
Monterey Hostel (778 Hawthorne)	3
Monterey Bay Coastal Trail	20+
Harbormaster's Office	1
Monterey Sports Center	3
Franklin Street and Figueroa Street	1
Dennis the Menace Park	3
Alvarado Street	7
Pacific Avenue	4
Custom House/Portola Plaza	3
Calle Principal Garage	3
Monterey Transit Plaza	1
East Village Coffee House and Plaza	3
Peet's Coffee/Trader Joe's	5
Peter B's	1
Constuction Management Office	1
Colton Hall (580 Pacific Street)	2
Library (625 Pacific Street)	2
Human Resources (735 Pacific Street)	2 (3 wall mount)
Post Office	1
Macy's	2
Whole Foods	3
Monterey Peninsula College (MPC)	5

Traffic Engineering Department held a Bicycle rodeo for elementary school students. The Monterey Police Department also participated in a BMX bicycle show at Bay View Elementary School, introducing students to the Community Action Team officers and the Monterey Police Department, while reviewing safe bicycling techniques. Ecology Action, a local non-profit organization continued this effort in Spring of 2012 during Bike to School Week.

NEEDS ANALYSIS

Bicyclists have varying levels of experience and abilities, different socio-economic backgrounds, and assorted destinations. All of these factors contribute to travel behavior and may also present barriers to bicycling. A community survey was conducted on-line and in person at events. Survey results reveal the needs of this diverse group, which include the following categories:

- Commuters
- Safety
- Connectivity & Access

Commuters

Most people in Monterey bicycle for recreation and fitness, however a growing number of residents are bicycling to work or school (Table 7). Commuter trips are the biggest contributor to regular traffic conges-

tion in Monterey. If more people commuted by bicycle two or more days per week, it would equate to real health and environmental benefits and reduce traffic congestion. Despite the known benefits, most people do not commute by bicycle (less than 5% in 2010).

Some of the common perceived issues with commuting by bicycle:

- Don't have time, takes too long
- Don't want to get sweaty before work
- Don't own a bicycle
- Not comfortable riding in traffic
- Not comfortable riding at night after work
- Poor weather – too hot or cold, humid, or raining
- Carrying too much stuff
- Have to drop off/pick up children

Many of the aforementioned barriers to commuting by bicycle can be remedied through incentive programs, organized commute group rides and access to public shower/changing facilities. However, the underlying issue may be that travel behavior is simply difficult to change. It is a slow process, but communities that have methodically incorporated bicycling into local culture through improved infrastructure, outreach and supportive programs and events have seen an increase in overall trips by bicycle.

For those who bicycle already, it is important to continue to improve and maintain facilities and grow the

bicycles

existing network so that popular destinations become more accessible and convenient to get to. The majority of survey respondents stated that they rode a bicycle for recreation to access parks and open space as well as restaurants and retail stores (Figure 3). Therefore it is important to have adequate bicycle access and parking at these types of destinations.

Safety

When asked “where don’t you enjoy bicycling”, the most commonly named locations were streets with high volumes of fast-moving vehicular traffic where riders feel uncomfortable or unsafe. Many survey respondents also reported that they do not enjoy riding on the Recreation Trail when it is crowded. They listed the following streets as the least bicycle-friendly in Monterey:

- Del Monte Avenue
- Lighthouse Avenue
- Pacific Street
- Fremont Street
- North Fremont Street



Police records confirm that these streets have the highest rate of collisions involving a bicyclist or pedestrian, although most incidents occurred

at or near an intersection. Additionally there were a few reported collisions at Recreation Trail crossings (Casa Verde and Cannery Row) but none actually along the length of the facility.

Although it is usually the bicyclist who is injured in a collision with a motorized vehicle, the driver of the motorized vehicle is not always at fault. Pedestrians have right of way at marked crosswalks such as the Recreation Trail Crossings provided they practice due care when crossing. Bicyclists who dismount and walk in the crosswalk are also considered pedestrians under the law. However, if bicyclists ride through the intersection they are considered vehicles under the law and must yield to motorists (CA Vehicle Code Section 21950).

The majority of survey respondents wanted more Class II bicycle lanes and well-marked bicycle routes on streets with less vehicular traffic (Figure 4). These types of bicycle projects should be given high priority along with Recreation Trail crossing improvements, intersection improvements and traffic calming projects.

Connectivity & Access

The major barriers to bicycle access and connectivity in Monterey are one-way streets, jurisdictional boundaries, inadequate on-street and end of use facilities, and lack of bicycle detection at signalized intersections. One-way streets force travelers, especially



Inverted-U Rack



Peak Rack



Hitching Post Rack

bicycles



Serpentine Rack



Wheel Rack

those unfamiliar with the street network, to take longer, indirect routes to reach their desired destination.

Long-range planning efforts have identified transportation issues and opportunities related to existing and proposed land uses across the city. The City's specific/master plans seek to improve mobility. Monterey on the Move serves as an implementation tool for such improvements.

New Monterey / Cannery Row

The Lighthouse Avenue corridor is an important connection from the New Monterey neighborhood to Downtown and other areas of the city. Due to restricted access through the Presidio of Monterey which lies between New Monterey and the rest of the city, Lighthouse Avenue is heavily impacted during peak hours.

Given the high volumes of traffic, bicycle lanes would be the most appropriate facility to improve safety. However, unless on-street parking along Lighthouse Avenue was eliminated, the right-of-way is too constrained to accommodate Class II bicycle lanes. If, at some point in the future, the City Council decides to eliminate on-street parking along Lighthouse Avenue or otherwise change the circulation pattern, bicycle lanes should be installed in between Private Bolio Road and David Avenue. Therefore, to complete a multi-modal corridor through New Monterey, Monterey on the Move identifies bicycle travel routes on alternative streets to connect to other destinations in the City.

The Recreation Trail is the main route for cyclists and pedestrians between Cannery Row and the Down-

TABLE 7: MONTEREY COMMUTING TO WORK

MODE	2000		2010		Percent Change %
	Estimate	Percent	Estimate	Percent	
Workers 16 years and over	16,699	100%	15,479	100%	-7%
Car, truck, or van -- drove alone	10,854	65%	8,566	55%	-21%
Car, truck, or van -- carpooled	1,524	9%	1,257	8%	-18%
Public transportation (excluding taxis)	523	3%	675	4%	29%
Walked	2,691	16%	2,876	19%	7%
Other means (bicycle, motorcycle, taxi)	464	3%	835	5%	80%
Worked at home	643	4%	1,270	8%	98%
Mean travel time to work (minutes)	15.7	(X)	15.1	(X)	

U.S. Census Table DP03. Selected Economic: 2010; U.S. Census Table DP-3. Profile of Selected Economic Characteristics: 2000

bicycles

town. During the high tourist season and weekends, the Recreation Trail can be congested and occasionally conflicts may arise between the faster moving

cyclists and the meandering visitors. Recreation Trail crossings also pose a potential conflict between the trail users and street traffic. Commuters often bypass the most congested sections of the trail and use Wave Street as an alternative route. Therefore, alternative

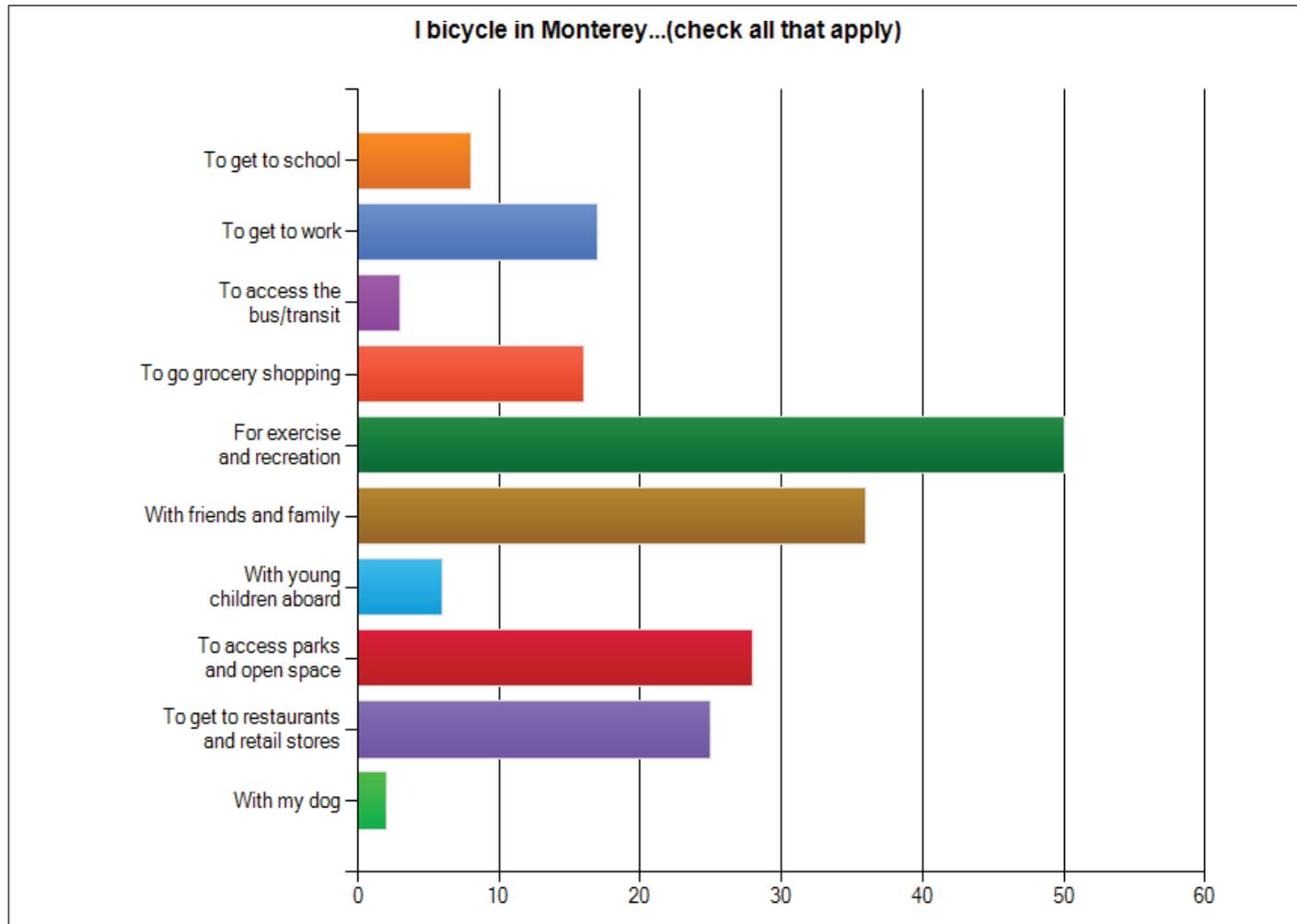


Figure 3: Community Survey Results

routes that connect this portion of the City to destinations are necessary to maintain the safety and enjoyment of the Recreation Trail for all user groups.

Downtown and Waterfront Areas

One-way streets and the Alvarado Mall in the downtown area limit bicycle access to and from the Recreation Trail and other desired destinations. Currently, cyclists are prohibited from riding along the Alvarado Mall. For a bicyclist to legally access Alvarado Street from the Recreation Trail, they must ride along Olivier Street, Scott Street, Pacific Street, and Franklin Street or ride down to access Figueroa Street then Pearl Street or dismount and walk to Alvarado Street along the Alvarado Mall. In practice, many bicyclists have been observed illegally riding along the Alvarado Mall or down the sidewalk on Alvarado Street.

Bicyclists are prohibited from riding on the sidewalk along Alvarado Street for safety reasons. Bicyclists travel at higher speeds than pedestrians and therefore have less time to react to obstacles as they appear. Additionally, pedestrians and drivers do not expect bicyclists to be riding on the sidewalk and may not look for them when turning out of shops or driveways. In short, when bicyclists ride on sidewalks they increase their chances of being involved in a collision with a pedestrian or motor vehicle especially in areas with high volumes of pedestrian traffic such as Alvarado Street and Downtown.

The circulation chapter of the Downtown Specific Plan requires the conversion of the one-way streets

to two-way to improve circulation and access. Consistent with this concept, bicycle facilities should be added in each direction to Alvarado Street and East Franklin Street. The Specific Plan also proposes partially closing Polk and Pearl streets, allowing limited vehicular traffic access, and creating a bicycle and pedestrian connection between significant historic buildings downtown. The Specific Plan also recommends allowing limited vehicular access through the Alvarado Mall to improve connectivity to the Recreation Trail and the waterfront.

Major opportunities for improved bicycle circulation have also been proposed in the Waterfront Master Plan. One such improvement would be a pedestrian and bicycle promenade along the harbor. Additional bicycle parking and bicycle sharing are also recommended in the plan. Concepts for improving pedestrian and bicycle access between the waterfront and Downtown across the Del Monte Avenue/Washington Street intersection will continue to evolve. When adopted, such concepts will be incorporated into Monterey on the Move.

Bicycle parking in the downtown area does not meet current needs. During busy times, such as the weekly farmers market and special events, as many as 40 parked bicycles have been counted. At these times bicycles are chained to trees and handrails due to lack of available bicycle parking. The average number of bicycles parked on Alvarado Street is between 20–30 during farmer’s market and 10–15 at any given time during the week.

bicycles

A downtown multimodal center is envisioned in the vicinity of Franklin Street and Washington Street. This

station will be a major transportation hub and transfer center. To encourage both visitors and residents to use alternative modes of transportation to travel in Monterey, it is important that the station be easily accessible by walking and bicycling. When the location

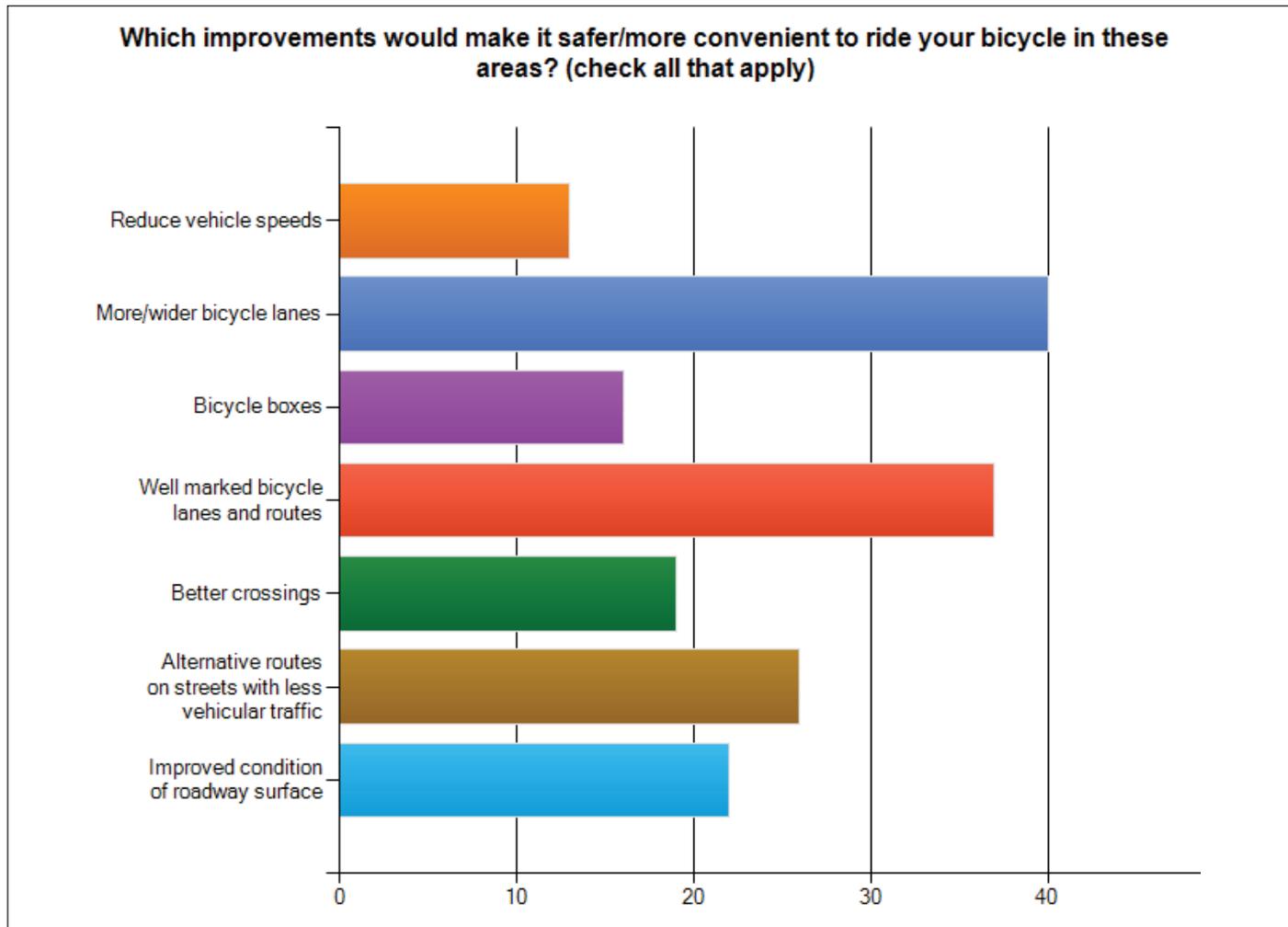


Figure 4: Community Survey Results

of the multimodal station has been finalized, this plan shall be revised as necessary to ensure its implementation.

North Fremont / Highway 68

North Fremont Street is an arterial street with a generous right-of-way width that connects Monterey and the cities of Seaside and Del Rey Oaks. Canyon Del Rey provides a class II bicycle lane that accesses General Jim Moore Boulevard, South Boundary Road, and Highway 68, which provide connections to Ryan Ranch and other destinations within the County, Seaside, Marina, and Salinas.

PROPOSED BICYCLE PROGRAMS AND PROJECTS

This section expands upon the bicycle related programs and projects identified in the Objectives Chapter. These programs and projects for bicycle facilities, which together with the pedestrian programs and projects, and the related design standards, serve as the implementation mechanism to achieve General Plan vision. The bicycle projects (bikeways, bicycle parking and other end of use facilities) have been identified and prioritized (see Appendix A) based on the objectives listed in the previous chapter, and are discussed below by area. New bikeways will connect to the existing bicycle network and accommodate current and future ridership patterns, consistent with future growth patterns described in the General Plan. Figures 5–7 identify existing and proposed bikeway and bicycle fa-

cility locations. Table 9 provides a comprehensive list of proposed bicycle lanes.

New Monterey / Cannery Row

Bikeways

The New Monterey Bicycle Boulevard, and specifically the connection from Private Bolio Road to Hawthorne Street, provides an alternate connection between New Monterey and Downtown that does not require crossing Lighthouse Avenue to access the Recreation Trail. This connection also complements the Army's goal of improving bicycle access to the Presidio.

The New Monterey Bicycle Boulevard includes class III lanes on Laine Street, Hoffman Avenue, and Hawthorne Street. The route travels southeast on Laine Street from David Avenue, turns left at Reeside, right on Hawthorne and then connects to the lower Presi-



Hawthorne/Bolio Ramp Rendering

bicycles

dio. This connection requires construction of a ramp from Hawthorne Street to Private Bolio Road, due to significant elevation change. The Hawthorne/Bolio bicycle ramp has been designed and will proceed with construction when funding becomes available.

The route continues through the lower Presidio and connects to Van Buren Street. To make this connection bicycle-friendly, construction of a new path will be required near the existing stairs between Seeno Street and Artillery Street. After reaching Van Buren Street, riders will have the option of turning left onto either Scott Street or Franklin Street to connect with Alvarado Street or continuing on to Madison Street where it is possible to turn left to connect to the East Downtown Bicycle Boulevard or right to travel toward Monterey High School.

A contra-flow lane along Reeside Avenue between Hawthorne and Foam Street would provide connection across Lighthouse Avenue to the Recreation Trail. Bicycle detection is also necessary at the intersection of Reeside Avenue and Lighthouse Avenue.

Wave Street is often used by commuters and faster cyclists as an alternative route to the Recreation Trail during the trail's more congested times. A class III route is proposed along Wave Street to increase the safety of this alternative route.

Monterey on the Move addresses Recreation Trail safety and congestion a number of ways. Construction of the New Monterey bicycle boulevard and the

Wave Street bicycle route will provide locals, commuters, and faster cyclists an alternative route to the Recreation Trail. Once these alternative routes are in place, the relocation of these user groups from the Recreation Trail will relieve congestion and decrease conflicts that may arise between the faster moving cyclists and the meandering pedestrians. Recreation Trail crossing safety and lighting improvements are proposed at all intersections between Reeside Avenue and David Avenue. Also, where feasible, the Recreation Trail may be widened at locations between Wharf 1 and the Aquarium.

Bicycle Parking

The Cannery Row/Aquarium area is a popular destination for bicyclists as it is easily accessed by the Recreation Trail. Bicycle parking in front of the Aquarium regularly overflows, especially on weekend days. Additional racks along Cannery Row are poorly placed and often overlooked by residents and visitors alike. A bicycle corral is recommended for this area on Cannery Row as well as additional racks near the entrance to the Aquarium.

Downtown and Waterfront

Bikeways

The Downtown Bicycle Boulevard will connect two key areas of the City and provide a much needed bicycle link through the downtown area that will increase safety and encourage use. The Downtown Bicycle Boulevard will extend the class III route from Van Buren Street to Camino Aguajito, traveling east on Jefferson Street, Pearl Street and Third Street. It will then turn

south onto Camino Aguajito onto an existing class II route towards Monterey Peninsula College and continue under Highway 1. At Mark Thomas Drive, the class II route turns east to connect to the North Fremont Bikeway.

One-way lanes would be developed to match existing traffic flows (such as Polk, between Alvarado Street and Hartnell Street). The Pearl Street and Polk Street limited access streets proposed in the Downtown Specific Plan will add great value to this section of the bicycle boulevard. A bicycle box (a designated area for bicycles to stop, increasing their visibility and a vehicle's visibility of cyclists) will be located at the Pearl/Alvarado intersection. This will allow cyclists to move to the center of the lanes for improved visibility. Bicycle detection will be provided at all signalized intersections along the route.

Areas benefiting from this bikeway include the residential areas of Old Town, Casanova–Oak knoll, Josselyn Canyon/Deer Flats, La Mesa, and Oak Grove as well as three major educational institutions. Businesses and residents in Downtown and along North Fremont will benefit from increased bicycle access. In addition, City offices, businesses, such as Trader Joes, and many residential dwellings are located along or near this route.

Other proposed projects will increase safety and connectivity between Downtown Monterey and the Recreation Trail. Two new routes include Abrego/Washington Street between El Dorado Road and the Recreation Trail (class II) and a transitional bicycle

lane along Camino El Estero between Fremont Street and the Recreation Trail. Safety improvements for Del Monte Avenue crossings are proposed at Camino El Estero, Camino Aguajito, Sloat Avenue, and English Avenue. These improvements include bike detection, ADA ramps, audible pedestrian detection, and class I bicycle paths from Del Monte Avenue to the Recreation Trail. The English Avenue crossing also includes elimination of the eastbound free right from English Avenue to Del Monte Avenue.

Pacific Street provides another north/south route between Soledad Drive and the Waterfront and accesses residential neighborhoods, schools, public facilities, and commercial services. Class III bicycle facilities are proposed between Scott Street and Grove Street. Between Grove Street and Soledad Drive, class II southbound and class III northbound facilities are proposed.

The Downtown Specific Plan recommends allowing bicycle access through the Alvarado Mall to access the Recreation Trail. Limited vehicle access may also be permitted at certain times, subject to future City Council consideration.

Within the Waterfront area, Recreation Trail widening is proposed between La Playa Street and Wharf II, where feasible. Safety improvements will be incorporated where the Recreation Trail intersects Figueroa Street and Park Avenue. An alternative bicycle route/pedestrian plaza is proposed between Wharf I and Wharf II that follows the shoreline/harbor.

bicycles

A lesser-known class I bicycle path connects El Dorado and Munras Avenue with the Del Monte Shopping Center. Improvements to the El Dorado/Munras intersection will increase safety and visibility for cyclists making the transition between the street and the bicycle path, which include colored bicycle lanes, a bicycle box, and bicycle detection.

Traffic traveling westbound along Fremont Street runs adjacent to El Estero Park. A class I connection could be accommodated between Camino Aguajito and Camino El Estero. If space permits, a class II facility should be added to both sides of Fremont between Camino El Estero and Abrego Street.

Bicycle Parking and Facilities

Figure 5 shows proposed locations for bicycle parking in the downtown area, including throughout the commercial areas and within Jack's Park, Dennis the Menace Park, and the Waterfront/Window on the Bay.

Shower/changing facilities would encourage increased bicycling/walking commutes if located within the vicinity of City Hall and the proposed Downtown Multimodal Station. Such enhancements to the existing Calle Principal restroom or City Hall restrooms would provide this incentive.

Transit and Transit Station Facilities

Bicyclists often depend on combining alternative modes of transportation to reach their destination and therefore require that forms of transit, such as buses, light rail and commuter rail, accommodate bicycles. Monterey-Salinas Transit buses provide the primary

transit service in Monterey. Currently, the Monterey MST transit hub is located at Simoneau Plaza between Tyler Street, Munras Avenue and Pearl Street.

A multimodal station has been proposed in the vicinity of Washington Street and East Franklin Street. The station would serve bus, bus rapid transit, light rail, and bicycle transportation. AMTRAK and Greyhound bus connections may also be possible. All future rail plans, public transit stations and car pool locations should incorporate bicycle parking and storage areas in their design.

All MST buses are equipped with bicycle racks and folding bicycles may also be brought aboard at the driver's discretion. On-board bicycle carrying capacity should be maximized on all modes of transit where feasible by installing larger racks on buses that do not drive on the freeway or by adding a rack to the back of the bus. Some transit stops offer bicycle racks (short-term parking) or bicycle lockers (longer-term parking) however additional parking facilities are needed.

North Fremont / Highway 68

Bikeways

The North Fremont Bikeway is a Class II bikeway that will run along North Fremont Street from Canyon Del Rey Boulevard to Casa Verde Way (Figure 7). This route will offer safe transport opportunities for commuters and tourists. At Casa Verde Way, a bicycle box will provide cyclists with a safe option of turning south towards the fairgrounds and then west along Mark Thomas Drive to connect to the East Downtown

TABLE 9: PROPOSED BICYCLE LANES

<u>Street</u>	<u>Limit 1</u>	<u>Limit 2</u>	<u>Class</u>
New Monterey			
Laine St	David Ave	Reeside Ave	III
Hoffman Ave	Laine St	Recreation Trail	III
Reeside Ave	Laine St	Hawthorne St	III
Reeside Ave	Hawthorne St	Foam St	contra-flow
Hawthorne St	Reeside Ave	Private Bolio	III/II
Hawthorne St	terminus	Corporal Ewing	I
Corporal Ewing	Private Bolio	Artillery St	II
Old Town/Downtown/East Downtown			
Van Buren St	Artillery St	Seeno St	I
Van Buren St	Seeno St	Madison St	II or III
Madison St	Pacific St	Hartnell St	II
Madison St	Pacific St	Herrmann Dr	II (uphill); III (downhill)
Herrmann Dr	Larking	Via Paraiso	II/III
Jefferson Ave	Alvarado St	Veterans Dr	II
Franklin St	Presidio Gate	Van Buren	II (uphill); III (downhill)
Scott St	Van Buren	Oliver/Rec Trail	III
Polk St	Hartnell St	Alvarado St	II
Alvarado St	Pearl St	Recreation Trail	II or III
Pearl St	Alvarado St	Camino Aguajito	III
Figueroa St	Pearl St	Wharf 2	II/III
Camino El Estero	Fremont St	Del Monte Ave	II/III/Floating
Abrego St	El Dorado	Pearl St	II
Washington St	Pearl St	Recreation Trail	II
3rd St	Camino Aguajito	Sloat Ave	III

<u>Street</u>	<u>Limit 1</u>	<u>Limit 2</u>	<u>Class</u>
North Fremont /Hwy 68			
Josselyn Canyon	Mark Thomas Dr	Hwy 68	III
Mark Thomas Dr	Sloat Ave	Garden Rd	II
Fairground Rd	Garden Rd	Airport Rd	III
Garden Rd	Fairground Rd	Existing class II	II
Olmsted Rd	Garden Rd	Hwy 68	II
Casa Verde Ave	Fairground Rd	Del Monte Ave	III/II
North Fremont	Canyon Del Rey	Casa Verde Ave	II
Airport/Euclid	North Fremont	Casanova Ave	III
Other Areas			
Fremont St E/B	Munras	Mesa Rd	II
Fremont St W/B	Camino Aguajito	Camino El Estero	I
English Ave	Hwy 1 offramp	Montecito Ave	III
Montecito Ave	English Ave	Casa Verde Ave	III
Casanova Ave	Montecito Ave	Euclid	III
Munras Ave	Soledad	El Dorado	II
El Dorado	Pacific St St	Munras Ave	II
Pacific St	Artillery	Grove St	III
Pacific St	Grove St	Soledad Dr	II (uphill); III (downhill)
Soledad Dr	Munras Ave	Pacific St	II
Soledad Dr	Munras Ave	Viejo Rd	II
Viejo Rd	City Limit	Soledad Dr	II
Barnet Segal	Leahy Rd	Soledad Dr	II/III
Skyline Forest	Holman Hwy 68	Skyline Dr	III
Skyline Dr	Skyline Forest	Chatswood Pl	III
Veterans Dr	Chatswood Pl	Johnson Ave	III
S. Boundary Rd	York Rd	Gen Jim Blvd	II
York Rd	Hwy 68	S. Boundary Rd	II/III

bicycles

Bicycle Boulevard. Alternatively, the cyclist may turn north onto Casa Verde Way and travel along Casa Verde Way to connect to the Recreation Trail. A safety solution at the Casa Verde Way and Recreation Trail crossing is also being developed. Class III facilities are also proposed through the Casanova Oak Knoll and Villa Del Monte neighborhoods along Casanova Avenue, Airport Road, Casa Verde, English Avenue, and Montecito Avenue. Bicycle detection is proposed at Casanova Avenue at North Fremont Street, and Fairgrounds Road at Garden Road.

The North Fremont Specific Plan and Monterey on the Move place new bicycle facilities along this corridor as it is the most direct route for many bicycle commuters. Once the multi-modal improvements are complete, North Fremont will serve as a complete street, providing bus rapid transit service, class II bicycle lanes, and pedestrian friendly sidewalks. The North Fremont Bikeway will also implement components of the North Fremont Streetscape plan to improve pedestrian safety and further the vision of the North Fremont Specific Plan to be a multimodal mixed-use neighborhood and encourage alternative modes of transit to events at the fairgrounds.

Within former Fort Ord, Del Rey Oaks and Monterey own adjacent land along South Boundary Road. As this land develops, improvements to South Boundary Road will be constructed to include class II bicycle lanes. Proposed improvements to Garden Road will increase access to the Monterey Municipal Airport and employment centers along Garden Road. Proposed

improvements to Mark Thomas Drive will complete a vital connection between many key destinations, including the Downtown, North Fremont, Garden Road, the Fairgrounds, churches, hotels, and Santa Catalina School. A proposed class III facility along Jocelyn Canyon Road provides an alternative route connecting Mark Thomas Drive to Highway 68.

Bicycle Parking and Facilities

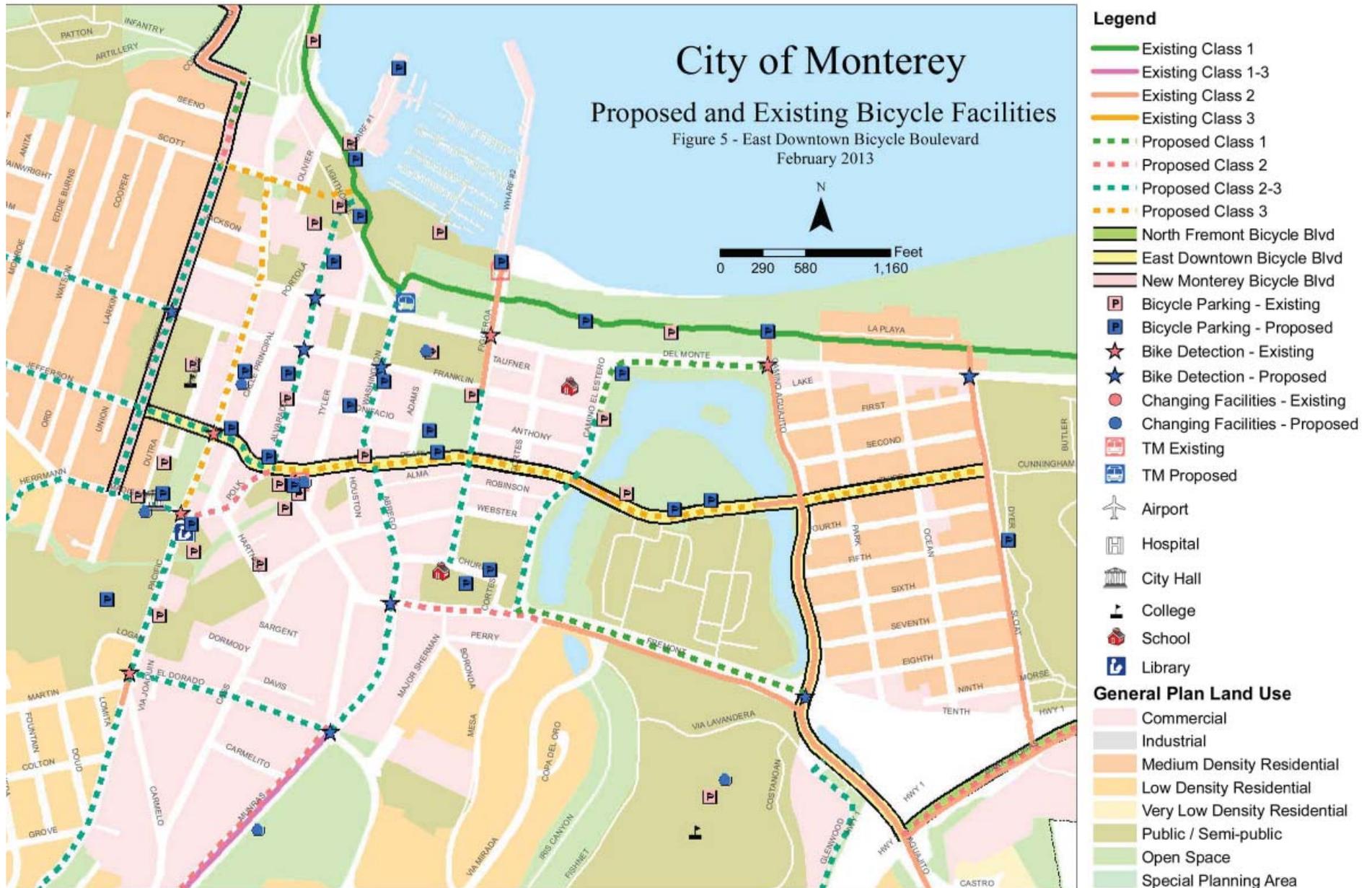
Due to the frequency and large scale of events that occur at the Fairgrounds, there is a regular demand for bicycle parking. This demand could be met through the addition of new bicycle racks or by providing bicycle valet service at all events.

Suggested changing/shower facility locations include within the Ryan Ranch Complex and along Garden Road.

Other Areas

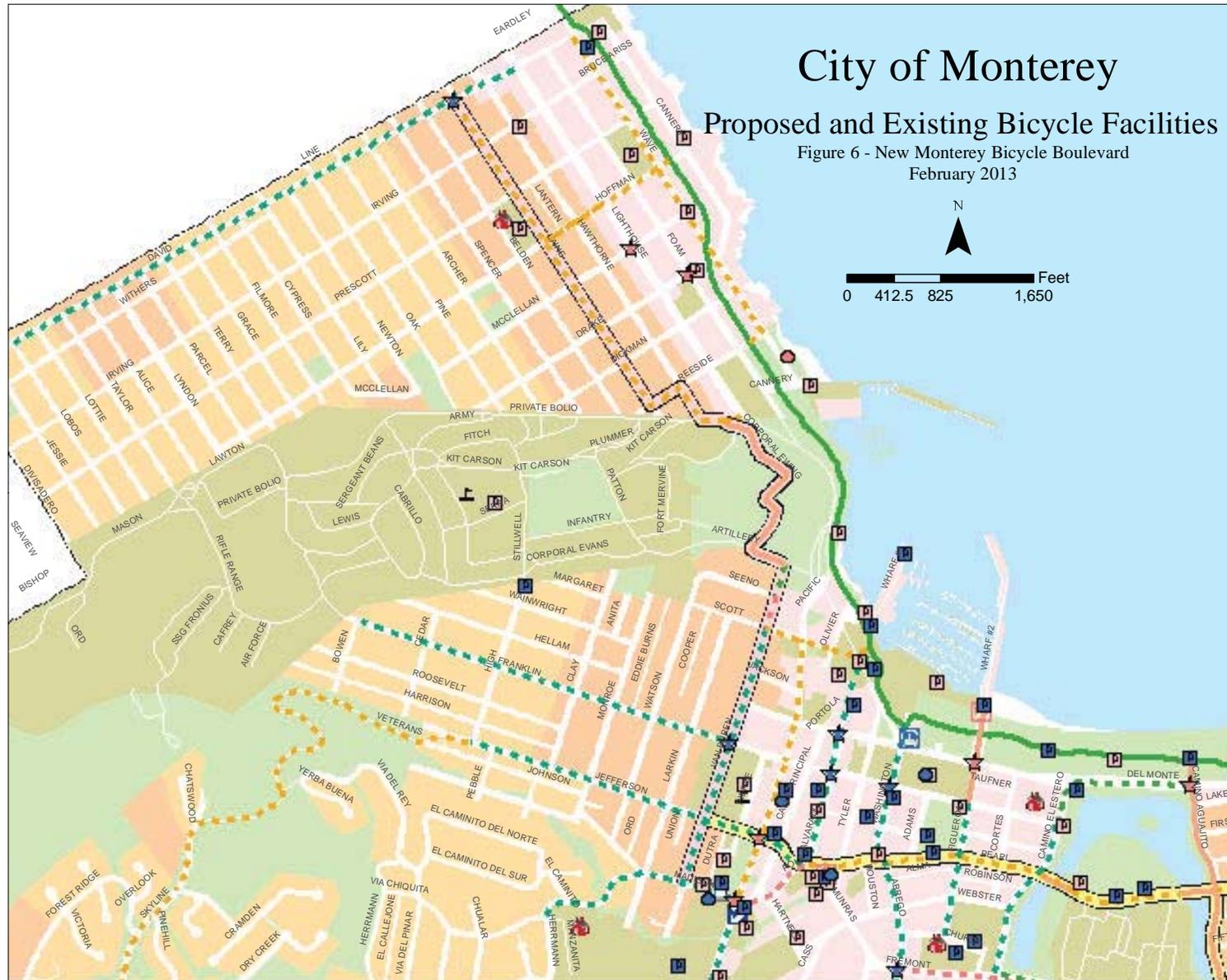
Additional proposed bikeways provide vital connections throughout the City (Figures 5–8). These links connect the two bicycle boulevards and the North Fremont Bikeway to residential neighborhoods, educational facilities and parks. These routes include Glenwood Circle class II/III, Viejo Road class II from Soledad Drive to the existing class I bike path, improvements to the Soledad Drive/Munras Avenue intersection, and a class II facility along Barnet Segal from Soledad Drive to Iris Canyon.

A key proposed changing/shower facility location is the Del Monte Shopping Center, which would encourage employees to bicycle or walk to work.



bicycles

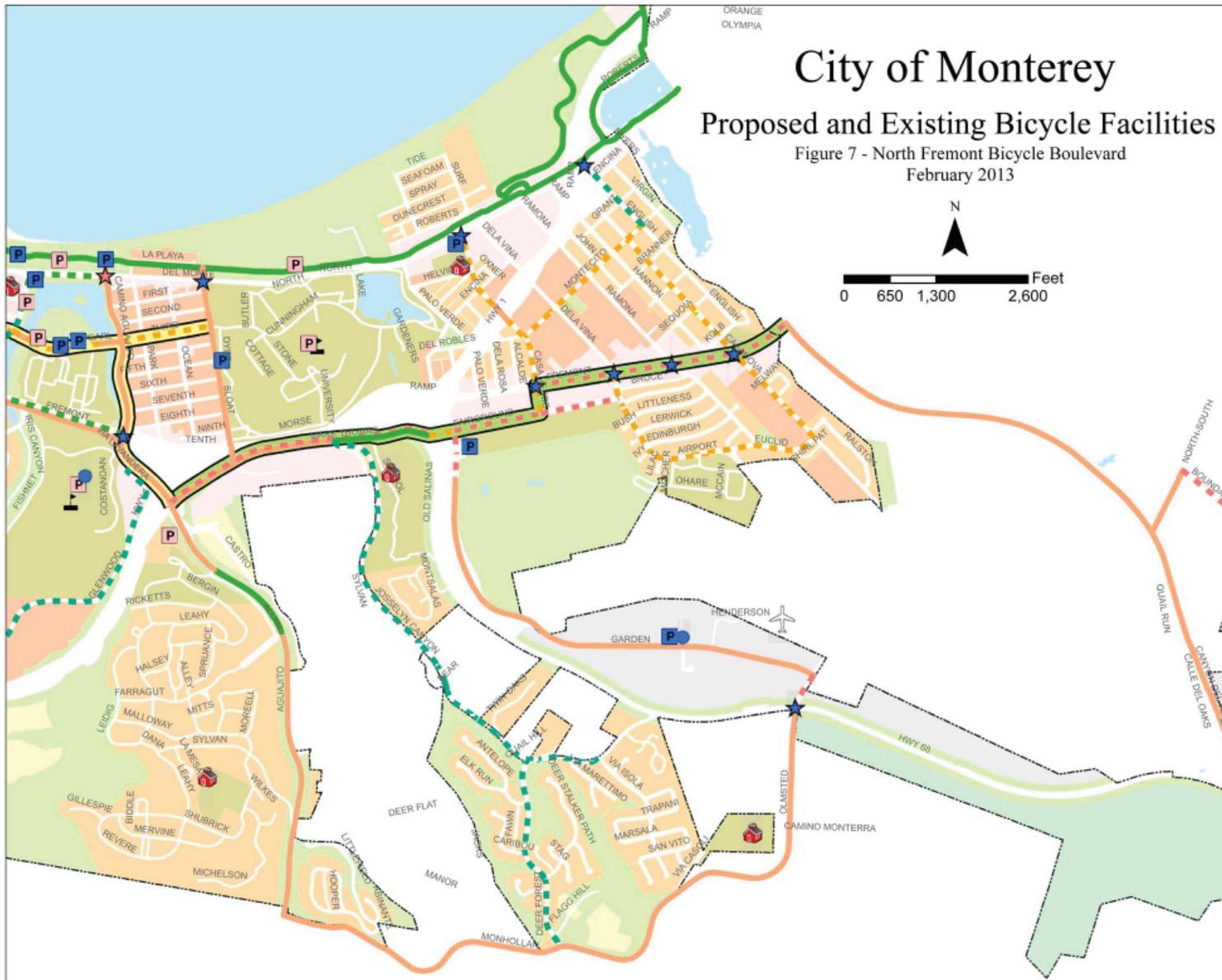
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- Legend**
- Existing Class 1
 - Existing Class 1-3
 - Existing Class 2
 - Existing Class 3
 - Proposed Class 1
 - Proposed Class 2
 - Proposed Class 2-3
 - Proposed Class 3
 - North Fremont Bicycle Blvd
 - East Downtown Bicycle Blvd
 - New Monterey Bicycle Blvd
 - Bicycle Parking - Existing
 - Bicycle Parking - Proposed
 - Bike Detection - Existing
 - Bike Detection - Proposed
 - Changing Facilities - Existing
 - Changing Facilities - Proposed
 - TM Existing
 - TM Proposed
 - Airport
 - Hospital
 - City Hall
 - College
 - School
 - Library
- General Plan Land Use**
- Commercial
 - Industrial
 - Medium Density Residential
 - Low Density Residential
 - Very Low Density Residential
 - Public / Semi-public
 - Open Space
 - Special Planning Area

bicycles

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Legend

- Existing Class 1
 - Existing Class 1-3
 - Existing Class 2
 - Existing Class 3
 - - - Proposed Class 1
 - - - Proposed Class 2
 - - - Proposed Class 2-3
 - - - Proposed Class 3
 - North Fremont Bicycle Blvd
 - East Downtown Bicycle Blvd
 - New Monterey Bicycle Blvd
 - P Bicycle Parking - Existing
 - P Bicycle Parking - Proposed
 - ★ Bike Detection - Existing
 - ★ Bike Detection - Proposed
 - Changing Facilities - Existing
 - Changing Facilities - Proposed
 - T TM Existing
 - T TM Proposed
 - ✈ Airport
 - 🏥 Hospital
 - 🏛 City Hall
 - 🎓 College
 - 🎓 School
 - 📖 Library
- General Plan Land Use**
- Commercial
 - Industrial
 - Medium Density Residential
 - Low Density Residential
 - Very Low Density Residential
 - Public / Semi-public
 - Open Space
 - Special Planning Area

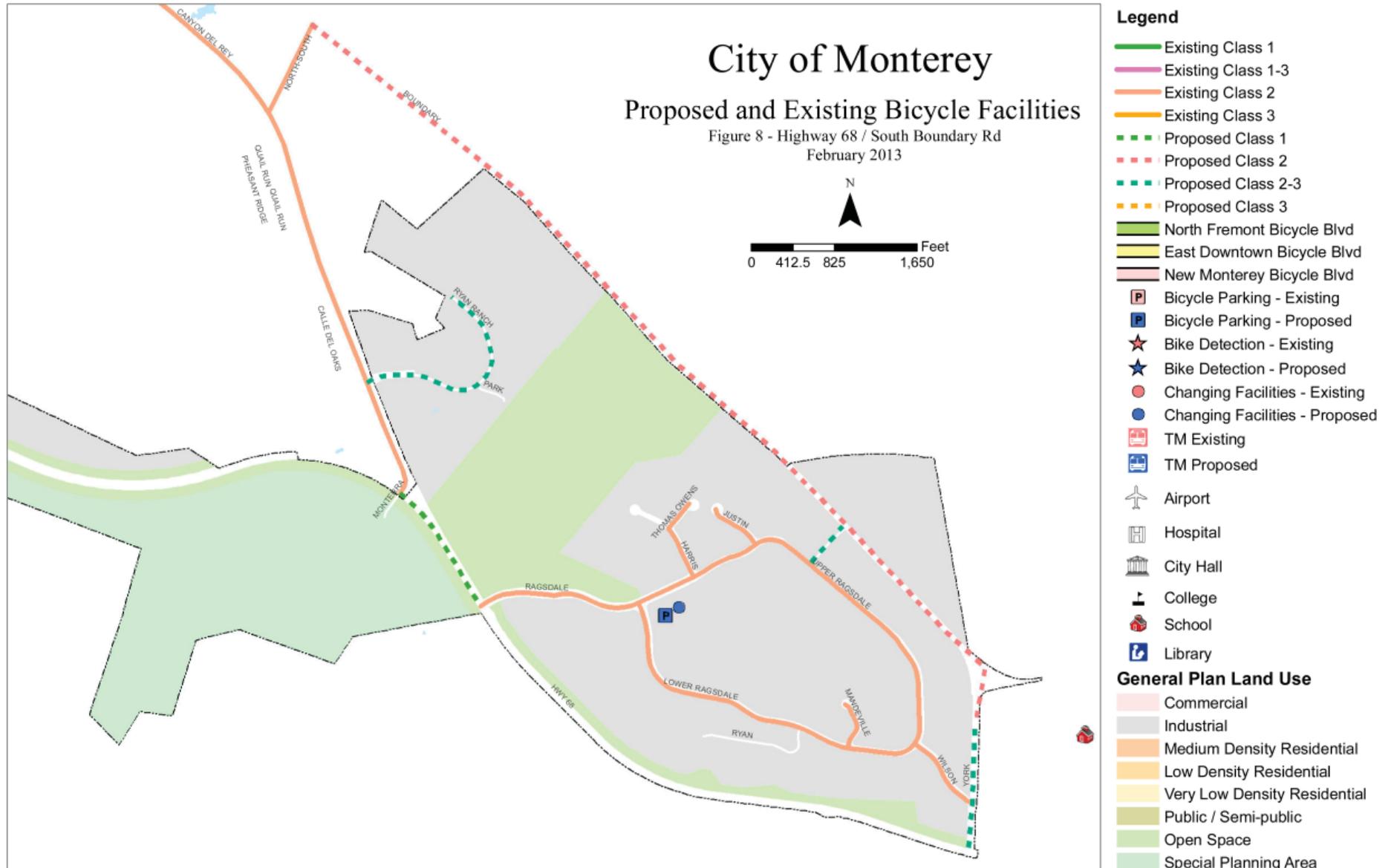
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04 pedestrians

pedestrians

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04 INTRODUCTION

Developing new pedestrian facilities and programs in addition to maintaining existing infrastructure are essential steps toward increasing the walkability of Monterey. This chapter identifies the needs of pedestrians and projects and tools that will improve the safety, walkability and accessibility of streets in the city. A “walkable” street is one that is comfortable for pedestrians and will vary depending on the volume and speed of vehicular traffic and the age and ability of those walking. For instance, a street without sidewalks may still be considered walkable in a residential area with little traffic. Conversely, streets in busy commercial or downtown areas that serve high volumes of traffic require more infrastructure and amenities to define and preserve the pedestrian space such as sidewalks, crosswalks, crossing signals and signage. Streets that serve schools, health care centers or senior housing may also require pedestrian infrastructure even if located in a residential area to accommodate the special needs of children, disabled and seniors.

Walking is the oldest mode of transportation and continues to influence urban form and function to this day. Cities or portions of cities that were developed during a time when walking was the predominate mode of transportation were shaped to best serve the needs of pedestrians, in other words homes were located within walking distance to shops, schools, libraries, parks and other living essentials. Downtown Monterey and the Old Town neighborhood were developed at a time

when walking was the dominant mode of transportation, and are therefore some of the most “walkable” parts of Monterey.

Benefits to Walking

Walking is one of the most popular and affordable forms of exercise because it does not require special equipment or skill, is low impact on joints, and can be done practically anywhere. Some other benefits include:

Fosters social interaction – Most people do not walk alone but instead with another person or pet. Even those who walk alone will most likely encounter another pedestrian during their trip with whom they will have an opportunity to communicate with.

Improves health – Walking has been proven to reduce cardiovascular disease, type II diabetes and obesity. If every adult in the U.S. walked two or more miles each day it would lower the mortality rate by 50%. These health benefits can mean significant health care cost savings.

Improves cognitive function and increases productivity

Enables multimodal transportation – Many do not realize that even if they drive or ride the bus, they must still walk to access their car or the bus stop, and they must walk from the parking lot or bus stop to reach their final destination.

pedestrians

Benefits Economy

Pedestrians and bicyclists shop more frequently than customers who arrive by car and similarly, more walkable commercial sites and neighborhoods are associated with higher property values.

EXISTING CONDITIONS

We are all pedestrians during some portion of the day and rely on safe well-connected pedestrian facilities to access our destinations. Inviting and appropriately proportioned pedestrian infrastructure encourages walking and also enhances the use and functionality of all modes within a transportation system.

Monterey supports diverse pedestrian activity through a variety of different types of infrastructure, which can be divided into four distinct categories: crossings, path of travel adjacent to roadways, pedestrian orientation and places for pause or gathering. The design of this infrastructure as well as the speeds and volumes of other modes of transportation affect the pedestrian experience.

Path of Travel

Sidewalks provide safe pedestrian access to urban land uses and special development such as schools, parks, community centers and senior housing facilities. A distinct right-of-way for pedestrians that runs adjacent to the roadway separate from motorized vehicle traffic is necessary in areas with high volumes of traffic or speed limits over 25 miles per hour.

Sidewalks are typically composed of concrete and have a vertical or rolled curb. Vertical curbs are superior to rolled curb as they create a more defined barrier between the pedestrian right-of-way and vehicle right-of-way. Cars can easily mount sidewalks with rolled curbs. When parked, side mirrors and doors can encroach on and even block the pedestrian path of travel. Most sidewalks in Monterey have a vertical curb, but some rolled curb can be found in residential neighborhoods. All new sidewalks should have vertical curb to preserve the pedestrian right-of-way.

In addition to sidewalks, trails and multiuse paths can provide pedestrian access to parks and open space and activity centers away from vehicular traffic.

Recreation Trail – The Recreation Trail is the most popular multi-use trail in Monterey and is shared with bicyclists.

El Estero Park Path – The El Estero path circles Lake El Estero and provides opportunities for recreational activities and access to open space and parks.

Munras Path – The Munras Avenue multi-use trail that runs from El Dorado to the Del Monte Shopping Center provides an important pedestrian connection between major commercial areas and schools, and provides access to the State Historic Park.

Sidewalk maintenance is key to providing safe pedestrian facilities throughout the city, especially for seniors who are more susceptible to tripping. The City

pedestrians

Sidewalk Inspection Program ensures that the conditions of facilities throughout Monterey are tracked annually. Public Works staff conducts inspections and defects are abated through the open-end sidewalks

and streets contracts using funds from the Capital Outlay in the Capital Improvement Projects budget.

Residents may also call the Code Compliance Officer to report sidewalk maintenance issues including over-

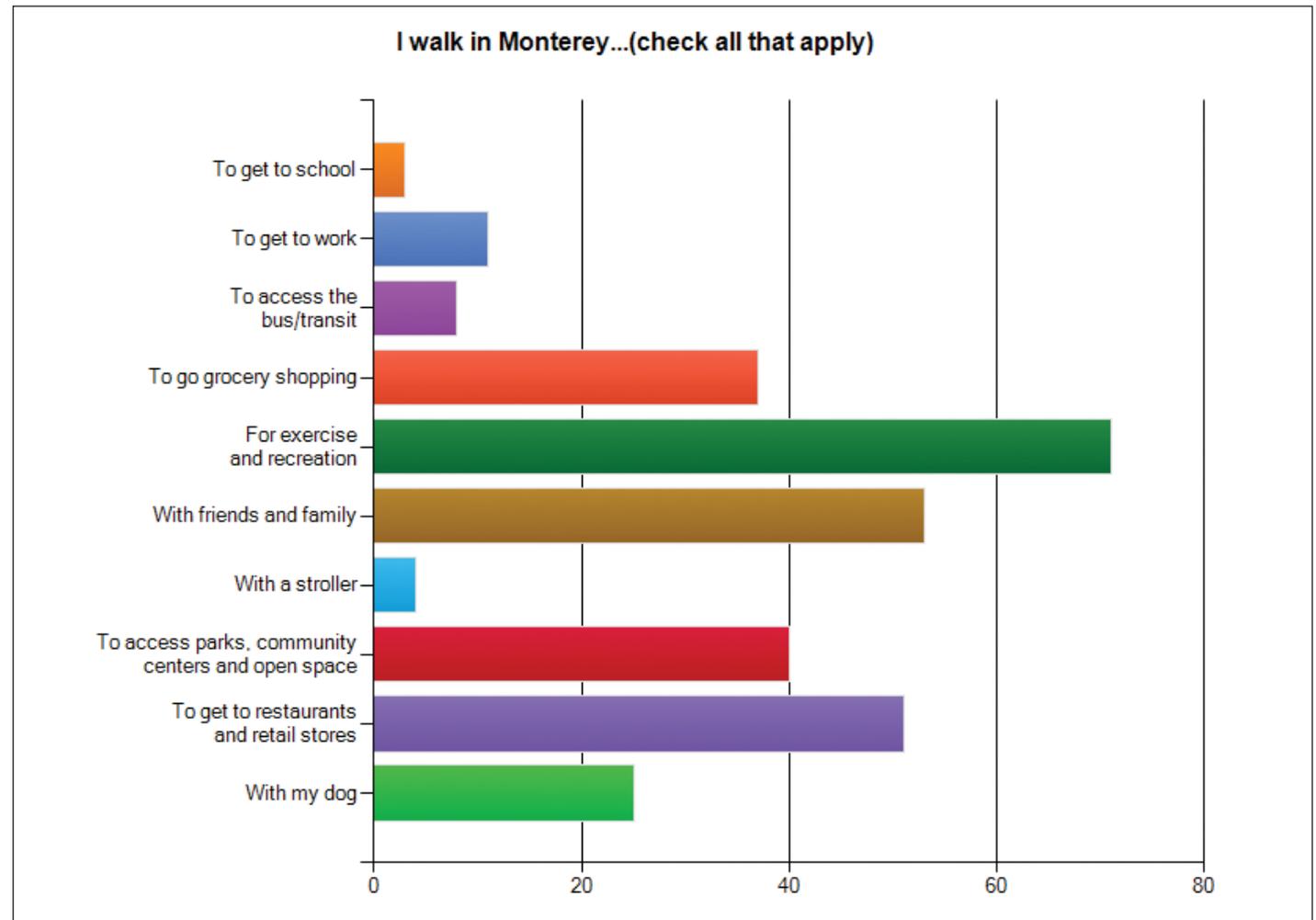


Figure 8: Community Survey Results

pedestrians

grown brush encroaching on the walkway. The Code Compliance officer coordinates and oversees repairs made by private property owners.

Crossings

Sidewalks are important in achieving safe and comfortable pedestrian travel, however, for some users sidewalks without ADA ramps are useless. Where no ramps exist at an intersection, pedestrians in wheelchairs are forced to travel in the street in order to cross. The City is in the process of updating their ADA transition plan that identifies existing and needed ramps at all major intersections. Once the plan is finished the City will begin installing ADA ramps at major intersections and along routes to medium-high density housing, community centers, parks and employment centers.

Curb ramps provide access to sidewalks for those with ambulatory disabilities, but also aid those who are blind or visually impaired in preparing to cross the street. A blind person relies on tactile cues to properly align themselves at intersections. They must position themselves to best hear oncoming traffic so they can find a gap in traffic. At wide busy signalized intersections such as those along Del Monte Ave, it can be difficult for a blind person to know when it is safe to cross or how much time they have to do so safely. The installation of audible countdown signals in several lo-

cations around the city have been helpful in mitigating this issue for the blind and visually impaired.

Midblock Crossings

Pedestrians are the most vulnerable to injury when they cross a street and most collisions involve pedestrians at or near an intersection. Pedestrian crossings must be carefully designed and located to avoid such incidents. Drivers must also be aware of the rules of the road and right-of-way laws as stated in the California Vehicle Code. Many do not fully understand when pedestrians must yield to drivers and vice versa.

Drivers must yield to pedestrians at all crosswalks marked and unmarked, however, pedestrians must practice due care when crossing. Midblock crossings can be dangerous when there is confusion over who has the right-of-way. In practice what often happens is that pedestrians assume they will be safe when crossing at a crosswalk and will neglect to look for approaching vehicles before entering into the street. Conversely, drivers will fail to yield to pedestrians at a marked midblock crossing if not controlled by a stop sign. The City Traffic Engineering Division is currently conducting a study of all midblock crossings in the city and developing criteria that will justify removal or addition of such crossings in the future.

Wayfinding

Way-finding signage, informational kiosks and landmarks assist pedestrians, and visitors in particular, in navigating certain areas of the city. Currently there

pedestrians

is some pedestrian way-finding signage in the downtown area, but it could be more visible and lead to other modes of transportation such as bicycle parking and transit. The Path of History is a sort of way finding that directs residents and visitors to attractions of cultural and historic importance. The Downtown

Specific Plan and Waterfront Master Plan address the need for signature wayfinding systems within each planning area.

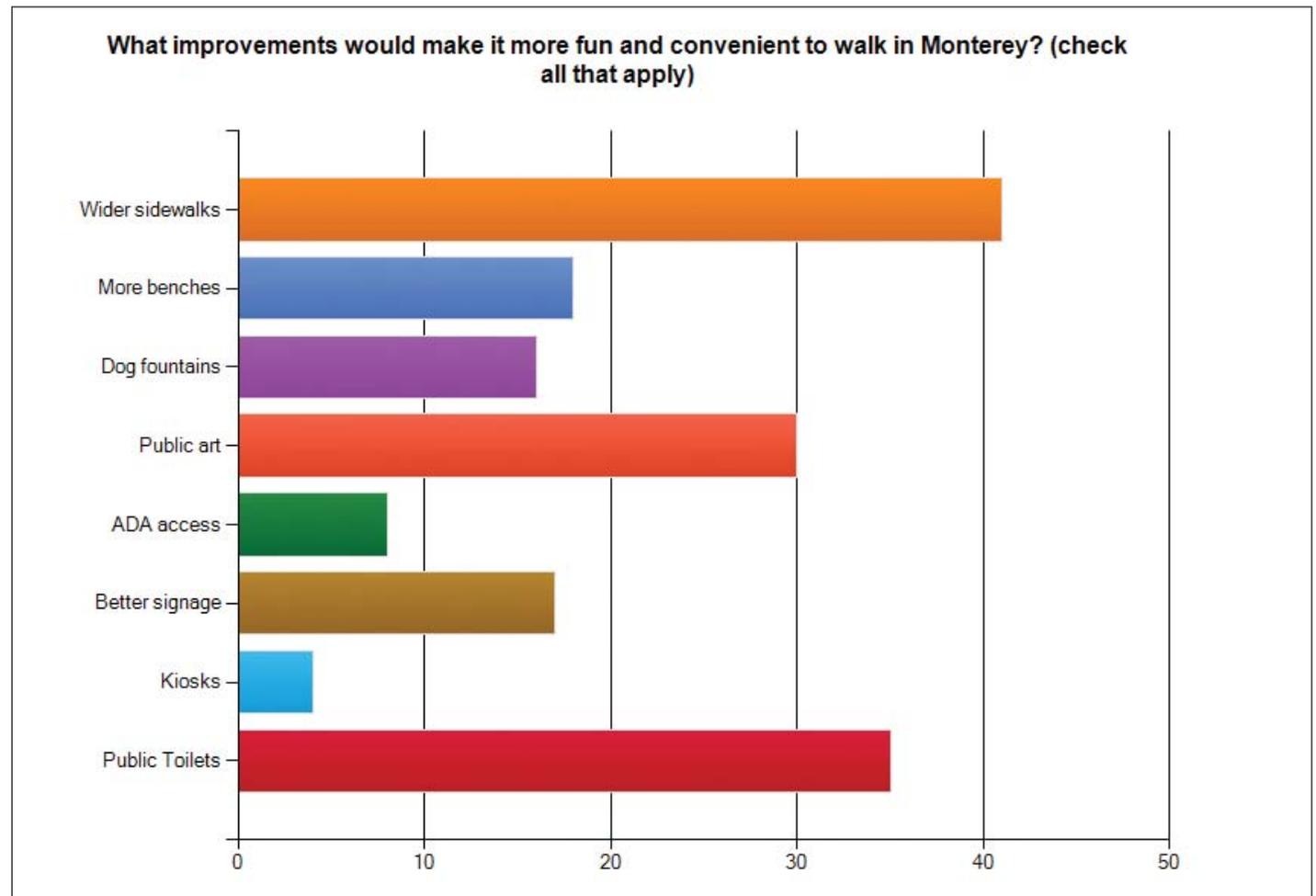


Figure 9: Community Survey Results

pedestrians



Figure 10: Pedestrian Scramble



Figure 11: Wayfinding Signage and Kiosks from the Downtown Streetscape Plan



Figure 12: Pedestrian Bridge on Artillery Rd

Pedestrian Places & Plazas

A key feature of successful pedestrian environments is a place or plaza where people can gather, sit, observe and play. Portola Plaza is currently a pedestrian-only facility that is used for seasonal events like the annual car show and ice-skating. Every Tuesday afternoon/evening Alvarado Street is closed to vehicular traffic for the Downtown Farmers Market. This weekly event is very popular and has raised interest in the community to provide more permanent pedestrian-only streets in other parts of the city. The Downtown Specific Plan identifies improvements to Simoneau Plaza, Portola Plaza, and Custom House Plaza to increase their use as popular gathering places.

NEEDS ANALYSIS

When analyzing the pedestrian network and judging how well it functions, it is important to consider the needs of all users. For example, a sidewalk that is to serve pedestrians with strollers or those in wheelchairs must have curb ramps to provide easy access. A bus stop that is located across the street from a popular destination should be near a crosswalk to provide riders a safe and convenient crossing. In general, when designing pedestrian facilities it is reasonable to focus on the needs of seniors and disabled as they are amongst the more vulnerable users and many improvements for them will benefit all pedestrians.

Sometimes improving pedestrian infrastructure detracts from other modes of transportation. For example, installing curb extensions at an intersection and

reducing the curb radius shortens pedestrian crossings but slows down vehicles and makes turning more challenging especially for older drivers.

It is challenging to balance the needs of all users of a roadway. However, to increase the accessibility and attractiveness of walking, certain areas of the city should prioritize pedestrian travel over others such as in the downtown area and near schools and senior living facilities.

The sidewalk network in Monterey is generally well connected which allows for many different types of trips to be taken by foot. Most people surveyed stated that they walk for exercise and recreation, and that they do so with at least one other person. Popular walking destinations are restaurants, retail stores, grocery stores, parks, and community centers.

There are very few gaps in the City's existing sidewalk network. However, the Monterey Vista neighborhood area has the most gaps in pedestrian infrastructure. Typically neighborhood streets have low traffic volumes, operate at low speeds and do not require sidewalks to support pedestrian travel. However, several streets in Monterey Vista connect the neighborhood to commercial areas, schools and parks and experience higher vehicle speeds and volumes. Via Gayuba, Soledad Drive and Skyline Drive are streets that serve as pedestrian routes but are missing sidewalks or have gaps in existing sidewalks and require measures to reduce vehicle speeds.

Community survey respondents stated they do not like to walk in the following areas:

- Pacific Street
- Munras Ave
- Soledad Dr
- Via Gayuba
- Lighthouse Ave
- Fremont St
- N. Fremont St
- Del Monte Ave
- Iris Canyon Rd

Areas of the city along collector or arterial streets may have existing sidewalks, but those sidewalks are either too narrow or do not provide an adequate buffer between pedestrians and speeding vehicles. These large streets have few intersections and therefore few opportunities for pedestrians to cross. Safety is also a common concern along streets that offer poor lighting.

When asked what improvements would make it more fun and convenient to walk in Monterey, the most popular response was to widen sidewalks followed by installing public toilets and public art (Figure 10), though water may be a constraint to meeting this need.

pedestrians

Sidewalks in the City's three mixed-use neighborhoods (Downtown, Lighthouse/Foam, and North Fremont) and along arterials and collectors should be a minimum of 10 feet, and preferably wider to accommodate more pedestrian traffic, amenities such as benches and lighting, and a buffer zone between pedestrians and cars. Such improvements are identified in each specific plan.

Field Observations

The Monterey on the Move Advisory Committee and City staff conducted a series of six field walks, each in a different neighborhood, to observe the existing pedestrian infrastructure and identify gaps and potential access issues. Each neighborhood was found to have unique pedestrian needs although several common issues emerged throughout several or all neighborhoods. Field walks were conducted along popular pedestrian routes near major trip generators such as commercial areas, medium to high-density residential neighborhoods, schools, senior facilities and parks. Table 10 lists the necessary improvements to meet safety and access objectives.

pedestrians

TABLE 10: PEDESTRIAN INFRASTRUCTURE PROJECTS

Area	ADA Ramps / Audible Detection (other)	Cracked/Uneven Sidewalk	Narrow Sidewalk	No Sidewalk/Gap
New Monterey	Reeside/Hawthorne McClellan/Laine Belding & Irving	Dickman/Laine Hoffman/Laine David/Laine	David near Hawthorne Hoffman/Foam McClellan/Laine	Foam/Irving (Foam sidewalk gap) Laine/Drake
Downtown	Del Monte/Tyler Calle Principal/Pearl Calle Principal/Franklin Calle Principal/Del Monte Pacific/Del Monte Pacific/Scott Van Buren/Franklin Larkin/Franklin (funded) Watson/Franklin Watson/Jefferson Munras/El Dorado Del Monte crossings at English, Sloat, Camino Aguajito, and Camino El Estero	Fremont/El Estero (near Car Wash) Franklin/Monroe Larkin between Jefferson and Madison Monroe - chipped water cover	Bonifacio Del Monte Franklin Abrego/Webster Pearl/Abrego	Camino El Estero Church St
Oak Grove	Sload/Fifth (curb extensions, crossing treatments and lighting)	N/A	Sloat/Eighth	Pearl/Third St (near cemetery)
Monterey Vista	Soledad/Munras Munras/Via Arboles	N/A	Martin/Pacific Soledad (overgrown brush) Munras	Soledad (Munras to Pacific Vista Pl) Soledad (Pacific Vista Pl to Monte Vista) Soledad (Via Encino to Via Descanso) Soledad (Via Descanso to Via Paraiso) Munras (Cass St to Soledad Dr)
Casanova Oak-Knoll	Casanova/Melway curb extensions and crosswalk	Fremont/Airport	Casanova N. Fremont	Ramona
Glenwood/Mark Thomas	N/A	N/A	south side of Mark Thomas between Sloat and Garden	both sides of Glenwood

pedestrians

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05 safe routes to school

safe routes to school

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safe routes to school

05 INTRODUCTION

In recent years there has been a national push to reduce childhood obesity in the United States through healthy diet and increased physical activity. In 2010, 17% of children ages 2 – 19 in the United States were obese (2009–2010 National Health and Nutrition Examination Survey)¹. In correlation with this statistic, fewer children are walking to and from school. In 1969 nearly 50% of children aged 5–14 walked to school. In 2009 only 13% of children under the age of 18 walked or rode a bicycle to school.

Walking and bicycling to school are two of the best low-impact forms of exercise that can improve health and cognitive function. A study by Dr Richard Jackson and Stacy Sinclair found that walking to school “improves children’s concentration, boosts moods and alertness, and enhances memory, creativity and overall learning” (Jackson, Dr. Richard; Sinclair, Stacy. *Designing Healthy Communities*. USA: John Wiley & Sons, 2012). The Department of Health recommends children get a minimum of 420 minutes of exercise each week or 60 minutes of physical activity each day (U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans. Fact Sheet for Professionals*. 2008. <http://health.gov/paguidelines/factSheetProf.aspx>). By walking or bicycling to school a student can meet or come close to meeting their

¹ Ogden, Cynthia L.; et. al. Prevalence of Obesity in the United States, 2009–2010. National Center for Health Statistics Data Brief. No. 82. January 2012. <http://www.cdc.gov/nchs/data/databriefs/db82.pdf>

required daily exercise. A student who lives one mile away from school will get approximately 40 minutes of moderate exercise if they walk to and from school. On a bicycle a student can cover more ground in the same amount of time which makes bicycling a good option for those who live further than one mile from school.

EXISTING CONDITIONS & NEEDS ANALYSIS

Children make up a special group of pedestrians whose needs are different than those of adults. Additional safety considerations must be made when planning pedestrian and bicycle infrastructure for youth as they have lower inhibitions, do not necessarily know to use peripheral vision or listen for oncoming vehicles, are smaller and therefore more difficult for motorists to see, and do not yet understand driver behavior.

Obesity

According to Monterey County Health Department records, in 2009 approximately 29% of teens (12–17) in Monterey County were considered overweight or obese. Walking and bicycle to and from school could provide students a guaranteed form of daily exercise.

Barriers

In 2010 there were approximately 6,000 students grades 1 – College or graduate school that were old enough to walk or ride a bicycle to school. “32% of Monterey County teens reported that they walked, biked or skated to and from school in the prior week”

safe routes to school

(Monterey County Health Department Health Brief, 2011). This statistic is higher than the national average, yet the majority of students still drove or were driven to school. The health benefits to walking and bicycling are well known and have been for quite some time, so why aren't more students walking and bicycling to school? According to a national survey of 1,588 parents, the most common barriers to children walking to school are:

- Distance to school 61%
- Traffic-related danger – 30.4%
- Weather – 18.6%
- Crime danger – 11.7%
- Opposing school policy – 6%
- Other – 15%

(U.S. Centers for Disease Control and Prevention)

These barriers need to be addressed through on-going programs and infrastructure improvements surrounding schools.

ACTIVE SCHOOLS

There are ten active K-12 schools in Monterey (see below). Walter Colton Middle School and Monterey High School are both located in the hilly Monterey Vista neighborhood and serve all of Monterey and parts of Seaside. Many students live further than two miles away which is approximately a 40 minute walk or 10 to 15 minute bicycle ride. Distance and topography

TABLE 11: SCHOOL ENROLLMENT – RESIDENTS OF MONTEREY		
School	Estimate	Percent
Population 3 years and over enrolled in school	6,532	100%
Nursery school, pre-school	251	4%
Kindergarten	147	2%
Elementary school (grades 1–8)	1,555	24%
High school (grades 9–12)	897	14%
College or graduate school	3,682	56%
U.S. Census Table DP02: Selected Social Characteristics in the United States 2006–2010 American Community Survey Selected Population Tables		

are two of the greatest barriers to walking to these schools and as a result the majority of students are driven instead of walking or riding a bicycle. Monte Vista Elementary is also located in the Monterey Vista neighborhood and shares topographical barriers. The following is a list of active schools in Monterey:

- Monte Vista Elementary
- Walter Colton Middle School
- Monterey High School
- Foothill Elementary
- La Mesa Elementary

safe routes to school

- San Carlos (K–8)
- Trinity Christian High School
- Santa Catalina (Pre–K–12)
- Hilltop School
- Bay View Elementary (K–7)

WALK/BIKE TO SCHOOL PROGRAM

Currently most students arrive at school by bus, MST bus or by car. Some of the barriers to walking and bicycling to Walter Colton and other schools in the City are the steep topography, distance, insufficient pedestrian infrastructure surrounding the school and lack of adult supervision. To address all barriers, it is necessary to both improve bicycle and pedestrian infrastructure surrounding schools and develop ongoing programs that teach safety and encourage active transportation.

In October 2012 the City used a Safe Routes to School grant to fund the first Walk To School Week at Walter Colton Middle School to call attention to these issues. The event lasted five days from October 1 through October 5, 2012. Healthy snacks and water were provided each morning to those who participated. Students who walked all or most days were entered into a raffle to win prizes such as gift certificates to local eateries, movie theaters, laser tag, and iTunes gift cards. Students were provided pedometers to track their mile-

age throughout the day and were encouraged to walk for more of their trips.

Projects

The following projects have been identified to improve safety along pedestrian routes to schools in the Monterey Vista neighborhood. Further outreach to other schools within the city should be coordinated to identify additional safe routes to school projects.

Soledad/Soledad/Mar Vista Roundabout

Roundabouts are designed to reduce speeds to 15–20 mph and decrease the number of potential conflict points from 32 to eight at a four-way intersection.

The intersection of Soledad/Soledad/Mar Vista currently lacks pedestrian infrastructure and is a challenging place for pedestrians to cross due to short sight distances created by topography and street geometry. Speeding is also an issue in that location and has contributed to several collisions over the past decade.

The intersection is less than 500 feet away from Monte Vista Elementary School. A roundabout and pedestrian infrastructure improvements would calm traffic and provide a safer and more comfortable walking route for students travelling to and from school.

Via Gayuba Sidewalk

Via Gayuba provides access to Monte Vista Elementary School and to Walter Colton Middle School. Construction of an ADA accessible sidewalk on the north

safe routes to school

side of Via Gayuba from Mar Vista to Walter Colton Dr would close the gap between existing sidewalks on Walter Colton Dr and Mar Vista Dr.

Soledad Drive Sidewalk

Soledad Drive provides access from the Monterey Vista neighborhood to the Del Monte Shopping Center and access to Monterey Vista Elementary, Walter Colton Middle School and Via Paraiso Park

Construction of a concrete sidewalk with vertical curb along Soledad Drive from Via Descanso to Via Paraiso would increase the safety of these common routes.

06 multimodal LOS

multimodal level of service

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06 INTRODUCTION

As required by the General Plan, this chapter establishes a MMLOS “standard” by which we can use as a tool to help achieve the General Plan vision of establishing a transportation system that serves the needs of automobiles, transit, bicyclists and pedestrians. The first step towards achieving this vision is to implement the Monterey on the Move projects and programs. A MMLOS will be met when the multi-modal transportation network outlined in this plan is constructed in place.

The next step is to update Monterey on the Move to develop a more comprehensive methodology for quantifying and predicting how future projects will impact the MMLOS at intersections and street segments. The Highway Capacity Manual contains a methodology for developing these types of quantifiable objectives. The Highway Capacity Manual methodology can be used to determine how an improvement or development scenario may affect future LOS for each distinct mode, or uncover trade offs in LOS between modes.

For example, extending the pedestrian walk phase at a signalized intersection would improve the LOS for pedestrians by giving them more time to cross the street, but increase delays for drivers thereby degrading automobile LOS. These tradeoffs are inherent in any roadway project that seeks to meet the needs of all users. This step will involve reclassifying Monterey’s roadways to prioritize service to specific transportation modes with an assigned MMLOS value for

multimodal level of service

each mode. The MMLOS can then be used to identify the tradeoffs and enable decision-makers to choose the alternative that best meet the policy vision for the area.

Currently, the General Plan establishes the following acceptable LOS standards for automobiles within the context of a multimodal transportation network:

LOS D: Roadway segments that are not a part of a completed multi-modal corridor as defined in this chapter.

LOS E and LOS F: Roadway segments that are a part of a completed multi-modal corridor as defined in this chapter.

Monterey on the Move defines those roadway segments that are a part of a completed multi-modal corridor as those roadway segments within the Lighthouse/Foam, Downtown, or North Fremont Specific Plan area.

Traffic Impact Analysis

The General Plan requires the preparation of a traffic impact analysis where project traffic is expected to increase the existing traffic by two percent or more. A project’s traffic impact to any given roadway segment or section of a multi-modal system is considered significant if the project reduces an identified LOS to an unacceptable level or further degrades an already unacceptable LOS under cumulative traffic conditions during typical (i.e., non-summer) weekday traffic conditions.

multimodal level of service

All significant traffic impacts must be mitigated. The project developer may build or fund a pro-rata share toward improvements necessary to mitigate significant traffic impacts, as defined by the Monterey on the Move plan or the General Plan Environmental Impact Report. The General Plan requires adoption of a traffic impact fee ordinance used to define the pro-rata share of a development's impact on the transportation system. The traffic impact fee will be used towards:

- Roadway improvements identified in the General Plan EIR;
- Bicycle infrastructure, and pedestrian infrastructure improvements or programs as defined in Monterey on the Move; and/or
- Transit improvements.

For example, if a project will add trips on Lighthouse Avenue degrading the LOS to an F, improvements to the bicycle and pedestrian connections to New Monterey, as identified in Monterey on the Move may be completed to mitigate the significant impact. Alternately, the project developer could pay an impact fee that would go towards construction of the appropriate multi-modal project identified in the Monterey on the Move for Lighthouse Avenue or alternative route in New Monterey. If the plan is fully implemented and no projects have been identified that could further reduce the impact of additional Lighthouse Avenue traffic, then no impact is assumed and no development fee is required.

multimodal level of service

evolves to ensure that it meets the changing environmental and physical conditions and the evolving needs of the community.

Monitoring

The measures of effectiveness mirror the criteria used by the Advisory Committee when identifying and designing the citywide multi-modal network. The methodology for measuring and monitoring the effectiveness of the plan is summarized in Table 12 below. For each plan objective, the table lists the tools for measuring and monitoring as follows:

Measures of Effectiveness

The measures of effectiveness must be an accurate indicator of how well a circulation system is serving all users. The Advisory Committee spent many hours in the field walking, bicycling, and considering transit options to design the optimal multi-modal citywide network that is reflected in Monterey on the Move. As discussed in previous chapters, the Advisory Committee:

- Set certain criteria for achieving an exceptional multi-modal system;
- Identified optimal routes and connections;
- Identified barriers / gaps throughout the City that require removal/filling in to complete the identified routes and connections; and,
- Designed a modal system to measure MMLoS for the City.

Implementation of the Monterey on the Move plan and development of the multimodal network will occur over time through the acquisition of grants, programming of funds from the capital improvement program or neighborhood improvement program, or application of development impact fees. Once the network is complete, the MMLoS will be redefined to measure effectiveness through performance. Monterey on the Move will be updated to establish measures of effectiveness that will strive to add quality to the network. Monterey on the Move updates will reflect a plan that

multimodal level of service

TABLE 12: MEASURES OF EFFECTIVENESS (MOE'S) AND TARGETS

	OBJECTIVE	MEASURE OF EFFECTIVENESS	BASELINE MEASUREMENT	TARGET	DATA COLLECTION FREQUENCY	DATA COLLECTION RESPONSIBILITY
Health, Safety, Education & Enforcement	Reduce the number and severity of collisions involving pedestrians and bicyclists	Number of collisions involving pedestrians	Number of pedestrian collisions found in Monterey Police Department Collision Report Summary from 2009 - 2012 tracked for each participating neighborhood.	Decreased number of collisions involving pedestrians and bicyclists (by 2018?)	Biannually	Monterey Police Department
		Change in vehicle speeds in areas identified in neighborhood traffic calming plans	85th percentile speed from 2008-2012 speed surveys	Decrease 85th percentile speeds (by?)	Annually	Plans & Public Works - Traffic Engineering
	Create safe environments for youth walking and bicycling to school	Number of students walking and bicycling to school	Student and Parent Surveys	Increased the number of students walking or bicycling to school at all schools by 2018	Biannually (April & October)	Safe Routes To School Coordinator
	Ensure that all pedestrian and bicycle infrastructure and crossings are well lit	Percentage of pedestrian and bicycle facilities with adequate lighting	Needed - Inventory the condition of existing lighting; identify and prioritize necessary upgrades.	Increased lighting along bike and ped facilities	Annually	Plans & Public Works
	Reduce obesity rates in Monterey	Rate of obese children and adults	Obesity rates found in 2009 Monterey County Health Department Records	Decreased obesity rate in Monterey County	?	Monterey County Health Department
	Educate the community how to safely and legally operate a bicycle and practice safe pedestrian behavior	Number of schools participating in pedestrian and bicycle safety events and activities	2012 Walter Colton Walk to School Week pedometer data; Need baseline data for other schools K-12	Increased awareness and involve all schools in Walk to School Day/Week events by 2018	Biannually (April & October)	Safe Routes To School Coordinator/School administration/staff
		Number of pedestrian and bicycle citations (e.g. jaywalking and minors without helmets)	Monterey Police Department Citation Records	Decreased number of citations (with increased enforcement)	Annually	Monterey Police Department
Connectivity & Access	Enhance connections between modes of transportation to reduce congestion and provide flexibility within the transportation network	Number of bicycle parking spaces near transit and trip generators	2009 bicycle parking survey	Eight new bicycle racks installed in the downtown area by 2015	Annually	Plans & Public Works - Traffic Engineering
		MST bus capacity to hold bicycles	MST bicycle rack capacity in 2012	Increased number and/or capacity of bicycle racks on MST buses by 2018	Annually	MST/Public Works
	Improve ADA access and accommodations throughout the city	Number of intersections and crossings with ADA ramps	2013 Inventory of existing and needed ADA ramps at intersections in the city	All crossings near major trip generators are ADA accessible by 2020	Progress update Annually	Plans & Public Works
		Number of audible countdown pedestrian phases	2013 traffic Signal Inventory	Signalized intersections are equipped with audible countdown pedestrian phases	Update Progress Annually	Plans & Public Works - Traffic Engineering

multimodal level of service

TABLE 12: MEASURES OF EFFECTIVENESS (MOE'S) AND TARGETS

	OBJECTIVE	MEASURE OF EFFECTIVENESS	BASELINE MEASUREMENT	TARGET	DATA COLLECTION FREQUENCY	DATA COLLECTION RESPONSIBILITY
Encouragement & Convenience	Promote active transportation and increase mode share by improving user convenience and through encouragement activities and programs	Number of bicycle detection devices at signalized intersections along bicycle routes	2012 Bicycle Detection Inventory (MOM)	Signalized intersections are equipped with bicycle detection	Update Progress Annually	Plans & Public Works - Traffic Engineering
		Number of City employees that commute by alternative transportation	Number of City employees commuting by active transportation in 2013	Increased number of employees who commute by active transportation more than one day/week	Annually	Human Resources; Payroll
		Number of bicycle Commute Groups	Needed - survey of bicycle commute group participation	Increased number of bicycle commute groups and participants	Annually	Plans & Public Works; Non-profit organization; Academic Institution
		Number of Citywide Active Lifestyle Encouragement Events	Participation data from 2012 Spring Bike to Work Event; ticket sales or registration (if applicable)	Increased participation in events; increased frequency of events	Biannually (April & October) or during event	Plans & Public Works; Parks & Recreation
		Mode Share of Bicycle and Pedestrian Trips	2012 Pedestrian & Bicycle Counts; AMBAG; U.S. Census	Increased mode share	Biannually (April & October)	Plans & Public Works - Traffic Engineering
		Transit Ridership	2012 MST Ridership counts	Increased transit ridership	Annually	MST
Wayfinding, Visitor Serving & Supportive Amenities	Encourage tourists to walk, bicycle and ride transit to explore Monterey	Percentage of tourists trips taken by active transport	Needed: Hotel surveys	Increased percentage of trips taken by active transport	Annually (Summer)	Plans & Public Works; Hotels; Visitor-serving businesses
	Create engaging and pleasurable pedestrian environments that enhance the visitor experience	Pedestrian and bicycle volumes in defined visitor-serving areas	2012 Pedestrian & Bicycle Counts	Increased volumes bike and ped volumes in VS areas	Annually (Summer)	Plans & Public Works - Traffic Engineering
		Number of businesses that provide outdoor seating/dining	number of businesses providing outdoor seating/dining in 2012	Increased number of businesses that provide outdoor seating	Annually	Plans & Public Works
Design, Construction & Maintenance	Provide design standards, and maintenance programs to ensure safety and longevity of facilities	Number of cases of bicycle theft	2012 Police Reports	Reduced cases of bicycle theft	Annually	Police Department
		Number of code enforcement cases involving encroachment of sidewalks or walking paths	Code Enforcement reporting records in 2012	Resolved code enforcement cases	Annually	Code Enforcement
Funding & Implementation	Secure funding to implement bicycle, pedestrian and safe routes to school projects	Amount of funding allocated to bicycle and pedestrian projects	Total grant/NIP/CIP dollars allocated to bike, ped, and SRTS projects in 2011/12.	Increased funding; increased funding sources	Annually	Grant Coordinator

multimodal level of service

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07 funding & implementation

funding & implementation

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07 FUNDING

In 2012, the federal transportation bill MAP 21 cut funding for pedestrian and bicycle projects and made it more difficult to obtain. MAP 21 sunsets in 2014 and until then efforts should be focused on finding local sources of funding for bicycle, pedestrian and transit projects.

Local, Regional, State and Federal Funding

- City of Monterey – Neighborhood Improvement Program
- City of Monterey – Capital Improvement Program
- TAMC – Transportation Development Act 2% (TDA 2%)
- TAMC – Transportation Enhancements
- TAMC – Regional Surface Transportation Program
- Monterey Bay Unified Air Pollution Control District – California Assembly Bill 2766 Grant
- Recreational Trails Program (Federal)
- US Centers for Disease Control & Prevention – Community Transformation Grants
- US Centers for Disease Control & Prevention – Healthy Community Design Initiative (Health Impact Assessments)
- Foundations
- Development Impact Fees

funding & implementation

- California DOT – Bicycle Transportation Account
- State and Federal Safe Routes to School
- Federal Highway Administration Grants (Appendix C and http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/bp-guid.cfm#bp4)

IMPLEMENTATION

Monterey on the Move projects have been ranked and prioritized based on meeting plan objectives including safety, closing gaps within the network, improving access orx terey Police Department collision data and community survey results)

Highway Capacity Manual – Does the project link two or more existing or proposed paths?

Connectivity & Accessibility – Does the project improve connectivity or access to the following trip generators likely to have high pedestrian and bicycle volumes or serve special needs users:

Academic Institutions – K–12 schools, colleges, universities

Community Facilities – libraries, community centers, post offices, parks, beaches, wharfs

Health Services – hospitals, health clinics, child care centers, senior centers, senior housing

Retail – restaurants and stores

funding & implementation

Entertainment centers – movie theaters, convention centers, museums, aquarium, fairgrounds, performance halls

Housing – apartments, condominiums, senior housing

Transportation Facilities – transit stations/stops, pedestrian plazas, Recreation trail

Multimodal – Does the project positively affect multiple modes of transportation in an area or along a corridor?

Encouragement – Does the project or program contain an encouragement component that will increase bicycling, walking or riding transit? Does it enhance the attractiveness of an area for pedestrians or bicyclists?

Readiness/Funding Availability – Does the project require multiple steps and processes to implement such as surveying, design, environmental review, etc? Is the project eligible to receive funding from a source outside of the City such as a state or federal grant, private foundation or association? The complexity of the project and funding will determine how long it will take to implement. Some projects such as striping bicycle lanes and installing bicycle racks will be easier to implement than constructing sidewalks, curb extensions or roundabouts

appendix **a** master
project list

appendix a

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appendix a

MONTEREY ON THE MOVE MASTER PROJECT LIST														
Priority	Project	Type	Improvements (Score = x 2)					Facilities Directly Served by Improvement (Score x 1)						Score
			Safety	Close Gaps	Connectivity & Access	Multi-Modal	Readiness	Commercial Employment Areas	Schools/Colleges	Parks/Recreation/Open Space	Public Facilities	Multi-Family Residential	Beach/Coastal Access	
HIGH	East Downtown bike boulevard: class III on Third and Pearl from Sloat to Van Buren: signage, striping, bike boxes, and stop control warrant study	bike	X	X	X	X	X	X	X	X	X	X	X	16
HIGH	Glenwood Cir sidewalk and class III bike lane downhill	bike/ped	X	X	X	X	X	X	X	X	X	X	X	15
HIGH	Rec trail access improvements across Del Monte at English (eliminate e/b free right), Sloat, Aguajito, Camino El Estero: bike lanes, bike detection, ADA, audible ped detection, class I bike lane from DM to rec trail	bike/ped	X	X	X	X	X	X	X	X	X	X	X	15
HIGH	N. Fremont bike boulevard: class II lanes on N. Fremont, Fairgrounds, and Mark Thomas, class III on Casanova Ave, Airport, Casa Verde, English, and Montecito; bike boxes at Casa Verde (w/b) and Casanova (e/b), signage, striping, and intersection widening	bike	X	x	X	X	X	X	X	X	X	X	X	14
HIGH	New Monterey bike boulevard: class III on Laine, Hoffman, Reeside, and Hawthorne, signage, striping, stop control warrant study	bike	X	X	X	X	X	X	X	X	X	X	X	14
HIGH	Hawthorne St to Pvt Bolio bike/ped connection	bike/ped	X	X	X	X	X	X	X	X	X	X	X	13
HIGH	Pacific St sharrows from Scott to Grove	bike	X	X	X	X	X	X	X	X	X	X	X	13
HIGH	Soledad/Munras Intersection reconstruction: class II lanes, sidewalk and ADA ramps	bike/ped	X	X	X	X	X	X	X	X	X	X	X	12
HIGH	Alvarado Mall: bike and ped enhancement	bike/ped	X	X	X	X	X	X	X	X	X	X	X	12
HIGH	Rec trail/Lighthouse curve bike/ped connection	bike/ped	X	X	X	X	X	X	X	X	X	X	X	12

appendix a

MONTEREY ON THE MOVE MASTER PROJECT LIST														
Priority	Project	Type	Improvements (Score = x 2)					Facilities Directly Served by Improvement (Score x 1)						Score
			Safety	Close Gaps	Connectivity & Access	Multi-Modal	Readiness	Commercial Employment Areas	Schools/Colleges	Parks/Recreation/Open Space	Public Facilities	Multi-Family Residential	Beach/Coastal Access	
HIGH	Garden Road/Fairground Rd sidewalk and class II/class III bike lanes and bike detection	ped	X	X	X	X		X	X		X			11
HIGH	Downtown ADA improvements	ped	X		X		X	X	X	X	X	X		11
HIGH	Rec trail crossings safety and lighting improvements at all intersections between Reeside and David	bike/ped	X			X	X	X			X	X	X	11
HIGH	Barnet Segal class II bike lanes from Soledad Dr to Iris Canyon	bike	X	X	X		X	X	X		X			11
HIGH	Munras/El Dorado colored bike lanes, bike box, and detection, audible ped detection, ADA ramp	bike/ped	X		X	X	X	X	X					10
HIGH	Rec trail crossing safety improvements at Casa Verde	bike/ped	X			X	X	X			X	X	X	10
HIGH	Viejo Rd class II bike lanes from Soledad Dr to class I bike path	bike	X	X	X		X	X	X					10
HIGH	Soledad Drive sidewalk	ped/SRTS	X	X	X			X	X	X	X			10
HIGH	Rec trail crossing improvements at Figueroa	bike/ped	X	X		X		X			X	X	X	10
MED	Casanova/Melway Cir curb extensions and crosswalk	ped	X		X		X	X		X		X		9
MED	Van Buren/Artillery connection improvements for bike and ADA access Phase 1	bike/ped	X			X	X	X	X		X			9
MED	Reeside contra-flow bike lane from Hawthorne to Foam St; bike detection at Reeside/Lighthouse & Reeside/Foam	bike		X	X		X	X	X				X	9
MED	Bike/ped plaza along harbor between Wharf II and Wharf I	bike/ped			X	X	X	X		X			X	9
MED	Van Buren/Artillery Connection Improvements for bicycle and ADA access Phase 2 (switch-back ramps or new bridge)	bike/ped	X		X	X		X	X		X			9

appendix **b** bicycle
transportation plan checklist

appendix b

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Bicycle Transportation Plan Checklist

BTP TITLE: Monterey on the Move

LOCAL AGENCY: City of Monterey ADOPTED Y N DATE: 03/05/2013

TRANSPORTATION PLANNING AGENCY: Transportation Agency for Monterey County APPROVED Y N DATE:

BFU REVIEW: APPROVED DISAPPROVED DATE:

Yes	No	Requirement	Pages	Comments
		(a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.		
		(b) A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.		
		(c) A map and description of existing and proposed bikeways.		
		(d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.		
		(e) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.		
		(f) A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.		
		(g) A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.		
		(h) A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.		
		(i) A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.		
		(j) A description of the projects proposed in the plan and a listing of their priorities for implementation.		
		(k) A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.		

appendix b

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appendix federal hwy administration grants

appendix c

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APPENDIX C FEDERAL HIGHWAY ADMINISTRATION GRANTS

This table indicates potential eligibility for pedestrian and bicycle projects under funding programs, but specific program requirements must be met, and eligibility must be determined on a case-by-case basis. For example, NHS funds must benefit NHS corridors, HSIP funds must benefit safety, CMAQ funds must benefit air quality, FLH funds must provide access to or within Federal lands, etc. See also more information about [Bikes and Transit](#) and [Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law](#).

	NHS	STP	HSIP	SRTS	TEA	CMAQ	RTP	FTA	TE	BRI	402	PLA	TCSP	JOBS	FLH	BYW
Bicycle and pedestrian plan		*						*				*	*			
Bicycle lanes on roadway	*	*	*	*	*	*		*	*	*			*		*	*
Paved Shoulders	*	*	*	*	*	*				*			*		*	*
Signed bike route	*	*		*	*	*		*					*		*	*
Shared use path/transportation trail	*	*	*	*	*	*	*	*		*			*		*	*
Recreational trail							*						*		*	
Spot improvement program		*	*	*	*	*		*					*			
Maps		*		*		*		*			*		*			
Bike racks on buses		*			*	*		*	*				*			
Bicycle parking facilities		*		*	*	*		*	*				*			*
Bicycle share (capital costs only, operations not eligible)	*	*			*	*		*	*				*	*	*	
Bicycle storage/service center		*		*	*	*		*	*				*	*		
Sidewalks, new or retrofit	*	*	*	*	*	*		*	*	*			*		*	*
Crosswalks, new or retrofit	*	*	*	*	*	*		*	*				*		*	*
Trail/highway intersection	*	*	*	*	*	*	*						*		*	*
Signal improvements	*	*	*	*	*	*		*					*			
Curb cuts and ramps	*	*	*	*	*	*		*					*			
Traffic calming		*	*	*				*					*			
Coordinator position		*		*		*										
Safety/education position		*		*							*					
Police Patrol				*							*					
Helmet Promotion		*		*	*								*			
Safety brochure/book		*		*	*	*	*				*					
Training		*		*	*	*	*				*					

KEY

NHS	National Highway System	BRI	Bridge
STP	Surface Transportation Program	402	State and Community Traffic Safety Program
HSIP	Highway Safety Improvement Program	PLA	State/Metropolitan Planning Funds
SRTS	Safe Routes to School Program	TCSP	Transportation and Community and System Preservation Pilot Program
TEA	Transportation Enhancement Activities	JOBS	Access to Jobs/Reverse Commute Program
CMAQ	Congestion Mitigation/Air Quality Program	RTP	Recreational Trails Program
FLH	Federal Lands Highway Program	FTA	Federal Transit Administration Capital Funds