

## Circulation Element *(Updated April 2015)*

### Street Network

The policies in this element are intended to ensure the safety of persons using the city circulation system and to maintain compatibility between that system and the land uses it serves. Local streets that provide direct access to homes and other fronting properties comprise the majority of streets in Pleasant Hill.

Rapid growth has produced heavy travel demand on streets and highways throughout Contra Costa County. Pleasant Hill is located on Interstate 680, the only north-south freeway in the County, which carries more than 250,000 vehicles per day through the city. Interchange improvements in the late 1990s helped improve access between Interstate 680 and Contra Costa Boulevard, the busiest north-south street in the city.

In general, the city street system operates efficiently without significant delays. *Table C1* and the accompanying Circulation System map show major streets (arterials and collectors) in Pleasant Hill and average daily traffic in 2000. Traffic volumes are highest on boulevards such as Contra Costa, Taylor, Monument, and Treat that accommodate through traffic, serve concentrated commercial development, and provide access to Interstate 680. Other through streets such as Buskirk Avenue and Pleasant Hill Road (north of Taylor) also carry high traffic volumes.

**Arterials** are intended to carry traffic between areas of the city, direct service to major traffic generators, and connect to the freeway system. Arterials also often provide direct access to parcels, although medians commonly restrict left turn options. Arterials, which typically carry more than 10,000 vehicles a day at speeds of 30-40 mph, include:

**Buskirk Avenue** – north-south arterial with signals at Coggins Drive and Monument Boulevard. Buskirk serves a variety of residential and nonresidential uses and is often utilized by through traffic traveling south from Monument Boulevard to the BART station and destinations in Walnut Creek and Concord.

**Chilpancingo Parkway** – arterial from a signalized intersection at Contra Costa Boulevard west to Martinez. With a full interchange at Interstate 680, the Parkway attracts through traffic and provides access to Diablo Valley College via Old Quarry Road. Chilpancingo Parkway also serves adjacent commercial and medium-density multifamily residential development. The eastern extension of this parkway is Concord Avenue, a major access route to downtown Concord.

**Contra Costa Boulevard** – major north-south arterial traversing the city parallel to Interstate 680 with freeway access:

- Southbound near Chilpancingo Parkway/Concord Avenue
- Southbound at Gregory Lane off-ramp
- Southbound and northbound at Monument Boulevard
- Northbound (off-ramp) and southbound (on-ramp) near Boyd Road

Contra Costa Boulevard serves much of the city's commercial and business development, as well as Diablo Valley College (via Viking Drive and Golf Club Road). Intersections are signalized at Chilpancingo Parkway, Golf Club Road,

Viking Drive, Taylor Boulevard, Ellinwood Drive, Second Avenue, Doray Drive, Vivian Drive, Woodsworth Lane, Gregory Lane, Trelany Road/Crescent Plaza, Monument Boulevard, Boyd Road and Astrid Drive. South of Boyd Road, the boulevard becomes a four-lane arterial that functions as freeway frontage, providing direct access and carrying through traffic to and from Walnut Creek.

**Geary Road** – arterial east from Pleasant Hill Road along the south edge of the city. It serves regional through-traffic to the Treat Boulevard/Interstate 680 interchange and the Pleasant Hill BART Station in the unincorporated County, and directly accesses residences.

**Gregory Lane** – arterial west from Contra Costa Boulevard to Pleasant Hill Road, with signalized intersections at Contra Costa Boulevard, Cleaveland Road, Moiso Lane Helen Road and Pleasant Hill Road. West of Pleasant Hill Road, Gregory Lane becomes Grayson Road, a two-lane collector west to Reliez Valley Road, with a signalized intersection at Taylor Boulevard This corridor serves east-west through-traffic, as well as residential, church, retail and office uses.

**Golf Club Road** – four-lane divided arterial west from Contra Costa Boulevard to Paso Nogal Road, with signalized intersections at Contra Costa Boulevard and Old Quarry Road; two-lane road west to terminus at Contra Costa Country Club. Golf Club Road also provides access to residential uses, Diablo Valley College, and several small retail centers.

**Monument Boulevard/Crescent Plaza** – arterial east from Contra Costa Boulevard into Concord. Intersections at Contra Costa Boulevard and Buskirk Avenue are signalized, and an interchange at Interstate 680 serves through-traffic between the freeway and Concord. Most of the south side of Monument Boulevard is developed with commercial land uses east of Interstate 680.

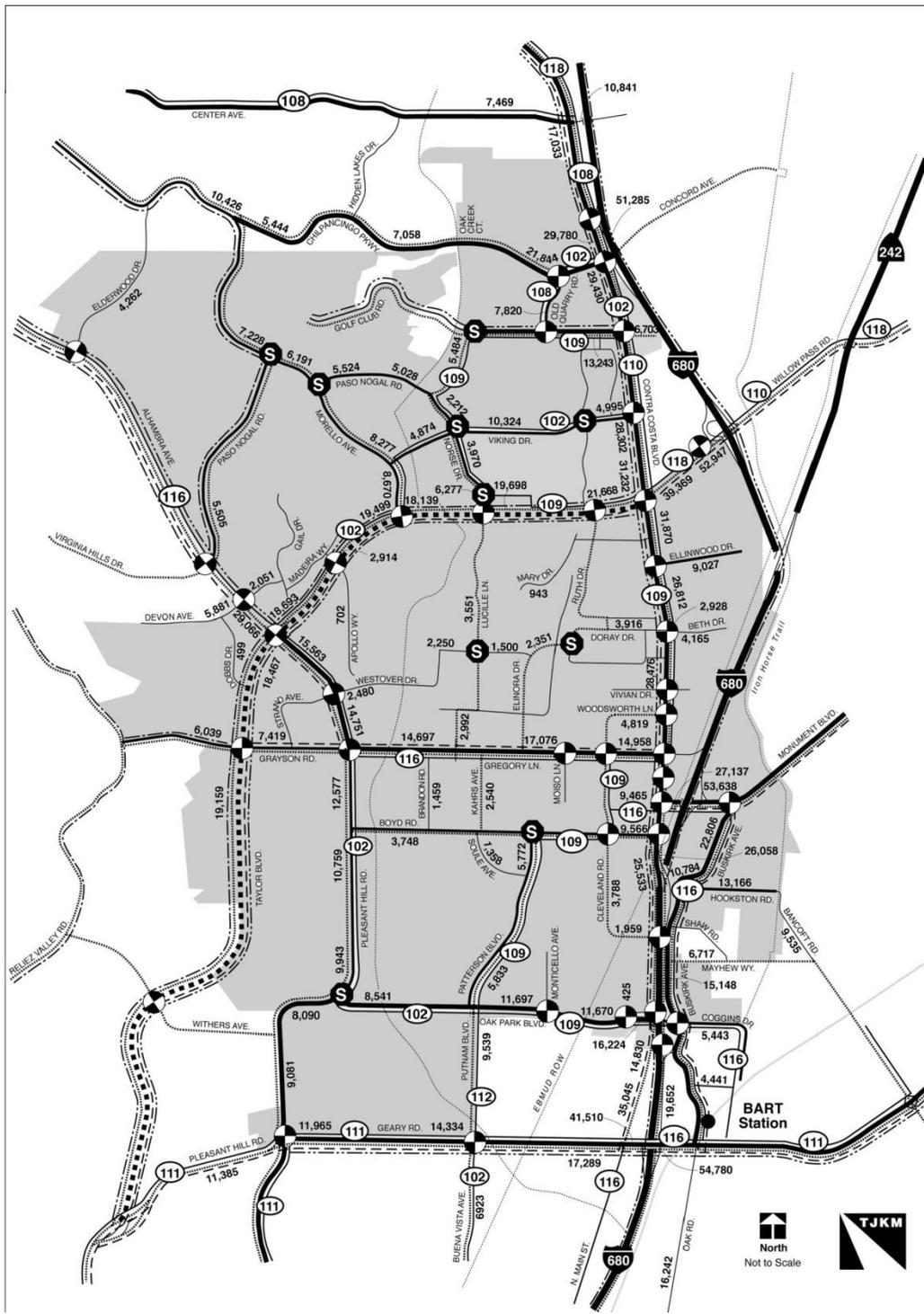
**Oak Park Boulevard** – east-west arterial from Pleasant Hill Road to Interstate 680, where it becomes Coggins Drive, a collector serving the Pleasant Hill BART Station area. These streets accommodate regional through-travel and local residential and commercial access, with key intersections at Pleasant Hill Road (stop-sign controlled), and Putnam Boulevard, Monticello Avenue Pleasant Valley Drive, Contra Costa Boulevard and Buskirk Avenue (signalized).

**Pleasant Hill Road/Alhambra Avenue** – arterial through the city (though a collector between Oak Park Boulevard and Gregory Lane) with a stop sign at Oak Park Boulevard and signals at Paso Nogal Road, Taylor Boulevard, Gregory Lane, Devon Avenue, Strand Avenue and Geary Road. Pleasant Hill Road/Alhambra Avenue also provides local access to adjacent residential areas and a school.

**Taylor Boulevard** – carries local and through traffic. For most of its length, Taylor Boulevard is an expressway with speed limits of 45 mph and 55 mph and limited driveway access.

Intersections at Grayson Road, Pleasant Hill Road, Morello Avenue, Lucille Lane, Contra Costa Boulevard, Apollo Way and Ruth Drive are signalized. East of

Contra Costa Boulevard, Taylor Boulevard becomes Sun Valley Boulevard, with an interchange at Interstate 680.



LEGEND	
--- Expressway	--- Truck Route
--- Arterial	--- Scenic Route or Corridor
--- Collector	--- Route of Regional Significance
--- Selected Local Street	○ Traffic Signal
..... Bicycle On Road Route	○ All-Way Stop
..... Bicycle Off Road Route	○ 11,965 Daily Traffic Volume in 2000
--- Bus Route	○ Pleasant Hill City Limit

**City of Pleasant Hill General Plan  
Circulation System**

11/18/02

**Table C1. Major Street Traffic Volumes**

<b>Arterials</b>	<b>Daily Trips</b>
Buskirk Avenue	10,800-22,800
Center Avenue	7,500-10,800
Chilpancingo Parkway	5,400-21,800
Contra Costa Boulevard	14,800-36,000
Geary Road	12,000-41,500
Golf Club Road	6,700-13,200
Gregory Lane	14,700-17,100
Monument Boulevard	9,500-53,600
Oak Park Boulevard	8,500-16,200
Pleasant Hill Road	8,100-29,100
Taylor Boulevard	16,700-21,700
<b>Collectors</b>	<b>Daily Trips</b>
Boyd Road	3,700-9,600
Coggins Drive	5,400
Ellinwood Drive	9,000
Grayson Road	6,000-7,400
Hookston Road	2,600-13,200
Morello Avenue	6,200-10,400
Norse Drive	4,000-6,300
Old Quarry Road	7,800
Paso Nogal Road	5,000-5,500
Patterson Boulevard	5,800
Viking Drive	4,900-10,300

*Source: TJKM, 2000*

Arterials in Pleasant Hill also provide connections to adjacent areas, as follows:

- Chilpancingo Parkway extends into Concord as Concord Avenue;
- Taylor Boulevard extends into Concord as Sun Valley Boulevard;
- Alhambra Avenue, Morello Avenue, Chilpancingo Parkway and Contra Costa Boulevard extend north into Martinez and unincorporated Pacheco;
- Taylor Boulevard and Pleasant Hill Road carry traffic south into the unincorporated areas and Lafayette;
- Contra Costa Boulevard extends south into Walnut Creek as North Main Street; and
- Geary Road continues east into Walnut Creek as Treat Boulevard.

A number of other streets in Pleasant Hill carry sufficient volume to be classified along selected road segments as **collectors**, which typically carry 5,000-10,000 vehicles a day at speeds of 25-30 mph. Collector streets provide access to parcels, connect adjacent neighborhoods, link neighborhoods to arterial streets, and carry through-traffic in residential, industrial, and commercial areas. Primary collectors in Pleasant Hill include:

**Boyd Road** – east-west collector linking Contra Costa Boulevard with Pleasant Hill Road and serving Sequoia Elementary and Middle Schools. Intersections at Contra Costa Boulevard and Cleveland Road are signalized, with stop signs at Pleasant Hill Road and Patterson Boulevard.

**Coggins Drive** – east-west collector with signals at Oak Park Road/Interstate 680. To the east, Coggins Drive bends south as a county road and narrows from four to two lanes. There are four-way stops at Las Juntas Way and at the Pleasant Hill BART Station (where it turns into Jones Road).

**Ellinwood Drive** – short, divided east-west collector, with a traffic signal at Contra Costa Boulevard, a four-way stop at Long Brook Way and a stop at Ellinwood Way.

**Grayson Road** – a two-lane east-west collector with separate bike lanes, and stop signs at Reliez Valley Road and near the entrance to Oakmont Memorial Park. There is a traffic signal at Taylor Boulevard and another at Pleasant Hill Road (where Grayson Road turns into Gregory Lane).

**Hookston Road** – a short two-lane east-west collector with stop signs at Buskirk Road, Elmira Drive, and Bancroft Road.

**Morello Avenue** – collector south from Chilpancingo Parkway to Taylor Boulevard. Stop signs control the intersections at Paso Nogal Road and Kiki Drive, while the Taylor Boulevard intersection is signalized. Morello Avenue provides access to Diablo Valley College.

**Norse Drive** – a north-south two-lane collector with bike lanes, a signal at Taylor Boulevard, and stop signs at Viking Drive, Civic Drive, and Paso Nogal Road. South of Taylor Boulevard, Norse Drive turns into Lucille Lane.

**Old Quarry Road** – a short north-south four-lane collector with signals at Chilpancingo Parkway and Golf Club Road (Diablo Valley College), and a four-way stop at Camelback Road.

**Paso Nogal Road** – a curving two-lane collector with stop signs at Morello Avenue and Golf Club Road and a signal at Alhambra Avenue.

**Patterson Boulevard** – a two-lane north-south collector with a stop sign at Boyd Road and a signal at Oak Park Boulevard, where it turns into Putnam Boulevard.

**Viking Drive** – a two-lane east-west collector with separate bike lanes, a signal at Contra Costa Boulevard (Sun Valley Mall), four-way stops at Norse Drive and Ruth Drive, and stop signs at Morello Avenue.

**Regional Freeways** include:

- Interstate 680, which passes through the eastern edge of the city;
- State Route 4, the major east-west link across the County, is a four-to-six-lane freeway with interchanges at Alhambra Avenue and Morello Avenue in Martinez and at Pacheco Boulevard (where Caltrans estimated 75,000 vehicles per day in 1998); and

- State Route 24, a four-to-six-lane freeway connecting to Oakland and the Bay Bridge, joins Interstate 680 in Walnut Creek, diverging northeastward to connect with SR-4 via SR 242.

Commercial vehicles with gross weight over 6,000 pounds are allowed only on certain streets designated as **Truck Routes** (see the Circulation System map, which also shows signalized and all-way-stop intersections).

### Level of Service

Level of Service (LOS) describes the relative ease or congestion of traffic movement (see *Table C2*) with ratings from A (free flow conditions with little or no delay) to F (jammed conditions with excessive delays and long back-ups on major streets in the City). *Table C3* summarizes LOS for 10 key intersections in the city, based on traffic counts collected in January and February 2001 and on methodology adopted by the Contra Costa Transportation Authority.

**Table C2. Intersection Level of Service Definitions**

LOS	Delay Period	Description
A	0 - 5 seconds	Free/Insignificant Delay: No approach area is fully utilized by traffic.
B	5 - 15	Stable Operation/Minimal Delay: An approach area may be fully utilized. Some drivers feel restricted.
C	15 - 25	Stable Operation/Acceptable Delay: Approach areas are fully utilized. Most drivers feel restricted.
D	25 - 40	Approaching Unstable/Tolerable Delay: Drivers may have to wait through more than one red signal. Queues may develop but dissipate rapidly.
E	40 - 60	Unstable Operation/Significant Delay: Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form.
F	> 60	Forced Flow/Excessive Delay: Jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Source: CMCA, 2002

**Table C3. Peak Hour Intersection Levels of Service**

Intersection (listed north-to-south)	Existing Conditions			
	A.M. Peak Hour		P.M. Peak Hour	
	V/C	LOS	V/C	LOS
Contra Costa Blvd/Interstate 680 Ramps	N/A	N/A	0.81	D
Contra Costa Blvd/Chilpancingo Pkwy	0.62	B	0.83	D
Contra Costa Blvd/Taylor Blvd	0.45	A	0.74	C
Contra Costa Blvd/Gregory Lane	N/A	N/A	0.52	A
Contra Costa Blvd/Monument Blvd	N/A	N/A	0.64	B
Monument Blvd/Buskirk Av/Ramona Drive/Lisa Lane	0.57	A	0.71	C
Gregory Lane/Cleveland Road	0.45	A	0.48	A
Gregory Lane/Pleasant Hill Road	0.63	B	0.59	A
Oak Park Blvd/Putnam Blvd/Patterson Blvd	0.69	B	0.64	B
Oak Park Rd./Coggins Dr/Buskirk Ave/Oak Rd	0.49	A	0.48	A

Source: TJKM, 2001. N/A: p.m. peak hour is significantly busier than a.m. peak hour

V/C: Volume-to-capacity ratio. V/C of 1 = LOS F.

Although the Contra Costa Boulevard intersections with Chilpancingo Parkway and the Interstate 680 ramps in the north part of the city may be congested during p.m. peak hours, intersections in the city are projected to continue to operate at acceptable levels (LOS D or better) throughout the 20-year timeframe of the General Plan (also see the LOS discussion in the Growth Management Element). Roadway improvements that may need to be provided by private developers to ensure future acceptability of service levels include:

- widening and realigning Buskirk Avenue and adding traffic signals at its intersections with Hookston Road and/or Mayhew Way to accommodate redevelopment of the Contra Costa Shopping Center (which could increase traffic by 10-15 percent along Buskirk Avenue south of Monument Boulevard);
- widening Contra Costa Boulevard at Gregory Garden Shopping Center; and
- adding a traffic signal on Pleasant Hill Road in conjunction with additional development of the Mangini/Delu property.

Due to high volumes, complex configurations and freeway access, the intersections in the city with the highest accident frequency are:

- Contra Costa Boulevard/Chilpancingo Parkway/Concord Avenue;
- Monument Boulevard/Buskirk Avenue/Ramona Drive/Lisa Lane;
- Contra Costa Boulevard/Gregory Lane; and
- Contra Costa Boulevard/Monument Boulevard.

A February 2001 study of peak hour (4-6 p.m.) traffic on Contra Costa Boulevard indicates:

- It takes about 12 minutes to drive north from Oak Park Boulevard to Chilpancingo Parkway (about half spent at signals) and 10 minutes to drive south from Chilpancingo Parkway to Oak Park Boulevard (about one-third spent at signals).
- Average free-flow speed is about 31 mph northbound and about 28 mph southbound, while average overall speed (including stops) is about 16 mph northbound and 19 mph southbound.

Viking Drive and Boyd Road experience substantial congestion associated with morning school-related traffic. Viking Drive provides access to Valley View Middle School, College Park High School and Diablo Valley College, while Boyd Road provides access to Sequoia Elementary and Middle Schools.

## **Complete Streets**

In 2008, the Governor of California signed Assembly Bill 1358 into law that established 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."

AB 1358 requires that upon any substantial revision of the circulation element of a general plan, the legislative body shall modify the circulation element to plan for a balanced, multi-modal transportation network that meets the needs of all users of the streets, roads and highways for safe and convenient travel in a manner that is suitable to the rural, suburban or urban context of the general plan (see Government Code Section 65302(b)(2)(A)).

Regional agencies including the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) recently adopted Plan Bay Area, a regional plan that guides land use and transportation. One of the strategies contained in the plan is to maintain the existing transportation system, more specifically having a well-maintained multi-modal transportation system to allow successful development of compact development.<sup>1</sup> In addition, Plan Bay Area makes a significant commitment to increase the convenience and safety of walking and bicycling through complete streets<sup>2</sup>, thus, incorporating complete streets policies is consistent with Plan Bay Area.

A “complete street” is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists of all ages and abilities appropriate to the function and context of the facility<sup>3</sup>.

It is expected that complete streets will be created over time when new streets are constructed as part of new development and by retrofitting existing streets, where feasible, so they become more usable to alternative modes of transportation. Since the City is relatively “built-out” situations may arise where implementing Complete Streets is not feasible. Thus, to allow for these situations, the City Engineer may determine, at the time of project design, based on specific written findings, that accommodation of all modes of transportation is not feasible for any particular project. The City Engineer’s findings will be made available for public review prior to final project approval.

## **Potential Benefits of Multimodal Transportation<sup>4</sup>**

### *Safety*

Multimodal transportation networks, using complete streets best practices, can lead to safer travel for all roadway users. Designing streets and travel routes that consider safe travel for all modes can reduce the occurrence and severity of vehicular collisions with pedestrian and bicyclists.<sup>5</sup> Streets and other transportation facility design considerations that accommodate a variety of modes and user abilities can contribute to a safer environment that makes all modes of travel more appealing.

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<sup>1</sup> ABAG and MTC, *Plan Bay Area*, page 69

<sup>2</sup> ABAG and MTC, *Plan Bay Area*, page 75

<sup>3</sup> Complete Streets Implementation Action Plan, February 1, 2010, & Implementation of Policy, Complete Streets: Integrating the Transportation System Deputy Directive 64-R1, October 2, 2008, California Department of Transportation

<sup>4</sup> Governor’s Office of Planning and Research, *Update to the General Plan Guidelines: Complete Streets and the Circulation Element*.

<sup>5</sup> California Department of Transportation, *Complete Streets Implementation Action Plan*.

## *Health*

Multimodal transportation networks that allow people to walk or bicycle as a viable transportation option can promote an active lifestyle by encouraging travelers to walk or ride bicycles instead of driving. These active transportation modes increase physical activity rates. Frequent exercise is known to reduce obesity rates and lower the risk of heart disease and diabetes.<sup>6</sup> A comprehensive transportation network that allows safe walking and bicycling to multiple destinations, including transit, promotes better health.

Reducing the amount that people drive by increasing the opportunity for walking, bicycling, and transit also reduces vehicle emissions. Emissions from vehicles are a major contributor to poor air quality, which in turn, is a major contributor to health ailments such as asthma. Although poor air quality is not always the cause of asthma, vehicle emissions are a major contributor to asthma related illnesses.<sup>7</sup>

Multimodal transportation networks provide options and increase mobility for people who cannot or do not drive to stay connected to their communities. This is especially important for people with disabilities and for all people as they age. Without alternatives to the automobile, these individuals can easily become socially isolated; unable to access essential resources such as grocery stores, houses of worship, and medical care. Social isolation and a lack of access to essential resources can negatively impact people's physical and mental well-being.

## *Greenhouse Gas (GHG) Emission Reduction*

Land use patterns and the existing transportation infrastructure play a direct role in the rate and growth of vehicle miles traveled (VMT); influencing the distance that people travel and the mode of travel they choose. The need to reduce transportation-related GHG emissions was highlighted in the California Air Resources Board's (CARB) 2008 AB 32 Climate Change Scoping Plan.<sup>8</sup> Transportation accounts for 38 percent of California's GHG emissions.<sup>9</sup> Studies show that even with aggressive state and federal vehicle efficiency standards and the use of alternative fuels, meeting the State's GHG reduction goals will require a reduction in how much the average Californian drives.<sup>10</sup> Reducing the number of automobile trips can reduce fuel consumption and GHG emissions.

## *Economic Development and Cost Savings*

Creating multimodal transportation networks can improve economic conditions for both business owners and residents. A network of complete streets can be safer and more appealing to residents and visitors, which can benefit retail and commercial development.

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<sup>6</sup> California Department of Public Health, *The Burden of Cardiovascular Disease in California, A Report of the California Heart Disease and Stroke Prevention Program, 2007*

<http://www.cdph.ca.gov/programs/cvd/Documents/CHDSP-BurdenReport-HighRes.pdf>

<sup>7</sup> California Department of Health Services, *The Burden of Asthma in California: A Surveillance Report, 2007* <http://www.californiabreathing.org/images/stories/publications/asthmaburdenreport.pdf>

<sup>8</sup> California Air Resources Board, *AB 32 Climate Change Scoping Plan (2008):*

<http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>

<sup>9</sup> California Climate Change Portal, "Greenhouse Gas Emissions Inventory," 2004

<http://www.climatechange.ca.gov/inventory/index.htm>

<sup>10</sup> California Air Resources Board, *AB 32 Climate Change Scoping Plan*

Multimodal transportation networks can improve conditions for existing businesses by helping revitalize an area and attracting new economic activity. Integrating the needs of all users can also be cost-effective, by reducing public and private costs. Accommodating all modes reduces the need for larger infrastructure projects, such as additional vehicle parking and road widening, which can be more costly than complete streets retrofits.

## **Alternate Transportation**

The following provides a summary of alternative transportation options within the City of Pleasant Hill.

Bike routes are designated along most major and local streets in the city, as well as on trails along the Contra Costa Canal, the East Bay Municipal Utility District right-of-way and the railroad tracks (“Iron Horse” trail; see the Circulation System map). The routes link destinations in the City to each other and to the County bikeway system to accommodate both work and recreation-related trips. Pedestrian access also exists on bicycle off road routes.

Transit service in the City is provided by County Connection, which provides bus service in the City and to adjacent areas (see the Circulation System map). Public bus routes cover most major streets and serve the Martinez AMTRAK station and the Pleasant Hill BART station for regional commuting.

In addition, to local transit, regional transit is nearby provided by Bay Area Rapid Transit (BART). This service provides a significant alternative to the automobile for work-related trips from Pleasant Hill to the East Bay, San Francisco and other parts of the Bay Area. The Pleasant Hill Station has about 3,000 parking spaces and is also easily accessible from local transit.

**Circulation Goal 1. Establish and maintain a safe and efficient multi-modal transportation system that emphasizes the use of existing arterial and collector roadways, paths, and bike lanes.**

Circulation Policy 1A. Maintain rights-of-way at current widths, except as necessary to relieve specific areas of congestion.

*Circulation Program 1.1. Identify specific roadway segments where right-of-way widening, narrowing, or extension may be appropriate or will likely be needed to improve safety.*

*Circulation Program 1.2. Continue to provide a forum such as the Traffic Safety Committee for citizen input on traffic-related issues.*

*Circulation Program 1.3. Evaluate and monitor intersections with the highest accident rates.*

*Circulation Program 1.4. Provide roadway improvements necessary to meet the LOS standards established for Basic Routes in the Growth Management Element.*

*Circulation Program 1.5. Require developers to establish comprehensive construction traffic plans, for approval by City staff, which denote haul routes, detours, and other factors that may impact public safety.*

*Circulation Program 1.6. Discourage new parks, schools, day care centers and major pedestrian uses from being sited on designated truck routes, or provide additional safety measures.*

**Circulation Goal 2. Encourage Design and Development of Complete Streets**

Circulation Policy 2A. Develop a connected system of streets, roads and highways that provides continuous, safe, and convenient multi-modal travel options for all types of users throughout the City.

Circulation Policy 2B. When planning and designing for complete streets, receive input from groups and individuals representing the various types of users of City streets.

*Circulation Program 2.1. Develop and apply a complete streets best practices checklist to guide the design and review of proposed transportation improvement projects incorporating appropriate provisions from standard reference guidelines from federal, state and local sources (e.g. Federal Highway Administration, Caltrans, MTC, SACOG, ITE, etc.)*

*Circulation Program 2.3. When building new, or rehabilitating existing, roadways, consider the following design elements:*

- Sidewalks and curbs as a standard design principle.
- Bicycle lanes and/or shared lanes as a standard design principle.
- Transit accessibility as a standard design principle.
- Shade trees and planting strips as a standard design principle along roadways.

*Circulation Program 2.4. Review street reconstruction, development projects and utility projects to incorporate complete street features, including trails, bus stops, pedestrian and bicycle routes if*

*feasible.*

*Circulation Program 2.5. Continue to support Safe Routes to Schools programs to address pedestrian and bicycle safety.*

*Circulation Program 2.6. Provide enhanced landscape medians and street edges that are visually appealing and provide shade and buffers for pedestrians and cyclists.*

*Circulation Program 2.7. Coordinate internally and with other agencies to plan for the provision of complete streets regionally.*

*Circulation Program 2.8. The City Engineer may determine, at the time of project design, based on specific written findings, that accommodation of all modes of transportation is not feasible for any particular project. The City Engineer's findings will be made available for public review prior to final project approval.*

### **Circulation Goal 3. Decrease traffic delays associated with specific streets and uses.**

Circulation Policy 3A. Consider right-of-way widening, signalization, turn and/or parking restrictions, additional turning lanes, and other mitigation measures near schools and other uses with congested conditions.

*Circulation Program 3.1. Sponsor forums to obtain citizen input regarding the appropriateness of roadway improvements aimed at reducing local traffic congestion.*

*Circulation Program 3.2. Evaluate the level of service at intersections that are congested during the peak hour, and develop mitigation measures to alleviate that congestion.*

### **Circulation Goal 4. Reduce speeding, especially in neighborhoods.**

Circulation Policy 4A. Focus traffic control efforts in residential areas that experience excessive traffic or speeding.

*Circulation Program 4.1. Continue to implement adopted criteria/policies regarding the installation of traffic-calming measures (including consideration of narrower travel lanes where appropriate, chicanes, raised medians, speed tables and planting strips).*



*Chaucer Drive*

*Circulation Program 4.2. Undertake traffic-calming measures in identified locations, including around schools as needed.*

*Circulation Program 4.3. Balance the needs for pedestrian, bicycle, and automobile safety with overall traffic level of service at roadway intersections and corridors.*

*Circulation Program 4.4. Sponsor forums to obtain citizen input regarding the appropriateness of road improvements intended to reduce speeding.*

**Circulation Goal 5. Reduce congestion and vehicle trips through land use planning.**

Circulation Policy 5A. Plan for appropriate mix of transportation modes and the infrastructure to support these modes to meet community needs.

Circulation Policy 5B. Develop and improve thoroughfares based on proposed land use patterns and projected demand.

*Circulation Program 5.1. Design future transportation facilities to accommodate future demand and based on the land use type.*

*Circulation Program 5.2. Consider adding bicycle and pedestrian facilities in higher intensity land use areas if not already available.*

**Circulation Goal 6. Reduce congestion and vehicle trips through non-automobile transportation and public transit.**

Circulation Policy 6A. Encourage use of bus and rail service for local and regional travel.

Circulation Policy 6B. Encourage use of carpooling and ridesharing for local and regional travel.

*Circulation Program 6.1. Consider development of a transportation demand management program for areas of the City with high employment concentration.*

*Circulation Program 6.2. Improve accessibility to transit.*

*Circulation Program 6.3. Develop and incorporate transit serving facilities within public right-of-ways.*

*Circulation Program 6.4. Provide adequate pedestrian, bicycle and disabled access to and from transit stops.*

*Circulation Program 6.5. Work with County Connection to ensure that local bus and shuttle service meets community needs.*

*Circulation Program 6.6 Support County Connection to improve all types of accessibility for their facilities and to incorporate intermodal facilities where feasible.*

*Circulation Program 6.7. Support new technologies that promote more effective use of transit and facilitate other innovative alternative modes of transportation.*

*Circulation Program 6.8. Explore incentives for public employees to not commute by automobile.*

*Circulation Program 6.9. Expand use of transit for seniors, students, and persons with disabilities.*

*Circulation Program 6.10. Work with employers, schools, and developers to encourage ridesharing and transit use.*

*Circulation Program 6.11. Work with employers, schools, and developers to encourage innovative transportation measures.*

*Circulation Program 6.12. Encourage development of infrastructure (public and private) to support the use of electric and other alternative fuel vehicles.*

### **Circulation Goal 7. Ensure that streets are safe and bicycle-friendly.**

Circulation Policy 7A. Maintain and upgrade the City's bikeway system.

Circulation Policy 7B. Adopt a bicycle master plan for the City.

*Circulation Program 7.1. Identify areas where bikeway connections can be added and/or made safer, including providing safe separation between pedestrians and bicyclists from vehicular traffic.*

*Circulation Program 7.2. Install additional bike lanes, routes, trails and connections where feasible, including on and across major thoroughfares.*

*Circulation Program 7.3. Develop bicycle routes that provide connectivity between homes, job centers, schools and other frequently visited destinations.*

*Circulation Program 7.4. Ensure adequate crossing times and detection for bicycle users at signalized intersections.*

*Circulation Program 7.5. Develop bicycle facilities along bicycle routes that support frequency of use, including shelters, trees, bicycle parking, etc.*

*Circulation Program 7.6. Explore the dedication and preservation of independent alignments (utility, abandoned waterways, rail road right of ways, etc.) for the development of bicycle paths.*

*Circulation Program 7.7. Continue to explore options for providing safe bicycle access under/over Interstate 680.*

### **Circulation Goal 8. Ensure that streets are safe and pedestrian-friendly.**

Circulation Policy 8A. Maintain and upgrade the City's pedestrian system by installing or upgrading sidewalks, warning devices, crosswalks, and other pedestrian aids where appropriate, including particular consideration for the needs of pedestrians with limited mobility and/or disabilities.

Circulation Policy 8B. Adopt a pedestrian master plan for the City.

*Circulation Program 8.1. Design of intersections and the public right-of-way should provide safe access for all users including pedestrians, bicyclists and motorists of all ages and abilities.*

*Circulation Program 8.2. Develop pedestrian routes that provide connectivity between homes, job centers, schools and other frequently visited destinations.*

*Circulation Program 8.3. Identify areas where sidewalks, curb cuts, ramps, and other pedestrian amenities should be installed or upgraded.*

*Circulation Program 8.4. Identify ways that education and police enforcement can improve pedestrian safety.*

*Circulation Program 8.5. Ensure adequate crossing times and detection for all pedestrian users at signalized intersections.*

*Circulation Program 8.6. Develop pedestrian facilities along pedestrian routes that support frequency of use, including, shelters, trees, etc.*

*Circulation Program 8.7. Continue to explore options for providing safe pedestrian access under/over Interstate 680.*

**Circulation Goal 9. Prioritize access and mobility for persons with disabilities.**

Circulation Policy 9A. Improve sidewalks to facilitate access by persons with disabilities.

*Circulation Program 9.1. Identify specific locations where access for persons with disabilities needs to be improved.*

*Circulation Program 9.2. Identify grants that may be used to assist in the funding of projects that will improve access for persons with disabilities.*

*Circulation Program 9.3. Prioritize compliance with the ADA in providing sidewalk, cross-walk and transit stop improvements consistent with the federally mandated ADA Transition Plan.*

## **Glossary of Circulation Element Terms**

**Arterial** - A major street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties.

**Collector** - A street for traffic moving between arterial and local streets, generally providing direct access to properties.

**Freeway** - A highway serving high-speed traffic with no crossings interrupting the flow of traffic (i.e. no crossings at grade). Streets and Highways Code §23.5, in part, states that "Freeway means a highway in respect to which the owners of abutting lands have no right or easement access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access."

**Local** - A street providing direct access to properties and designed to discouraged through traffic.

**Level of Service** - According to the Transportation Research Board's 2000 Highway Capacity Manual Special Report, Level-of-Service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by person traveling in a traffic stream. Level-of-Serve measurements describe variables such as speed and travel time, freedom to maneuver, traffic from Level-of-Service A (representing free flow and excellent comfort for the motorist, passenger, or pedestrian) to Level-of-Service F (reflecting highly congested traffic conditions where traffic volumes exceed the capacities of streets, sidewalks, etc.). Level-of-Service can be determined for freeways, multi-lane highways, two-lane highways, signalized intersections, intersections that are not signalized arterials, and transit, bicycle, and pedestrian facilities.

**Multimodal Transportation Network** - A well balanced circulation system that includes multiple modes of transportation that meets the needs of all users of streets, roads, and highways §65302(b)(2)(A).

**Route** - a sequence of roadways, paths, and/or trails that allow people to travel from place to place.

**Walkability** - The measurement of how walkable a community is. Walkable communities typically include footpaths, sidewalks, street crossing, or other pedestrian oriented infrastructure.