



General Plan Update Task Force Agenda

Meeting #3 –December 13, 2012

7:00 pm to 9:00pm

City Hall, Conference Room 2A

- I. **Call to Order** - 7:00 pm
- II. **Roll Call**
- III. **Introductions: Task Force Members, City Staff, and Consultants** - 7:05 pm
- IV. **Comments/Approval of Meeting #2 and Training Session # 1 Summary Notes**
- V. **Presentation of Outreach Toolkit** - 7:15 pm
 - a. Outreach Toolkit Purpose
 - b. Task Force Member Roles
 - c. Toolkit Contents and Materials
- VI. **Public Safety - Existing Conditions and Policy/Regulatory Framework** – 8:00 pm
 - a. Overview of Existing Safety Plans and Policies
 - b. Overview of Disaster Preparation & Response Plans and Policies
 - c. California State Legislation Related to Safety
- VII. **Group Discussion** – 8:20 pm
 - a. Identify Assets, Challenges, and Opportunities
 - a. Identify potential goals and policies
 - b. Identify potential geographic or land use solutions
- VII. **Public Comment Period** – 8:50 pm
- VIII. **Next Meeting** – In lieu of meeting on January 3, 2013, would the group prefer January 10 or January 17?
- IX. **Adjourn** – 9:00 pm



General Plan Update Task Force

Meeting #2 – November 8, 2012: Summary Notes

I. Call to Order

II. Roll Call

Task Force Members:	Present	Absent
Alan L. Parso	X	
Alex Harmon	X	
Dana Caines	X	
Daniel B. Goldstein	X	
Diane Laine		X
Edward W. Bogue	X	
Heather Enders	X	
Julius C. Willis Jr.	X	
Justin D. King		X
Lory Hawley	X	
Monica M. Schultz	X	
Pedrito C. Gella	X	
Ryan Fernandez	X	
Stacy Snowman		X
Veronica Martinez	X	

City Staff at Meeting: Don Frascinella (Transportation Manager) and Richard Patenaude (Planning Manager)

Consultants at Meeting: Jason Jones

III. Introductions: Task Force Members and City Staff

City staff and Task Force Members were introduced.

IV. Comments/Approval of meeting #1 Summary Notes

No issues or comments on the Summary Notes.

V. Existing Conditions and Policy/Regulatory Framework

Staff provided an overview of the existing policies and regulations related to transportation. The following items were discussed:

Circulation Element of the General Plan: Staff explained that this Element may be renamed to Mobility Element in the new General Plan. The issues and policies addressed in the existing Circulation Element were described:

- Issue: Regional traffic on freeways and major arterials: regional commuters use Hayward arterials when I-880 and I-580 are congested. 25% to 40% of peak hour traffic is regional through traffic.
 - Major policies that address this issue include: regional jobs housing balance, regional transit planning, bypass routes, improving freeway interchanges, and promoting telecommuting and staggered work hours.
- Issue: Promoting transit and alternative modes of travel: inaccessibility and infrequency of bus service, poorly designed bus stops, safety of riding transit, safe and convenient parking at BART stations, and poor pedestrian connections and linkages.
 - Major policies that address this issue include: Expand public transit service, improve transit security, improve pedestrian access to transit stops, improve the bicycle network throughout Hayward, and promote Transit Oriented Development (increased housing near transit stations)
- Issue: Local access and circulation: freeway and rail corridors act as barriers that force local traffic onto a few east-west routes that cross those barriers, limited street connections in hillside, and only one north-south freeway
 - Major policies that address this issue include: Enhance capacity of arterial street network, coordinate traffic signals, consider alternatives to street widening to balance needs of pedestrians and bikes, maintain LOS Standard of D or better during peak hours, improve transit links, and traffic calming in neighborhoods
- Issue: Funding transportation: limited funds for transportation projects and reduced funding during economic downturns (Reduced sales tax)
 - Major policies that address this issue include: seek transportation grants and funds, utilize local financing for transportation improvements, and maintain the Capital Improvement Program (CIP)

Question: Does the City have any pedestrian overcrossings/undercrossings. Answer: Yes, the Eldridge overpass was recently rehabbed to address crime and safety issues. Cameras and signs have helped. There are lots of maintenance and safety concerns

related to overpasses. Follow up Question: What about overpasses and underpass at major arterials? They would help traffic flow. Answer: Overpasses are very expensive and not feasible. They were analyzed for Mission Boulevard and were removed from the plan because of costs and maintenance concerns. The only feasible option is to improve at-grade crossings.

Question: Should we look at crossings that could be improved? Answer: Yes, that would be appropriate.

Question: What is the allowed density at the South Hayward BART density? Answer: 75 to 100 units per acre. Currently, no project has been built in Hayward that is over 30 units per acre.

Question: A lot of the major issues are car oriented. Can we create a more comprehensive transportation system? Answer: yes, the charge is to improve alternative modes of transportation.

Question: What is an example of local funding? Answer: The Measure B sales tax and gas tax. We are still waiting for election results to know if measure B passed.

Bicycle Master Plan: updated in 2007, will become part of General Plan: Staff provided an overview of the Bicycle Master Plan:

- Contents of Master Plan: Goals and objectives, existing conditions, planning and policy context, needs analysis, and recommended Improvements and Implementation
- Goals:
 - To provide the opportunity for safe, convenient and pleasant bicycle travel
 - To provide the related facilities and services necessary to allow bicycle travel to assume a significant role as a local alternative mode of transportation and recreation
 - To encourage the use of bicycle as a pleasant means of travel and recreation
- The Master Plan also implements several programs, such as bike to work, bike to school, and projects funded by Measure B
- The bike classification system was described:
 - Class I: Bike path physically separate from auto traffic
 - Class II: Striped bike lanes on roads 4-5' minimum width
 - Class III: signed routes shared bikes and autos, sharrow: share the road

- Staff explained that bicycles can go on any road. The Bicycle Master Plan Bike Plan creates safe routes designed for bikes. The City does not want to put bikes in danger, so they adhere to standards. Some streets are not safe for bikes, such as Hesperian (no room for bikes unless you buy right-of-way) and Mission.
- The Bike Plan was presented. The City has a pretty extensive bike network and it is being improved. Bike lanes are being considered on lots of streets.

Comment: The Hayward fault trail on Caltrans property is a good idea.

Question: Do businesses give employees incentives to walk, bike, or take transit? The City has an incentives program. We are not sure what other businesses are doing, but it is something that we can look at with the General Plan update.

Question: How much of the 2007 Master Plan has been implemented? Answer: A lot of the bike lanes have been implemented. Implementation depends on funding, such as Measure B. Most bike lanes do not cost much (\$30 k for Whitman). Green bike lanes on Foothill in Downtown are also planned.

Question: Is there a follow-up to the Master Plan? Do we check to see if it is working? Answer: We do an annual report on bike lanes. 30 miles of bike lanes have been built. One Bay Area Grant requires cities to prepare bike and pedestrian master plans. Hayward will make these part of the General Plan. An implementation plan will be included in the General Plan to monitor implementation.

Question: Does the City consult with bicycle user groups when developing bike plans? Answer: yes, we did outreach to bicycle users and East Bay Bicycle Coalition.

Question: Green bike lanes will be too slick for bikes. Answer: On Foothill, we will use a thermoplastic texture that is not slick. It is safe for bikes.

Question: Is there a minimum age for kids to ride in bike lanes. Answer: Not sure. The Police Department does bicycle education for youth and safety. Safety could be addressed in the General Plan.

Comment: Children are allowed to ride bikes on sidewalks if they are younger than 12.

Comment: We should look at way-finding signs that directing people to bike lanes and paths.

Question: The CyclePath store should be active in this process. Have they been consulted yet? Answer: not yet. They will be invited to workshops.

Neighborhood Plans: Staff provided an overview of the Neighborhood Plans:

- 16 Neighborhood Plans were developed in the 1990s. They have not been updated. Their goals and policies may still be credible, but a lot of policies are no longer relevant, such as the route 238 freeway. Neighborhood plans are still reviewed, but we will review their goals and policies and incorporate them into the General Plan if they make sense. City has developed a new neighborhood programs to address neighborhood issues. This program will continue.
- Sample transportation policies from a few neighborhood plans were presented: Upper B Street, Jackson Triangle, and Whitman-Mocine

Question: Do we need to review Neighborhood Plans with neighborhoods? Answer: yes, we intend to do this.

Question: My neighborhood does not have a neighborhood plan because it is new. Will a plan be created for my neighborhood? Answer: new neighborhood plans will not be created. The plans will be used as models to create city-wide policies for neighborhoods.

Climate Action Plan: Staff explained that the City has a Climate Action Plan and Sustainability Committee. The Climate Action Plan has strategies related to transportation:

- Increase use of alternative modes of transportation
- Improve effectiveness of transportation circulation system
- Utilize zoning to minimize need for auto transportation
- Incentives for low-carbon vehicles
- Advocate for State and Federal regulation for increased fuel efficiency

Staff noted that the City installed an electrical vehicle charging station in the parking structure across the street from City Hall.

Question: What kinds of incentives are given for low carbon vehicles? Answer: Green sticker to drive in carpool lanes, reserved parking for low emission vehicles, and carpool lanes for low emission vehicles. McDonalds is installing charging stations to provide an incentive for people to come eat while they charge their car.

Question: Can we require charging station in new development? Answer: This something to explore. The zoning code has similar incentive, such as a reduction in the

number of required automobile parking spaces if bike and motorcycle parking is provided.

Comment: Its rewarding to see how much of the neighborhood plan has been accomplished. It would be great if Hayward could be known as a progressive green city.

Comment: We should provide incentives to make quiet motorcycles.

Question: How were the neighborhoods engaged when the neighborhood plans were created? Answer: The City created a Task Force for each neighborhood. Today, a neighborhood partnership has been formed through the City Manager's office to solve neighborhood problems. The idea is to empower residents to problem solve.

Comment: Neighborhood plans are still being implemented and are still used.

Comment: We need to connect with the neighborhood task force members and engage them in the process.

Complete Streets: Staff provided an overview of complete streets:

- A road has typically been designed with vehicle movement as the first priority. Now we need to move people, information, scooters, bikes, transit, and all users. Design depends on context and how the street is used.
- California Complete Streets Act: There is no agreement to what Complete Streets means yet. The City is working with the Alameda County Transportation Commission to create a complete streets policy. The Commission is helping cities prepare complete streets policies so they can apply for grant funding. Cities must have a complete streets policy.
- Complete streets could mean wider sidewalks, bike lanes, outdoor seating for restaurants, and green bike lanes in Downtown. It is important to look at the street based on its function and context. A street that is by a school will need to consider pedestrian safety, accommodate buses, provide warning signs, and include crosswalks. A street that functions as a transit corridor will need to have space for bus shelters. Streets in industrial area will need to be designed to accommodate trucks.
- Hayward is doing better than the region in terms of street maintenance. Funds are scarce and it is always a struggle to find funding.

Question: Does Complete Streets overlap with the Circulation Element? Answer yes, complete streets will be addressed in the Circulation Element.

Question: Complete streets must be accessible to all forms of transportation?
Answer: Generally, but street improvements are contextual. Complete streets will be expensive. It may not make sense to install wider sidewalks on all streets because of costs. Improvements must look at the street in its context.

Goal: Should we identify which streets could be complete streets? Answer: Not necessarily. The policy development is more important.

Question: Does street overlay mean repaving? Answer: I was generally referring to street maintenance.

Question: Is the maintenance ever done? Answer: No, the goal is to be at an average of 70 in pavement score. Right now we are at 69.

Question: Do we get more funding because our streets are used by others in the region. Answer: No, we cannot make other jurisdictions pay for our street maintenance.

Comment: We should consider toll local roads. Answer: Not sure if that would be legal or politically feasible.

Comment: As we improve walkability and biking, we get more people out of cars and reduce maintenance costs.

VI. Small Group Exercise

The Task Force and members of the public were divided into three discussion groups. The groups discussed transportation needs in Hayward related to vehicle, transit, bicycling, and pedestrian travel, and identified potential solutions. Ideas were recorded on maps.

VII. Small Group Presentations and Discussion

Each group presented their ideas for improving transportation in Hayward. The group presentations are summarized below:

Group 1:

- Create a university-friendly shopping area at the abandoned car dealerships on Mission: provide a link to the Cal State East Bay

- Create a free shuttle system linking Chabot College, Downtown, BART, the University Village, and CSUEB (similar to AC Transit bus route 92)
- Create a University Village at CSUEB and connect it to BART
- Create more of a College town: There is nothing to do by Cal State. Use the open land by the university to develop activity for college students
- There are only two entrances to Cal State. Create more openings and better access and make the entrances more attractive
- Make Hayward the City to remember

Group 2:

- Squares on the map are centers of jobs
- Create links from BART to job centers: shuttles to connect transit stations to jobs
- AMTRAK's Capital Corridor is underutilized
- Consider Bus Rapid Transit and look for ways to make it work.
- What draws good jobs? Amenities for employees, such as connection to the Bay Trail, creating a Hayward Marathon Trail used for both (transportation and Exercise)
- Reopen land at Prospect for pedestrian walkway
- Create an entertainment district: clubs, music/noise, no residential allowed, draw college students out to eat and party
- Close streets in Downtown for dancing and events: Draw people to Hayward and create a wow factor
- Make walking more friendly
- Foothill: needs better sidewalks (like B Street)
- Parks: look for opportunities to connect parks with trails
- Underground utilities to make streets more friendly and aesthetically pleasing
- Require landscape strips along sidewalks
- Create a Historic District for the Prospect Hill Neighborhood
- Bring back the B Street Trolley (electric)
- Connect AMTRAK and BART
- Develop a better AMTRAK station
- Improve downtown parking: Parking is full on weekends because of the movie theater
- Get fewer people to drive

Group 3:

- Visual aesthetic: make street improvements look good
- Address train track safety: maintain fences (students have been hurt)

- 10 year plan: smart vehicles in the future: how will they run in the future and how will that affect transportation?
- Work with Google and their smart cars (self-driving cars) to bring attention to Hayward
- Improve public transit, especially east-west routes
- Maintain schedule and increase the lines for bus
- Improve bus stops at Whitman and Hesperian (you currently stand in the grass and mud if it is raining),
- Improve bus stops at Eden shores
- During commute times, cars use neighborhood shortcuts to bypass traffic. We need to maintain speed in shortcut areas (such as Dixon by the golf course). This is a city-wide issue that needs to be addressed through neighborhood traffic calming.
- Mission has been improved recently. Foothill Boulevard needs similar improvements (by Caspers)
- We need smart transportation and parking systems that help people find parking and we should consider market based pricing for parking (based on parking demand) and we should invest parking revenue back into neighborhoods.
- Convert street lights to LEDs

VIII. Public Comment Period

Question: How are we going to interact with the School District and HARD. Answer: the City is planning Joint Study Sessions with the City Council and these agencies.

Street Signs: When will street signs be up in the construction zones. Answer: signs will go up soon.

Comment: we should have a policy that prevents posts in sidewalk. Don't put barriers in the sidewalk. Put them in a planting strip along the sidewalk.

Comment: Recommendation for a food book about transportation: Strap Hanger

Comment: Lots of good ideas discussed tonight.

Comment: Hayward City staff is doing a good job.



**Hayward General Plan Update Training
(Special Joint City Council/Planning Commission/General Plan Update Task
Force Meeting)**

**November 1, 2012
7:00 pm to 10:00 pm
Council Chambers**

1. Introductions and Purpose

Staff welcomed everyone to the meeting and introduced the City Council and the Planning Commission. The overall purpose of the meeting was described:

- Discuss roles and responsibilities,
- Provide an overview of the history and legal requirements of a General Plan,
- Describe the Hayward General Plan process and schedule,
- Discuss the public outreach process, and
- Brainstorm issues to be addressed in the General Plan.

2. Project Team and Responsibilities

Staff introduced the project team members (City staff and consultants from Mintier Harnish, MIG, and Jones Planning and Design) and described their roles and responsibilities:

- City Staff: leading the project effort, facilitating General Plan Update Task Force meetings, providing updates to Planning Commission and City Council, and drafting background reports and sections of the General Plan.
- Consultants: The consultants are assisting with community outreach meetings, preparing technical background reports, reviewing documents prepared by City staff, preparing the Environmental Impact Report, and advising staff on “best practices”.

3. Roles and Responsibilities

Staff explained the roles and responsibilities of the City Council, Planning Commission, General Plan Update Task Force, and community members and stakeholders:

- City Council: Consider input from community, confirm vision that is drafted for the General Plan Update, review and adopt the General Plan and certify the Environmental Impact Report.

- Planning Commission: Provide input on the vision and policies, and provide a recommendation to the City Council to approve or deny the General Plan.
- General Plan Update Task Force: Assist City staff, solicit input from other community members, provide outreach assistance, and help craft the vision and General Plan policies.
- Community Members and Stakeholders: Attend workshops, identify issues and opportunities, help define the vision to guide the General Plan, and get others involved.

4. Purpose and History of General Plans

The Consultant Team explained the purpose and history of General Plans. The following points were emphasized:

- The General Plan is a policy tool, not just a plan to comply with law or meet a bureaucratic legal requirement.
- General Plans have been described as a blueprint, guidebook, operating manual, roadmap, touchstone for land use decisions, and constitution for land use and development.
- Once the plan is adopted, it becomes the law of the City of Hayward.
- General Plans are a long-term plan for development and they are legally enforceable and must be internally consistent.
- Mid-1950s: first State laws that addressed the requirements of General Plans were enacted (2 elements: land use and circulation).
- 1960s and 1970: The State expanded the scope of general plans from 2 to 9 elements.
- 1970s: The State added additional requirements related to consistency: subdivisions, zoning, and public works projects had to be consistent with the General Plan.
- 1980s: The state reduced the number of required elements from 9 to 7.
- Minimum Legal Requirements: General Plans must be comprehensive (both geographically and in subject matter), long-term, and internally consistency (equal status among elements, consistency among elements, consistency within elements, area plan consistency, text and diagram consistency).
- The 7 required elements of the General Plan: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety.
- Shoe fits provision: Cities and counties are only required to deal with issues that are relevant to the community.
- Optional elements are allowed in General Plans: examples include economic development, community design, childcare, healthy communities, etc.
- There are several related laws that affect the topics of General Plans: Coastal Act, Alquist-Priolo Earthquake Fault Zones, Solid Waste Management, Surface Mining and Reclamation, Airport Land Use Compatibility, etc.
- The General Plan includes 3 basic parts: Background Information, Policy, and Implementation Programs.
- If a city is sued for having an inadequate General Plan, there can be serious consequences: The court can order the City to fix the General Plan, place limits on future development, put past project approvals on hold, and order the City to pay the attorney fees of the plaintiff (very expensive).

5. Recent Changes to State law and General Plan Practice

The Consultant Team explained recent changes to State law and practices related to updating General Plans. The following points were emphasized:

- Circulation Elements are required to include a balanced, multi-modal transportation network to meet the needs of motorists, pedestrians, bicyclists, children, seniors, disables, transit users, and commercial goods movers (Complete Streets). A requirement of the One Bay Area Grant Program is to have Complete Streets addressed in the City's General Plan.
- Assembly Bill 32 (AB 32): Global Warming Solutions Act: State law that sets targets to reduce greenhouse gas emissions statewide.
- Senate Bill 97: State law that establishes additional CEQA requirements.
- Various Executive Orders related to climate change.
- Senate Bill 375: Sustainable Communities Strategy: State law that implements part of AB 32 by requiring regions and cities to connect housing, land use, and transportation planning.
- Assembly Bill 162/Senate Bill 5: State law that requires updates to flooding maps, and sets new policies about what can occur in flood zones.
- Sustainability: a broad concept that considers environmental, economic, and social issues. 3 E's of sustainability are Environment, Equity, and Economy.
- Healthy Communities: There is no legal requirement to include public health in the General Plan, but Healthy Communities promote concepts related to complete streets, walkable neighborhoods, access to healthy foods, parks and recreation, and healthy schools.

6. Steps in the General Plan Update Process

The Consultant Team explained that the project will be complete in 7 phases and is scheduled to wrap up by June of 2014. The 7 phases of the project were described:

- Phase 1: Project Initiation: This phase involves setting up the project management structure for the project. Phase 1 is complete.
- Phase 2: Background Research on Existing Conditions: This phase involves gathering and analyzing background reports and information, analyzing data, conducting training sessions, developing a GIS database, mapping, and preparing background reports. Consultants and staff are sharing responsibility to prepare background reports. The contents of each background report will include an introduction, major findings, existing conditions, regulatory setting, key terms, and bibliography. Background reports provide a snapshot of the City, identify key issues and opportunities, satisfy some general plan content requirements (example: flood zone maps), and provide the environmental setting portion of the Environmental Impact Report.
- Phase 3: Visioning: This phase involves a training session on how to establish a vision, reviewing past planning efforts (specific plans, form based codes, neighborhoods plans, etc.), conducting Community Workshops, and drafting the Vision and Guiding Principles. This phase will be complete by February 2013. The purpose of visioning is to identify where the community has been and where it is going, to determine what the community wants to be in the future. A Vision is an ideal future

aspiration and is an inspirational tool that encourages people to think big and “paint” a positive, comprehensive, and long-term picture of future.

- Phase 4: Drafting the General Plan: This phase involves a training session on preparing the General Plan, review the existing General Plan policies, drafting new policies, and developing a strategic implementation plan. The Draft General Plan will be presented at a town hall forum in August of 2013. A matrix will be used to evaluate the existing General Plan policies to determine if they are working or not, and if they should be included in the new General Plan, revised, or discarded. New planning documents (form based codes, specific plans, Sustainable Communities, Strategy, etc), State laws, planning initiatives, public input, and ideas from other communities will be used as sources to develop new goals and policies. Policies will be designed to comply with various rules of grammar (concise, separate ideas belong in separate policies, use active voice, use simple words, pay careful attention to details, etc.). The Implementation Program will show how the policies will be implemented. It will identify programs and assign responsibilities and a schedule of implementation. The General Plan will update the Land Use Diagram to confirm land use designation standards and descriptions, incorporate changes from the preferred land use alternative, and to consider property owner requests. The Circulation Diagram will also be updated to address the General Plan Buildout and necessary roadway improvements. Graphics and illustrations will be included in the General Plan to help illustrate the desired outcome of policies and to help people interpret or understand policies.
- Phase 5: Preparing the General Plan Environmental Impact Report (EIR): The General Plan is the project description for the General Plan EIR. This is unique because the project consists of goals and policies, not an actual construction project. This phase involves the preparation of an initial Study/Notice of Preparation, an Administrative Draft and Draft EIR, a public review period, preparing responses to public comments, and preparation of the Final EIR. The Draft EIR is scheduled for completion by November 2013. The EIR will determine if the policies of the General Plan should be modified or if new policies should be added to serve as mitigation measures. The EIR can be used to refine the policies of the General Plan and assist with implementation
- Phase 6: Housing Element Update: The Housing Element is different from all other elements because it must be reviewed and certified by the State of California (Housing and Community Development Department). There is also a time period for revising the document every 5 years (8 years if the General Plan complies with SB 375: The Housing Element is due in October of 2014. This phase will involve a training session, public outreach, background research, and preparing the Draft Housing Element.
- Phase 7: Conducting Hearings and Adopting the General Plan. This phase will involve hearings by the Planning Commission and City Council. One hearing is required from the Planning Commission and one hearing is required by the City Council. However, more hearings are usually required because of the scope of the document. The Planning Commission will provide a recommendation to the Council, and the Council will approve the General Plan and certify the EIR. Once approved, the final General Plan and a web-based General Plan will be prepared.

Implementing and maintaining the General Plan was also discussed. The implementation program was discussed and a table was shown that identifies how programs will be established to implement policies.

The web-based General Plan was also described as a dynamic communication tool that provides transparency and accessibility, increases efficiency, is highly graphical, easily searchable, has cross-referenced links, provides recent news, and enables easy public feedback. Tools to implement the General Plan include specific plans, zoning ordinances, subdivisions, public works reports, housing authority projects, the Capital Improvement Program, Integrated Waste Management Plans, and Open Space Plans (all of which must comply with the General Plan.). Tools to monitor the success of the General Plan include annual reports and indicator reports (which measure the performance and quality of life to determine if the plan really effective).

A variety of questions were discussed during this agenda item. The following is a brief summary of the questions discussed:

- Question: Doesn't FEMA prepare flood maps? Answer: Yes, we will use mapping data provided by FEMA.
- Question: What about the recently adopted Form Based Code? Answer: We will ensure that General Plan reflects the Form Based Code and that they do not conflict with one another. Graphics from the Form Based Code may be used in the General Plan.
- Question: Does the City have to build new housing? Answer: The Regional Housing Needs Allocation determines how much housing should be built in each city. The City has to identify sites where that housing can be developed and address affordability requirements. However, the City does not have to build the housing, it just needs to identify sites where housing could potentially be built by developers.
- Question: "Affordable housing": does that mean subsidized housing? Answer: Not necessarily, but lower income categories often require subsidies. Again, the City does not have to build the housing, it just needs to identify potential sites for housing.
- Question: How will the document be reviewed during the public hearings? All at once or a few sections per hearing? Answer: We have not figured that out yet. There are several ways to do it and we will work with Planning Commission and City Council to determine priorities and what they would like to do.
- Question: Are documents going to be posted on the web in groups or all at once? Answer: The General Plan website will have all the documents posted, as well as meeting notices, agendas, presentations, and summary notes.
- Question: Can you give an example of a community that has been transformed by the process? Answer: In Sacramento, the process generated a lot of great ideas and their goal was to make Sacramento the most livable City. The process generated a lot of great ideas for sustainable and positive communities, and addressed economic development. The City of Healdsburg can trace a lot of its positive change back to the General Plan that was prepared 25 years ago. Visioning efforts for General Plans spring off many ideas that benefit communities, and the process often provides as much value as the product.
- Question: I agree that the process is part of the value. Given the fact that we are condensing the schedule, are we rushing through this and do we lose the value of the process? Answer: The City has recently done a lot of good visioning and planning work and there is a lot to build on. There have

been neighborhood efforts, corridor plans, and form-based codes. We will build on that success and be involved in a process that does not get drawn out. People lose interest if these projects take a long time, so doing it quickly has lots of benefits.

- Question: One of the priorities of the community is improving education and schools. How do schools fit in? Answer: Cities and counties do not control schools, and cannot even plan where schools are located. The only thing you can do is develop cooperative relationships with school districts and have cooperative discussions. The City cannot develop policies to control school districts, and for that reason schools are not a major focus of the General Plan. There are some ancillary things that can be done, such as developing economic development strategies with schools (training programs), but these are indirect policies.
- Question: Schools are big piece of what we want to be. We may not have control, but it is important for vision, and families with children. Answer: The General Plan can have policies about education, but they are more like aspirations because they do not have much weight. Education is crucial to economic development. Employers look at the school district and say “Do I want my kids going here or to the better schools down the road.”
- Question: You mentioned a long-term strategy of 20 to 25 years. Strategic planning in business is 10 years. Is 20 to 25 years realistic? Answer: The General Plan looks out to the future. There is no magic number and we have seen ranges of 15 to 50. Not everything has to be planned that far out and you can have 2 year goals and 3 year goals. Long-term change can take time.
- Question: Do General Plans address public safety (police and fire) and do they have standards related to number of officers per population or population density or business density? Answer: Yes, the Safety Element addresses police and fire safety, and disaster preparedness. There are standards related to response times and officers per population (which can vary). Police and Fire staff have been involved in meetings for the General Plan Update.
- Question: How does the plan affect schools and can there be a public meeting with the school board? Answer: You can use the General Plan to have discussions with the school districts. We can explore opportunities to meet with school board and superintendent.
- Question: Can we include urban agriculture in the General Plan? Answer: This is a sustainability issue and many General Plans are considering urban community gardens, including community gardens in development projects. It is part of the healthy communities strategy and an increasingly important component of General Plans.

7. Public Outreach Program

The Consultant Team presented an overview of the community outreach program. The following points were emphasized:

- The goal of community outreach is to involve as much as the community as possible and maximize input so the General Plan reflects community values.
- Community outreach is critically important and a key part of the process.
- The Consultant Team is assisting in outreach by preparing outreach materials and the overall outreach strategy.

- State law requires community engagement with the Public Utilities Commission, Native American Tribes, etc. The City's process goes way beyond state requirements and involves a genuine and proactive process.
- A variety of techniques will be used to notify people about opportunities and keep them informed about the project: email data base, e-blasts, project website, sign-in sheets at meetings, mailers, etc.
- The City has General Plan webpage for the project and is in the process of building a bigger more structured web page that is unique to the project. All information about the project will be available in one place: information about the General Plan, ways to get involved, updates, agendas, feedback/comment forms, and an interactive website for feedback and ideas.
- The project will include a Community Survey, which will be used to help form a community vision and new policies.
- Four project news letters will be prepared. They will include graphics, images, and focused text that describe the project and ways to get involved.
- The General Plan Update will have unique branding: a project logo and slogan. The draft logo was presented.
- The General Plan Update Task Force will meet monthly and they are charged with providing focused input to staff about various issues and topic areas.
- The process will involve joint Planning Commission and City Council study sessions to get project updates, feedback, and confirmation. These meetings will be stand-alone meetings (the General Plan will be the only topic on the agenda).
- There will be 2 rounds of community workshops. The first round will occur in late November and early December. Multiple workshops and neighborhoods group meetings will occur to identify key assets, issues and opportunities. The neighborhood meetings will take the project to various community groups. The second round will occur in February. A draft vision and guiding principles will be presented, discussed, and refined.
- When the General Plan is complete, there will be an open house and celebration that provides people with opportunities to review and discuss the new ideas in the General Plan.
- An information booth will be created to showcase the project at farmers markets and community festivals. People can learn about the project, take a survey, ask questions, and get newsletters at the booth.
- An Outreach Toolkit will be created, which will give staff or citizens the tools to discuss the project with various community groups. Training will be provided.
- Translation services will be offered at meetings and major products will be translated.
- Staff will also engage stakeholder agencies in the process through focus group meetings.
- The overall Project Schedule was reviewed and summarized.

A variety of questions were discussed during this agenda item. The following is a brief summary of the questions discussed:

- Questions: The website is a wonderful tool. Will there be videos on the website? Answer: Yes, videos can be posted on the website.

- Question: How are graphics going to be done? Answer: Graphics will be done by staff and in-house graphic designers with MIG, and Mintier Harnish.
- Question: Can the internet be used in an interactive way, because it is difficult to get people out to meetings. The Form Based Code was more successful because of the fun exercises (dot exercise on architectural styles). Is there a way to do that on the website? Answer: Yes, the website can have a variety of tools, such as a visual preference survey. The City is considering an interactive web service designed to have virtual town-hall forums to identify issues and solutions and prioritize ideas.
- Question: Is the City going to use the logo that was presented? The logo does not work. Answer: We will take suggestions on the logo.
- Question: As you do the surveys, could you post responses and show how the data is used in the document. I appreciate the effort to meet people where they are. The City has computer labs at the libraries. Could quizzes or surveys be done on the computers? People could get extra time if they do the quiz or survey. Answer: Yes, we can find ways to keep people engaged in the process.
- Question: Will the survey be in English and Spanish? Answer: Yes. The survey will be available on-line and in hard copy format. It will be translatable on-line and a hard copy will be produced in Spanish.
- Question: When was the last update to the General Plan? Answer: 10 years ago.
- Question: Will the survey have a filter to ensure that it is completed by Hayward residents? Answer: the survey asks for the person's zip code, but there is no way to guarantee that people taking the survey live in Hayward. We want to hear from non-residents as well, such as business owners and people that work in Hayward.
- Question: The General Plan should include kids. Teachers could have related courses to teach government. Could we have a high school survey? Answer: We can explore workshops with kids that are fun and age appropriate. A high school class could do a project or class report related to the General Plan.
- Question: When is the Housing Element due to HCD? Answer: October 2014. This schedule is workable because Housing Element law has not changed much.

8. Major Policy Issues Identification Discussion

Staff summarized some of the issues that will be included in the General Plan (as defined by previous Council meetings):

- Include the Neighborhood Partnership Program
- Develop an implementation plan
- Public involvement
- Youth
- Social equity and neighborhood quality
- Loss of the redevelopment agency
- Parks

Staff opened up the meeting to comments and suggestions on issues, challenges, and ideas that should be addressed in the General Plan. The following comments were made:

- Community gardens should be included.
- Schools: Hayward is home to every education system in the State. Education is an essential theme. We have to incorporate schools and the Plan must address schools as a major element.
- Entertainment in town for youth. Idea to create an entertainment zone with bowling alleys and other entertainment venues all located next to each other (opportunities for a cluster of youth-friendly entertainment).
- Economic Development: most important issue.
- Question: Will notes from the General Plan Update Task Force be posted. Answer: Yes, they will be posted.
- Build a better relationship with schools. Keep students hanging out in Hayward and create a destination for all ages.
- More places to bring family: Off the Grid, farmers market, parks (improve and enhance).
- Municipal airport is a world class airport. We could have transportation in the logo brand.
- Historic significance of buildings: historic preservation should be included in the General Plan.
- There are some amazing things happening in other places (moving people, goods, information, smart grid, etc.). Hayward should be at the forefront of new and exciting things.
- Neighborhoods are just not for houses. They need to integrate grocery stores, a mix of housing types, libraries, water parks, jobs, etc.
- Change the project logo.

Staff adjourned the meeting.



General Plan Update Task Force

Meeting #3 –December 13, 2012

Memorandum

TO: General Plan Update Task Force

FROM: Erik Pearson, Senior Planner

SUBJECT: **Public Safety and Disaster Preparedness**

In preparation for the December 13 meeting of the General Plan Update Task Force, the following materials are provided to provide the context our discussion on Public Safety and Disaster Preparedness. Attached are:

- An excerpt of Hayward's existing General Plan – the PUBLIC UTILITIES AND SERVICES Element (Chapter 8); and
- An excerpt of Hayward's existing General Plan – the CONSERVATION AND ENVIRONMENTAL PROTECTION Element (Chapter 7); and
- An excerpt of the State Office of Planning and Research's General Plan Guidelines – Chapter 4, Required Elements of the General Plan – Safety Element.

7. CONSERVATION AND ENVIRONMENTAL PROTECTION

This section discusses a variety of environmental issues of concern to Hayward. These issues focus on conservation of natural resources and protection from environmental hazards. Issues related to the conservation of natural resources include preservation of open space, protection of mineral resources, biological resources, and hydrology and water quality. Issues related to environmental protection include geological and seismic hazards, flood hazards, hazardous materials, air quality, and noise mitigation. These issues are similar to those that are required to be addressed in local general plans pursuant to guidelines established for the state-mandated Open Space, Conservation, and Safety Elements.

Open Space Preservation

There is a need to protect surrounding regional open space as well as maintaining open space corridors within the urbanized area. Both the shoreline area on the western edge of the city and the hill area east of the city are significant as regional open space and as ecological resources. Based on comments from community residents, it is also evident that these areas are considered important community amenities in that they provide an aesthetic backdrop for the city. The shoreline and hill areas are also of local significance in that they help shape the form and boundaries of urban development. The Urban Limit Line serves to define the border between the urbanized area and regional permanent open space.

Shoreline Area

In the shoreline area, efforts over the past 30 years by member agencies of the Hayward Area Shoreline Planning Agency have resulted in the acquisition and restoration of over 3,000 acres. See **Figure 7-1**. In addition, there are several ongoing projects that will preserve even more of this area as wetlands or upland habitat. Both projects are shown in cross-hatching on the map. Restoration work on the Eden Landing Ecological Reserve (Baumberg Tract) is scheduled starting in 2001. Work on the new HARD Marsh (former Oliver Salt Ponds) west of the Shoreline Interpretive Center is also scheduled to begin in 2001. Both of these projects will provide for extension and/or enhancement of the Bay Trail, thereby completing all planned segments along the Hayward shoreline. In comparison, approximately one-half of the Bay Trail is completed throughout the entire region.

While all of the shoreline north of Route 92 is now in public ownership, except for a former landfill site at the end of West Winton Avenue, most of the shoreline south of Route 92 is in private ownership, primarily salt ponds owned by Cargill. These two areas are discussed briefly below.

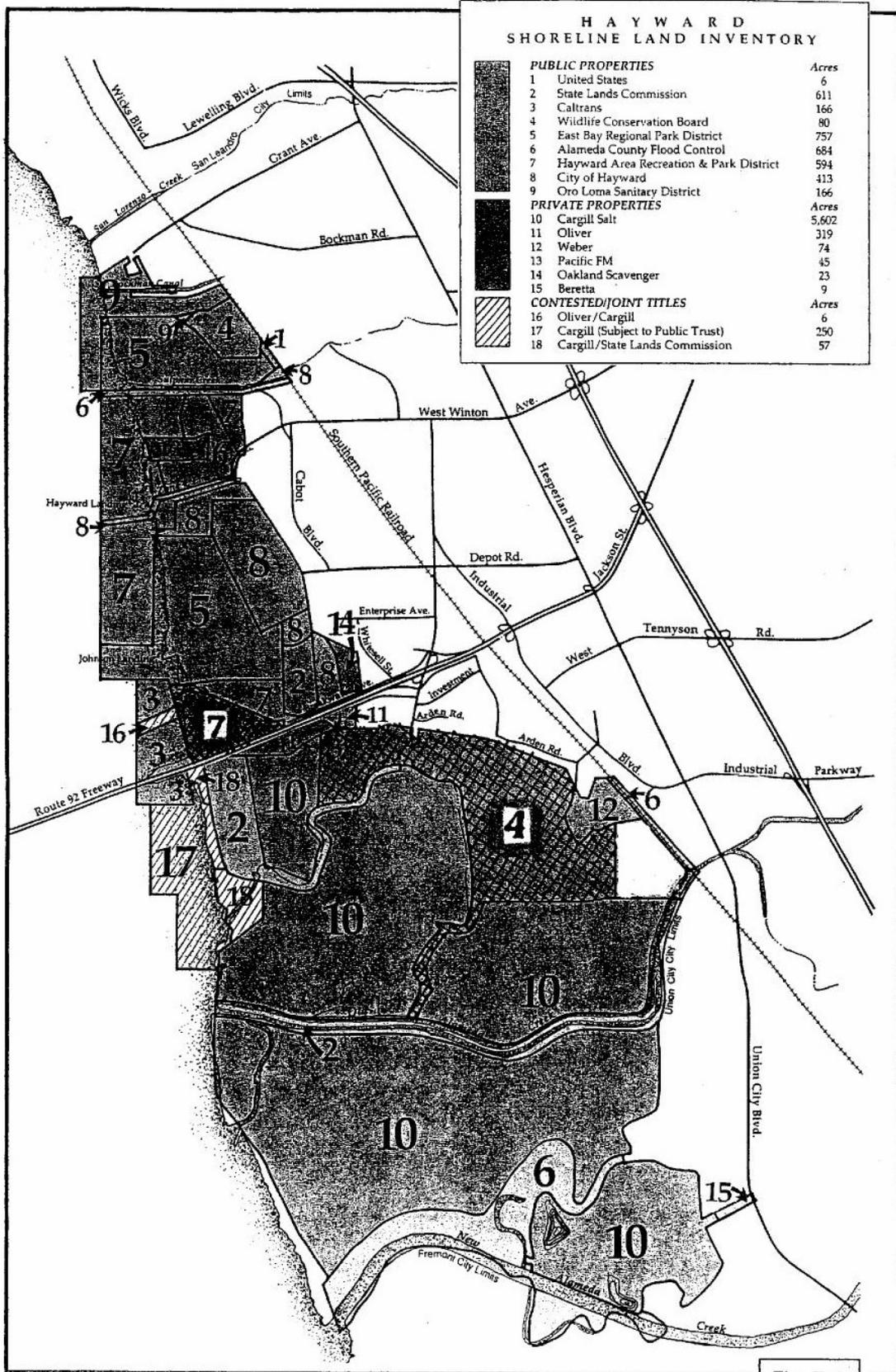


Fig. 7-1

West Winton Avenue. Former landfill sites at the end of West Winton Avenue include the privately-owned parcel (formerly Pacific FM) as well as parcels owned by the City. Both landfill sites are designated as Open Space/Parks and Recreation in the General Plan, and existing land use policies call for the establishment of passive recreational areas that do not interfere with surrounding wetland habitats. These areas could ultimately be developed in a manner similar to the Oyster Bay shoreline park in San Leandro south of the Oakland International Airport. Existing regulations and project conditions of approval allow radio transmission towers to exist on the privately-owned parcel. Perhaps similar towers may be relocated on the city-owned parcel in conjunction with the proposed Russell City Energy Center to be located on a site farther south.

Cargill Salt Ponds. These salt ponds extend from Route 92 south to New Alameda Creek and encompass approximately nine square miles. Cargill has indicated that it plans to cease operations at this location, as well as other locations in the South Bay, and consolidate its operations around the existing plant in Newark. Possible purchasers of these properties include federal and state agencies, which might then manage the land as part of the San Francisco Bay National Wildlife Refuge. Other purchasers could include regional agencies such as the San Francisco International Airport, which would need to provide for substantial mitigation of lost wetlands should their proposed runway extension project be approved.

East Hills Annex

In the hill area, the area commonly known as the East Hills Annex extends from Walpert Ridge across Palomares Canyon and three different ridges to the Pleasanton city limits. See **Figure 7-2**. This area, which covers approximately five square miles, was originally annexed in 1967 to accommodate a proposal for rural homesites. Today, most of the land remains in agricultural or grazing uses. The Agricultural zoning in this area requires a minimum lot size of 160 acres. The East Bay Regional Park District has purchased numerous large parcels in the eastern portion in recent years for inclusion in the Pleasanton Ridgeland Regional Park. The Ridgeland Area Policies (see Appendix J), which were adopted in separate actions by Hayward, Pleasanton, and Alameda County in 1993, call for certain adjustments in the political boundaries. Specifically, the City of Hayward is to retain its Sphere of Influence west of Palomares Road, and detach the area along Santos Ranch Road while annexing comparable area from the County. Implementation of this policy has not been pursued. In light of the passage of Alameda County's Measure D in November 2000, it may be appropriate to revisit the Ridgeland Area Policies. This measure, which applies to all of the unincorporated areas east of Walpert Ridge, requires voter approval of any changes in open space land use policies of the Alameda County General Plan. It should be noted that legal challenges have been filed concerning various aspects of Measure D.

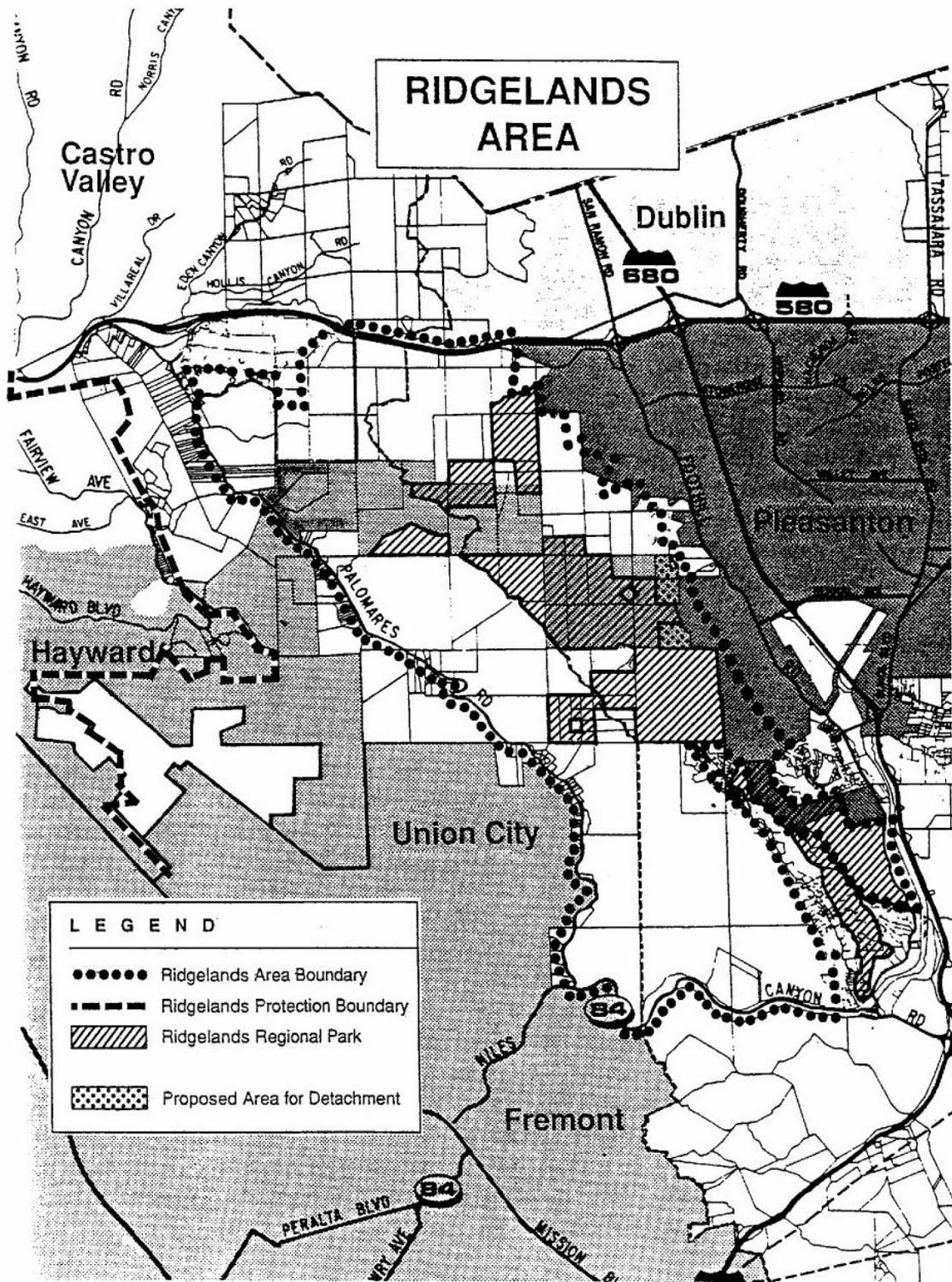


Fig. 7-2

Mineral Resources

The state requires local jurisdictions to protect areas with economically significant mineral resources from incompatible development. In an effort to maintain availability of sand, gravel and crushed rock for long-term construction needs, the California Division of Mines and Geology (under the authority of the Surface Mining and Reclamation Act of 1975) has classified aggregate mineral zones throughout the state. The only designated "sector" of regional significance in Hayward meeting tests of economic feasibility and current compatible land use that is to be protected from land uses incompatible with mineral extraction is La Vista Quarry, located in the unincorporated area east of Mission Boulevard and Tennyson Road. "Probable" and "potential" resource zones have been designated in the vicinity of the quarry. No other significant aggregate or mineral resources are located in the City.

The current Surface Mining Permit for the La Vista Quarry issued by Alameda County expires in 2008. The City expects to consider annexing the La Vista Quarry within the next few years as its operations are terminated due to the depletion of the accessible aggregate resource. Under conditions of approval for renewal of the permit, the landowners must initiate application for annexation to the City by the summer of 2002. The General Plan incorporates future land use designations for the quarry site that are compatible with the state-mandated reclamation plan. Upon closure of the La Vista Quarry, the City would instead rely on the production of other quarries in the region, which is expected to be adequate to meet the needs of the City and others for the foreseeable future.

Biological Resources

As Hayward is an urbanized area, vegetation cover in Hayward's remaining open spaces is critical to environmental issues of erosion, sedimentation, flooding, landsliding, groundwater percolation, and water quality. In addition, mature plants and moderate climatic conditions contribute significantly to the aesthetic quality of the city. The city's remaining riparian plant communities are important for their aesthetic quality and for the stream bank protection they provide. The city's shoreline plant communities are particularly valuable as wildlife habitat and are also particularly sensitive to environmental changes caused by development.

As with other urbanized areas in the East Bay, viable wildlife habitats are sensitive to development and are becoming scarce. Wildlife resources are located throughout the undeveloped portions of the hill area, along streams, in parklands, and in the shoreline marshes and salt evaporation ponds. In the shoreline areas, tidal flats and salt ponds of low salinity provide habitat for migratory waterfowl. In addition, a few species such as deer, many birds, and a few small mammals are found in even the most urbanized residential zones of the city. Rare or sensitive species sometimes require much more effort in their management and protection than more common wildlife species.

Special Status Species

In general, “special-status species” are plants and animals that are legally protected under the State and Federal Endangered Species Acts or other regulations, and species that are considered rare by the scientific community. See Appendix K for a more detailed description and list of affected species. Native vegetation and creeks have been modified over the past century to a degree that severely limits the value of the urban areas as habitat for special status plant and animal species. However, there are still some areas in the Hayward hills and the Hayward shoreline that provide grassland, woodland, and aquatic habitat, which are important for a number of protected species. In the hills, habitat areas may be present in large blocks of land that have not been systematically surveyed. This area is considered capable of supporting several special-status species and important habitat types generally associated with annual grasslands and coast live oak. In the shoreline area, which comprises over 8,500 acres, the Hayward Area Shoreline Planning Agency (HASPA) has prepared an Environmental Enhancement Program that identifies the various habitat types based on the geophysical and biophysical associations and makes recommendations for enhancements to each of the properties. In addition, provisions in several federal and state regulatory programs that address water quality concerns have also served to further protect wetland and riparian habitats. These regulations establish jurisdiction over those areas defined as “other waters of the United States”, which include several drainage channels in the Hayward area.

Hydrology and Water Quality

Major concerns in Hayward include protection of surface watercourses and groundwater supplies.

Surface Watercourses

Several creeks and numerous storm drainage channels pass through the city, originating in the hills to the east and ultimately draining into San Francisco Bay. See **Figure 7-3**. The discharge from these facilities may contain pollutants from rural and urban storm runoff, and illegal dumping into creeks. Pollutant levels are dependent on the pattern and frequency of storm events, local land uses, development activity, and the quality of pollution control measures and practices.

The Regional Water Quality Control Board (RWQCD) Region 2 has prepared a comprehensive Water Quality Control Plan (*Basin Plan*, 1995) that includes water quality objectives and an implementation plan for the various waterways in the region. A National Pollutant Discharge Elimination System (NPDES) storm water discharge permit has been granted to the Alameda County Urban Runoff Clean Water Program, which was established to comply with the non-point source pollution control requirements mandated by the RWQCB. The Alameda County Flood Control and Water Conservation District is responsible for the overall coordination and implementation of the Storm Water Management Plan, which is designed to reduce the discharge of pollutants in storm water to the maximum feasible extent. The City of Hayward monitors the efforts of municipal

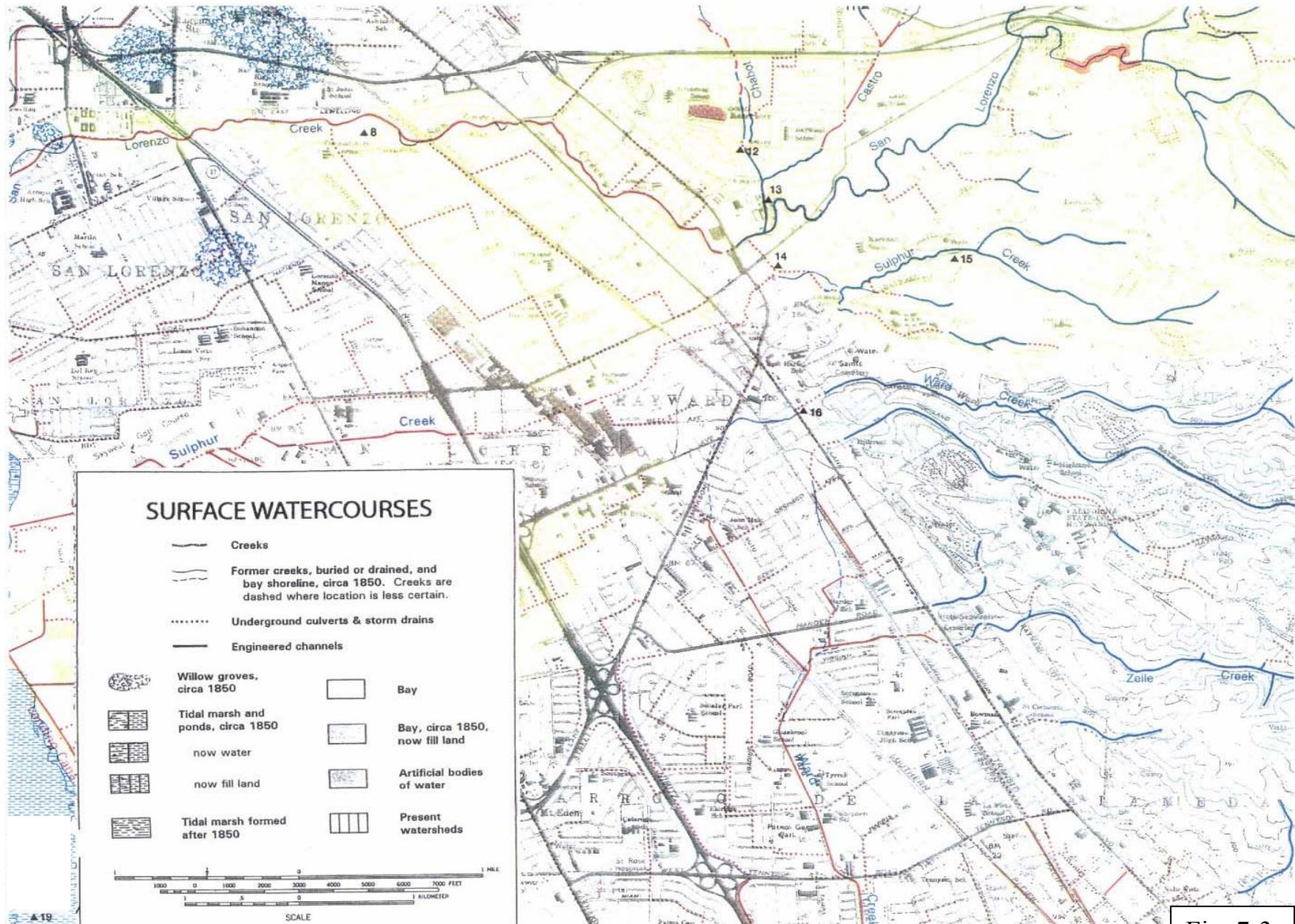


Fig. 7-3

storm water programs to implement the NPDES storm water permits and reviews the efforts of developers to reduce the impacts of proposed development to a less than significant level as part of the CEQA process.

Groundwater Supplies

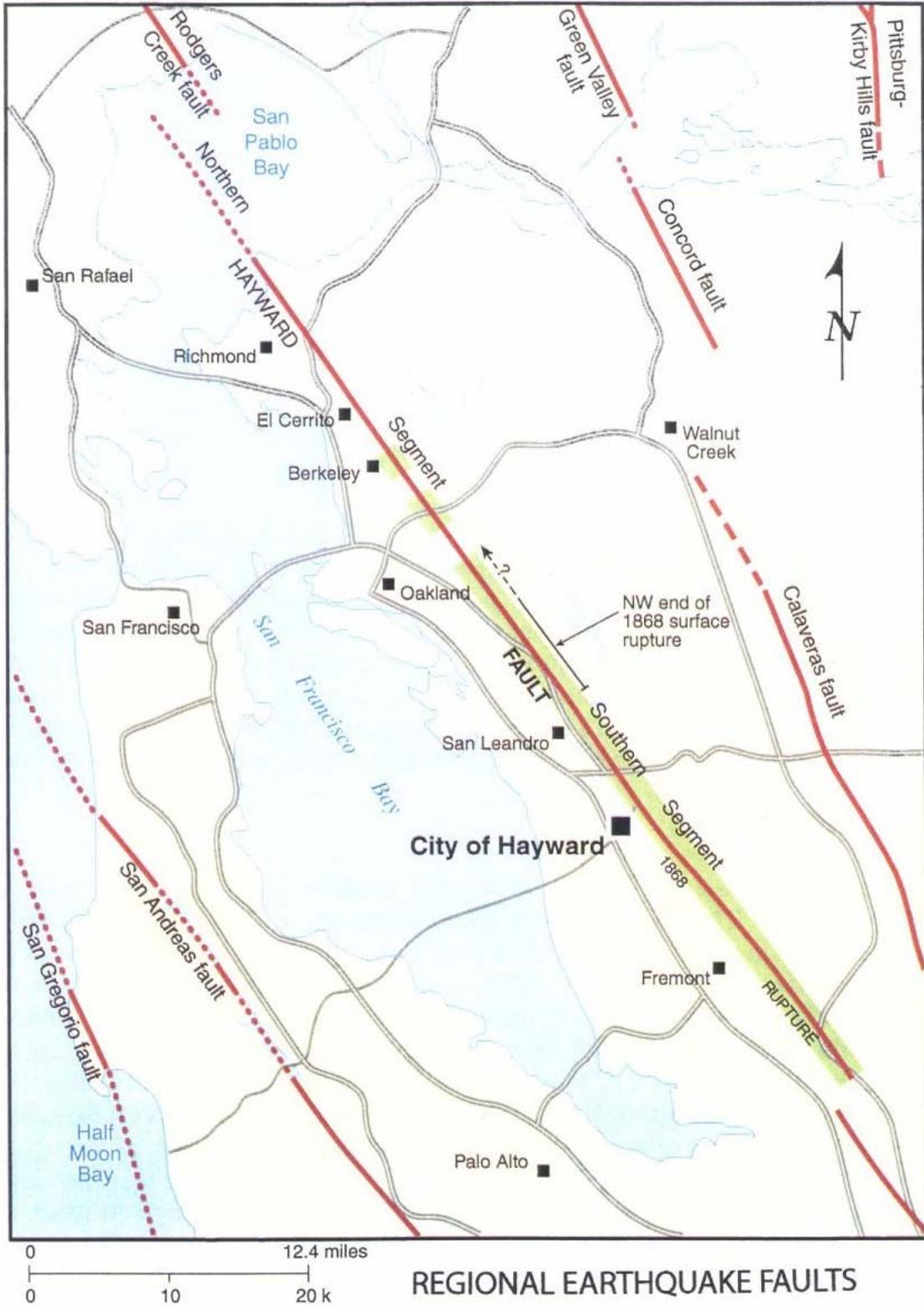
Groundwater resources are most prevalent in the Bay Plain and the shoreline area. Water-bearing sand and gravel layers extend to a depth of approximately 1,000 feet below the Bay Plain and are divided into upper and lower zones. The upper zone contains two major aquifers that are located at depths of 60 feet and 250 feet. The lower zone occupies a depth below 400 feet and contains a much higher percentage of permeable material than the low yield upper zone. Nearly all of the high-yielding wells in the area utilize the deep zone. Replenishment of the aquifers is accomplished primarily through percolation from the streambeds of major creeks. Relatively high concentrations of nitrates and total dissolved solids were measured in local area groundwater as early as the 1950s. Contaminants such as nitrates can come from a variety of sources, including runoff from fertilizers applied to lawns and landscaped areas as well as from agricultural activities and improperly operated septic systems. Groundwater contamination can also be attributed to leaking underground storage tanks and inadvertent releases of hazardous materials.

Geologic and Seismic Hazards

This section summarizes the current state of knowledge about existing conditions and provides information on related geologic and seismic hazards within the city for development of criteria to protect life and property. Active and potentially active faults in the Hayward area are identified and discussed briefly. Five primary geologic and seismic hazards are also discussed in this section, including: strong ground shaking, fault rupture, liquefaction, slope instability, and water inundation from tsunami or dam-failure.

Active and Potentially Active Faults

The Hayward fault is one of the most hazardous faults in the United States, because of its high slip rate, its demonstrated ability to generate a large earthquake and, importantly, its location through the highly urbanized eastern San Francisco Bay area. The Hayward fault is of particular significance to the City of Hayward because it traverses the most intensively developed portions the city and because it has generated a large, surface-rupturing earthquake in historic time. The Hayward fault lies along the southwestern margin of the East Bay Hills and extends from the Warm Springs district of Fremont on the south to San Pablo Bay on the north. See **Figure 7-4**. The fault is deemed capable of generating a maximum earthquake of about M_w 6.9 (CDMG, 1996). The Hayward fault accumulates strain at one of the highest rates of all the faults within the San Francisco Bay region, which suggests that it is one of the most likely faults in the region to generate a large earthquake. The Working Group on California Earthquake Probabilities (1999)



Regional fault map showing location of the City of Hayward, and the 1868 rupture (green) on the Hayward fault.

Fig. 7-4

has estimated there is a 32% probability for the occurrence of a large earthquake in the next 30 years on the Hayward-Rodgers Creek fault system.

The Hayward fault typically is divided into two major rupture segments (the northern and southern Hayward faults), each approximately 30 miles long. The northern segment of the fault extends from Oakland to San Pablo Bay. The southern Hayward fault extends from Fremont on the south to Oakland on the north, and is the segment that traverses the City of Hayward. The southern Hayward fault ruptured in a M6.8 earthquake in 1868 and caused extensive damage to man-made structures in downtown Hayward. The earthquake was accompanied by surface rupture along the Hayward fault zone from Oakland to the Warm Springs District of Fremont. Fault creep is occurring along the entire length of the Hayward fault, resulting in slow but persistent damage to man-made structures. The rate of creep deformation along the fault in Hayward is about 5 mm/yr (roughly 2 inches every 10 years). The Hayward fault is one of only a handful of faults throughout the world that are known to creep at these rates.

Other potentially active faults within Hayward include the Chabot fault, the Carlos Bee fault, and several unnamed secondary faults adjacent to the Chabot and Hayward faults. See Appendix L. There are few or no studies that address the activity (and seismic potential) of several additional secondary faults that parallel and may be interrelated with the Hayward fault. These faults may or may not experience secondary ground rupture during a large earthquake on the Hayward fault. The amounts of possible displacement along these faults during such a scenario is unknown, but most likely is substantially less than the amount of displacement expected along the main trace of the Hayward fault.

Strong Ground Shaking

An earthquake produces seismic waves that emanate in all directions from the fault rupture surface. The seismic waves cause strong ground shaking, which typically is strongest near the fault and diminishes (attenuates) as the waves move through the earth away from the fault. The severity of ground shaking at a particular site is controlled by the interaction of several factors, including the distance from the earthquake source, earthquake magnitude, and the type, thickness, and condition of underlying geologic materials (bedrock, sediment, soils, and man-made fill). Recent research has shown that areas underlain by unconsolidated, recent alluvium and/or man-made fill may amplify the strength and duration of strong ground motions, increasing the risk of damage. Strong ground shaking caused by fault movement during an earthquake has the potential to result in significant loss of life and property damage throughout the city. Maximum ground shaking within the city would be expected to result from a large earthquake on the nearby Hayward fault, although strong ground shaking may also occur as a result of moderate or large earthquakes on other faults in the San Francisco Bay region. See Appendix L.

Fault Rupture

Surface fault rupture occurs when movement on a fault deep within the earth breaks through to the surface and ground displacement occurs. Damage associated with fault-

related ground rupture is normally confined to a fairly narrow zone along the trend of the primary fault, and to a lesser extent along secondary faults. Structures are often not able to withstand fault rupture, although well-engineered structures having favorable locations with respect to the fault trace may be able to withstand collapse and provide for the life-safety of occupants. Similarly, utilities crossing faults may undergo damage as a result of surface rupture, particularly if they are not specifically designed to accommodate fault displacements. Overall, however, fault displacement involves forces so great that it is generally not economically feasible to design and build structures to accommodate this rapid relative movement. The Alquist-Priolo Earthquake Fault Zone Act (A-P Act) was developed by the State of California to regulate development near active faults and mitigate the risk from surface fault-rupture. The A-P Act requires identification of active earthquake fault zones and restricts building structures for human occupancy over known active faults. A fault or fault zone is considered active under the provisions of the Act if there is evidence of surface displacement within the past 11,000 years.

Liquefaction

Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore pressure and decreased effective stress. Liquefaction typically is caused by strong ground shaking during an earthquake. The potential for liquefaction to occur depends on both the susceptibility of near-surface deposits to liquefaction, and the likelihood that ground motions will exceed a specified threshold level. Much of the city is adjacent to the Hayward fault and thus will be exposed to strong ground shaking during a large earthquake on the fault. The State of California currently is planning to map the distribution of liquefaction hazard within the Hayward area as part of CDMG's ongoing efforts to implement the statewide Seismic Hazards Mapping Act. Areas most susceptible to liquefaction in Hayward are underlain by granular sediments within younger alluvium and include low-lying lands adjacent to creeks and estuaries. See Appendix L.

Slope Instability

The eastern part of Hayward is located on steep, hilly terrain underlain by geologic materials prone to slope instability during large earthquakes. Landslides and slope instability can also occur as a result of wet weather, weak soils, improper grading, improper drainage, steep slopes, adverse geologic structure, or a combination of any of these factors. Landslides are most likely to occur in areas where they have occurred previously. Landslides and debris flows can result in damage to property and cause buildings to become unsafe either due to distress or collapse during sudden or gradual slope movement. Construction on slopes steeper than about 15 percent typically require special grading, special foundation design, or site modification to mitigate slope ground conditions and reduce the potential for slope instability. Slope instabilities produced by seismically induced strong ground motions are likely to occur in the eastern, hilly parts of

the city, given the occurrence of a moderate or large earthquake on the Hayward fault or another nearby seismic source. See Appendix L.

Water Inundation

A major hazard associated with earthquakes is water inundation resulting from dam failure or a tsunami. Although no dams or open reservoirs are sited within the city limits, potential inundation may occur downstream as the result of failure of reservoirs or dams upstream of the city. See Appendix L. Inundation from South Reservoir in Castro Valley would affect a few small areas at the northeastern edge of the city. Inundation from Del Valle and other dams along Alameda Creek would be limited to the salt evaporation ponds south of Old Alameda Creek in the shoreline area. Tsunamis are a series of waves typically produced by an offshore earthquake, volcanic eruption, or landslide. A tsunami with a wave height of 20 feet at the Golden Gate Bridge, which is likely to occur approximately once every 200 years, would result in a runup of less than 10 feet above sea level if it reached Hayward. Areas most likely to be inundated by tsunami runup within the city are marshlands, tidal flats, and former bay margin lands that are now artificially filled but are still at sea level.

Flood Hazards

Stormwater runoff is collected through a series of storm drainage facilities and ultimately enters San Francisco Bay. Most of these systems are governed by the Alameda County Flood Control and Water Conservation District (ACFCWCD), which designs and constructs drainage facilities to meet the existing and projected flood control needs. The City of Hayward provides local storm drains, generally within local streets and easements that ultimately enter the County system. These systems are adequate for most conditions. A 100-year flood is an event that would occur on the average every 100 years, and that has a one percent probability of occurring in any given year. Areas potentially subject to flooding from a 100-year event include various low-lying areas and areas adjacent to creek channels, as mapped by the Federal Emergency Management Agency (FEMA). Flood elevations and limits have been determined throughout the City. New mapping completed in 2000 indicates that certain portions of the industrial corridor are potentially subject to flooding. See Appendix L.

The City of Hayward participates in the Federal Flood Insurance Program, which will provide flood insurance to residents and businesses in known flood hazard areas. To participate in this program, a community must regulate development within or adjacent to flood-prone areas to avoid worsening the hazard. City standards require floor elevations of new development within the floodplain to be at least one foot above the 100-year flood height, or prohibit development within the floodway (generally, the stream channel required to carry the 100-year flood waters).

There is continuing debate over the potential effects of the global warming phenomenon. Based on some of the more dire predictions, water levels around San Francisco Bay could rise significantly. It is prudent to monitor ongoing research into global warming trends.

Hazardous Materials

Hazardous materials include substances that may be described as toxic, ignitable, corrosive, or reactive. In an urban area such as Hayward, most of the contaminated sites are related to the use or maintenance of fuels and motor vehicles, especially gas stations where underground fuel storage tanks have leaked. Repair garages, sales and service centers, and wrecking yards also generate auto-related wastes that have often been illicitly disposed of or spilled during the regular course of business. Gas station sites are regulated by existing state and federal law and most sites have been treated and returned to productive use. Other sources and types of properties that are contaminated include plant nurseries, building supply yards, paint stores, welding shops, and corporation yards for governmental agencies. Drycleaning establishments also have been identified as potential sources of hazardous materials. In most cases, listed sites within the City are located along major roadway corridors where automotive-oriented businesses tend to congregate.

Storage, handling, and documentation of hazardous materials and hazardous wastes are governed by federal, state and local laws designed to protect human health and the environment. In addition to the various programs of federal, state and county regulatory agencies, the City has instituted a Hazardous Materials Program within the Fire Department to inventory, map, and regulate the storage and handling of specified materials. The inventory is part of the City's enforcement of a law passed to protect Hayward property and citizens, as well as the fire fighters who respond to emergency calls. Contamination cases that are more difficult to investigate, such as those that involve industrial solvents that affect not only soils but groundwater as well, are being handled by the California Regional Water Quality Control Board.

Aside from the commonly understood sources of contamination discussed above, a more widespread possibility of exposure to hazardous materials (particularly asbestos and lead-based paints) is during the use, remodeling or demolition of existing structures, including homes. Asbestos is commonly found in pipe insulation, floor tile, joint compound, wallboard and roofs of buildings constructed before 1978. The use of lead-based paint was not completely halted until 1978. Homes at the highest risk for the presence of lead-based paint were commonly constructed prior to 1960.

Household hazardous wastes include leftover paint, solvents, antifreeze, used oil and batteries, cleansers, pesticides and pool chemicals. Alameda County has implemented provisions of its Household Hazardous Waste Plan that called for the development of three permanent facilities for household waste collection and recycling in Oakland, Hayward, and Livermore. These facilities collect, identify, sort, store, pack, and recycle or dispose of all hazardous wastes (except radioactive waste and explosives) delivered by residents of Alameda County and small businesses.

Emergency response is coordinated by the State Office of Emergency Services. The Hayward Fire Department has jurisdiction in the City limits and would respond to hazardous materials spills. The Department is a Certified Unified Program Agency (CUPA), in that it is qualified to handle multiple hazardous material issues that normally are under County or State jurisdiction. As a CUPA city, Hayward is responsible for hazardous materials programs such as storage tank regulations, accidental release plans, and hazardous material business plans. The Regional Water Quality Control Board would respond to spills that could enter the storm drain or flood control system. The Bay Area Air Quality Management District would respond to airborne releases to ensure compliance with applicable rules and regulations.

Air Quality

The climate of Hayward is affected by its proximity to San Francisco Bay. Winds are predominantly out of the northwest during the summer months. As a result, Hayward has a relatively high potential for poor air quality during the summer and fall. When high pressure dominates, low mixing depths and bay and ocean wind patterns can concentrate and carry pollutants from other cities to Hayward, adding to the locally emitted pollutant mix. In winter and spring the air pollution potential in Hayward is moderate.

Pollutants of Concern

Federal and state ambient air quality standards have been established for important pollutants. The state standards are more stringent, particularly for ozone and PM₁₀. The state and national ambient air quality standards cover a wide variety of pollutants; however, only a few of these pollutants are problems in the Bay Area either due to the strength of the emission or the climate of the region. The Bay Area Air Quality Management District (BAAQMD) maintains a monitoring site in Hayward, but it monitors a single pollutant, ozone. Ozone is also monitored in San Leandro just north and west of Hayward. A monitoring site in Fremont is the closest multi-pollutant monitoring site to Hayward. A summary of violations of air quality standards at these monitoring sites for the period 1998-2000 is provided in Table 7-1. The federal ambient air quality standards are generally met in the Hayward area, but the more stringent state standards for ozone and PM₁₀ are exceeded. Wood burning in fireplaces and stoves is a significant source of PM₁₀, particularly during episodes when PM₁₀ levels are highest.

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern in the Bay Area. Unlike criteria pollutants, no safe levels of exposure to TACs can be established. There are many different types of TACs, with varying degrees of toxicity. Sources of TAC's include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Diesel exhaust is of growing concern in the Bay Area. Diesel engine particulate has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships and farm equipment are by far the largest source of diesel emissions.

Table 7-1

Air Quality Standards Violations

Air Quality Data Summary for Hayward, San Leandro and Fremont, 1998-2000

Pollutant	Standard	Monitoring Site	Days Standard Exceeded		
			1998	1999	2000
Ozone	Federal 1-Hour	Hayward	0	0	0
		San Leandro	0	0	0
		Fremont	0	1	0
Ozone	State 1-Hour	Hayward	4	4	1
		San Leandro	2	3	1
		Fremont	7	3	2
Ozone	Federal 8-Hour	Hayward	0	2	0
		San Leandro	0	0	0
		Fremont	0	1	0
PM ₁₀	Federal 24-Hour	Fremont	0	0	0
PM ₁₀	State 24-Hour	Fremont	1	2	1
Carbon Monoxide	State/Federal 8-Hour	Fremont	0	0	0
Nitrogen Dioxide	State 1-Hour	Fremont	0	0	0

Source: Air Resources Board, Aerometric Data Analysis and Management (ADAM), 2001.

Notes. Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions between nitrogen oxides and reactive organic gases in the presence of sunlight. Motor vehicles are the single largest source of ozone precursors emissions in the Bay Area. Carbon monoxide is formed by the incomplete combustion of fuels. Motor vehicles are by far the single largest source of carbon monoxide in the Bay Area. Concentrations of this pollutant have been steadily declining, and the region has been designated an attainment area for both the state and federal ambient air quality standards. Fine particulate matter (PM₁₀) includes a wide range of solid or liquid particles, including smoke, dust, aerosols and metallic oxides. There are many sources of PM₁₀ emissions, including combustion, industrial processes, grading and construction, and motor vehicles. Reductions in motor vehicle use are needed to significantly reduce PM₁₀ emissions from re-suspended road dust. Other controls on this source include the adoption of emission standards for wood stoves and fireplace inserts. Interest in wood smoke is likely to increase with the recent adoption of a PM_{2.5}, (particulate matter less than 2.5 microns in diameter) national standard. The monitoring of this pollutant and determination of the attainment status of the region are several years off due to the lack of a monitoring system.

Other air quality issues of concern in the Bay Area include nuisance impacts of odors and dust. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Similarly, nuisance dust may be generated by a variety of sources including quarries, agriculture, grading and construction. Dust emissions can contribute to increased ambient concentrations of PM₁₀, particularly when dust settles on roadways where it can be pulverized and re-suspended by traffic.

Sensitive Receptors and Sources of Pollution

The BAAQMD defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include schools, retirement homes, convalescent homes, hospitals and medical clinics. Such sensitive receptors are spread throughout most parts of Hayward.

The BAAQMD maintains inventories of stationary sources of both criteria pollutants and Toxic Air Contaminants (TACS). The BAAQMD inventory lists several major emitting facilities for criteria pollutants in Hayward; all are industrial in nature. The current inventory identifies numerous dry cleaners as sources of TACs spread over the commercial areas of Hayward. Several industrial sources are identified as TAC sources, as well as the Hayward Wastewater Treatment Plant. None of the sources of TACs in Hayward are considered as facilities with health risks requiring public notification under the Air Toxics Hot Spots Program.

Transportation Control Measures

There are currently no federal, state or local air quality-related constraints on cities in the Bay Area. Although the Bay Area is a federal non-attainment area for ozone, there are no plans to impose the federal sanctions provided for in the federal Clean Air Act. The BAAQMD has, however, developed guidelines and thresholds of significance for local plans that will affect the CEQA documentation for the Hayward General Plan Update. These guidelines recommend that general plans support the regional air quality plan by implementing those strategies that cities can implement. Appropriate language has been included in the policies and strategies.

Noise Mitigation

State law requires that a Noise Element be prepared as part of all city and county General Plans. The Element is required to identify noise problems in the community and work towards their resolution. The Noise Element must recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and analyze and quantify, to the extent practicable, current and projected noise levels for all of the following sources:

- Highways and freeways.
- Primary arterials and major local streets.
- Passenger and freight on-line railroad operations and ground rapid transit systems.
- Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
- Local industrial plants, including, but not limited to, railroad classification yards.
- Other ground stationary sources identified by local agencies as contributing to the community noise environment.

Noise contours are to be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day/night average level (Ldn). The noise contours must be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above. The noise contours serve as a guide for establishing a pattern of land uses that minimizes the exposure of community residents to excessive noise. The adoption of the Noise Element also serves as a guideline for compliance with the state's noise insulation standards.

As part of the update of the General Plan, a comprehensive noise monitoring survey has been conducted throughout the community. In addition, traffic noise levels have been evaluated for existing (2001) and future (2025) conditions. See Appendix M. The results of this modeling indicate that noise levels are not expected to change substantially along the existing street network. The proposed Route 238 Bypass would affect noise levels in northeastern Hayward. Other significant sources of noise in the community, including aircraft operations in the vicinity of the Hayward Executive Airport and at Oakland International Airport, railroad train operations along the Union Pacific Railroad lines, and the Bay Area Rapid Transit system are expected to remain essentially as they are today.

Noise Sources and Exposure in Hayward

The most pervasive and significant noise source in the Hayward is vehicular traffic noise on the streets and highways. Interstate 880 and State Route 238 (Foothill Boulevard and Mission Boulevard) carry the highest volumes of traffic and are the noisiest roadway corridors. I-580 touches the northern edge of Hayward and does generate significant noise levels at sensitive receptors at the northern edge of the community overlooking the roadway.

The Union Pacific Railroad tracks run through central Hayward and along the west side. The Bay Area Rapid Transit system (BART) runs generally parallel to the central Hayward UPRR track and also is a significant source of wheeled rail noise through central Hayward.

There are two sources of aviation-related noise in Hayward: aircraft originating at the Hayward Executive Airport and flight operations at Metropolitan Oakland International Airport. The Hayward Executive Airport is primarily a general aviation aircraft facility. Noise issues related to the airport are described in the Draft Environmental Assessment/Environmental Impact prepared for the Hayward Executive Airport Master Plan. Noise levels resulting from aircraft operations at the airport are regulated by City of Hayward Ordinance 91-16, the Airport Noise Ordinance. There are noise abatement policies and procedures in effect at Hayward Executive Airport to abate noise from aircraft operations. These procedures affect flight paths at the airport. Noise measurements conducted in support of the Airport Master Plan EIR indicate maximum instantaneous noise levels of about 70 to 80 dBA at locations to the northwest of the airport runways, near Skywest Public Golf Course and adjacent residences. To the south of the airport noise levels during the monitoring survey were dominated by vehicular traffic on Hesperian Boulevard. At locations to the east of the airport (St. Joachim's School) propeller aircraft and turbo prop aircraft produced maximum noise levels of about 60 to 68 dBA. Similar noise levels were monitored at the Hayward Mobile Homes Estates. A noise attenuation berm is located at the south end of the airport (runway 28L). Noise studies completed during preparation of the Airport Master Plan indicate the berm effectively reduces noise from aircraft departing the airport.

Noise levels were monitored throughout Hayward in August of 2001. Long-term noise measurements (over a continuous 24-hour period) were made at 18 locations selected to represent noise levels along major thoroughfares, highways, railroad lines/BART, and in the vicinity of the Hayward Executive Airport. In addition, short-term spot measurements were conducted to characterize noise levels along additional streets throughout the community, and also at several of the long-term meters to provide anecdotal information as to sources of noise in the selected measurement areas. The results of these measurements are shown in Table 3 and 4. The 24-hour day/night average noise level (Ldn) is shown for each of the long-term meters. The equivalent sound level (Leq) during each hour and during each measurement interval for the short-term measurements, as well as selected statistical descriptors representing near maximum noise levels (Lo1 and L1o), median noise levels (L5o) and background noise levels (L9o), are also provided to describe the range of noise levels that occurred during the measurements. Descriptions of the noise measurement locations along with the measurement data are included in Appendix M.

Existing noise levels in Hayward are summarized on a noise exposure map. See Appendix M. The noise exposure map shows areas exposed to a noise level of greater than 60 dB Ldn and the source noise levels along major roadways at a distance of 50 feet from the roadway. The source noise levels are depicted in 5 dB increments beginning at a minimum level of 60 Ldn.

Noise and Land Use Compatibility

The Noise Element sets forth land use compatibility standards for community noise environments, outlines adjustments to the measured day/night average noise levels to

obtain the normalized Ldn for comparison to the proposed compatibility standards, and sets forth design objectives for maximum interior noise levels at different land uses. Guidelines are also proposed that describe the process to be used in evaluating development proposals with respect to noise levels. See Appendix N.

No significant changes to land use patterns are proposed as part of this update of the General Plan. It is likely that there will continue to be infill projects where noise sensitive land uses are proposed in areas where noise levels exceed those considered normally acceptable for the intended use. The policies and standards set forth in the Noise Element are sufficient to address these planning issues and mitigate any potential impacts to a less than significant level.

Increases in Transportation Noise

If the implementation of the General Plan would cause a substantial increase in noise levels at sensitive receptors along roadways in Hayward, this would be considered a significant impact. A 3 dBA increase in the Ldn is considered substantial and would cause a significant noise impact along a roadway.

Existing and future noise levels along the roadway network were compared by calculating roadside noise levels utilizing traffic data provided by the City of Hayward and its transportation consultants. Traffic projections for the existing conditions and the General Plan future conditions (year 2025) are shown in Appendix M. The data in the table include traffic volume, speeds, truck percentages and predicted noise levels at a distance of 50 feet from the roadway centerline. The table also sets forth the distances to the various noise contour intervals. A substantial reduction in vehicular traffic along Mission Boulevard south of A Street is anticipated with the completion of the Route 238 Bypass. If this does not occur, noise levels along Mission Boulevard would be expected to remain about the same as they are today. With this exception, there are no substantial differences in noise levels expected throughout Hayward during the lifetime of this General Plan. Future projections for vehicular traffic on I-880 were not available. I-880 already operates at capacity. Noise levels will, therefore, not change substantially along this interstate freeway.

Railroad train activity varies based on demand. There is no information available at this time to indicate that railroad train activity through Hayward will change substantially during the next twenty years. The Bay Area Rapid Transit District (BART) has seen an increase in BART trains as the headways have decreased to accommodate demand. Further increases in BART train activity are likely over the next two decades as the system expands and ridership increases. It is not possible at this time to calculate increases in noise levels that may result from changes to the BART system. Any increases in BART noise would not be directly related to the General Plan.

The Hayward Executive Airport Master Plan evaluated potential changes in aircraft noise at the Hayward Airport. The study concluded that there would be no substantial changes in aircraft noise over the lifetime of the Master Plan, which generally coincides with that

for the General Plan. Therefore, no noise impacts are anticipated to result from increases in aircraft operations at Hayward Executive Airport over the next twenty years.

Noise Exposure Contours

Noise exposure contours for the year 2025 have been developed based on expected traffic volumes, traffic network, and the assumptions regarding rail and aircraft noise described above. The noise contours are shown in Appendix M. The noise contours and noise exposure information used in combination with the policies and standards set forth in the Noise Element can be used to guide noise and land use planning in Hayward and mitigate any potentially significant noise impacts that could result.

CONSERVATION AND ENVIRONMENTAL PROTECTION
POLICES AND STRATEGIES

Open Space Preservation

1. Retain open space where it is important to preserve natural ecology and to establish the physical setting of the city.

1. Designate on the General Plan Land Use map those areas on the shoreline, in the hills, and along waterways to be protected as open space in coordination with East Bay Regional Park District, Hayward Area Recreation and Park District, Alameda County, and other affected agencies.
2. Work with the East Bay Regional Parks District to explore all possible resources for public acquisition of permanent open space, including state and public trust funds, leases for private open space use, and additional bond measures.
3. Protect the rural character and utility of land in the East Hills Annex for grazing, agriculture, regional park or other open space use by limiting subdivision of land to very large minimum acreage (100 acres or greater).
4. Encourage interagency cooperation in the shoreline area enabling bayland acquisition and marsh restoration, and support eventual expansion of the national wildlife refuge.

Regional Trails and Open Space Linkages

2. Enhance the aesthetic and recreational values of open space resources in the hill and shoreline areas.

1. Continue development of the Ridge Trail through implementation of a continuous green belt from Lake Chabot to Garin Park in coordination with Alameda County, Hayward Area Recreation and Park District, and East Bay Regional Park District.
2. Support regional efforts to expand opportunities for camping, picnicking, swimming, hiking and riding activities within the Hayward planning area.
3. Continue to develop passive and active recreational facilities on former disposal sites and continuous trails for hiking and riding.
4. Continue development of the Bay Trail and connecting trail systems in the Baylands, and seek to replace on-street segments of the Bay Trail with an alignment on the levees or along the edge of the Baylands.
5. Encourage provision of public access to the Baylands in the review of adjacent development projects, consistent with federal and state policies.

6. Work with appropriate agencies to provide trail corridor links between the hill area and the Baylands, such as along San Lorenzo Creek and along Industrial Parkway with connections to Old Alameda Creek.

Hydrology and Water Quality

3. Protect existing watercourses and enhance water quality in surface water and groundwater sources.

1. Retain surface watercourses in their natural condition to the greatest extent possible.
2. Explore opening (or daylighting) water channels in selected areas to increase visibility to the public, enhance the aesthetics of the creekside environment, and provide for limited public access as appropriate.
3. Concentrate development in those areas least susceptible to erosion, and minimize grading and the introduction of impervious ground surfaces; where appropriate, consider including retention basins onsite.
4. Maintain continuity of creekside vegetation, with sufficient setback of development from creek slopes, with sensitive flood control designs, and with maintenance or reestablishment of native trees.
5. Protect riparian plant communities from direct encroachment of development and from the adverse effects of increased storm water runoff, sedimentation, or erosion that may occur from improper development in adjacent areas.
6. Discourage groundwater withdrawal in areas where the activity could result in intrusion of saltwater into freshwater aquifers.
7. Conduct inventory of private wells to assure the health and safety of citizens and to protect groundwater supplies.
8. Ensure that activities such as dredging and grading do not contribute to sedimentation of sloughs or marshes, and that the disposal of treated sewage does not result in the release of toxic metallic wastes into Bay muds.
9. Take an active role in increasing the use of reclaimed water and educating the community about the benefits of such efforts.
10. Encourage the use of dual plumbing systems in new buildings to recycle grey water.

Biological Resources

4. Protect and enhance vegetative and wildlife habitat throughout the Hayward area.

1. Avoid development that would encroach into important wildlife habitats, limit normal range areas, or create barriers that cut off access to food, water, or shelter.
2. Support efforts to reestablish and maintain marsh habitats on the baylands.
3. Preserve tidal flats and salt ponds of low salinity for the migratory waterfowl that depend on these areas.
4. Preserve saltwater evaporation ponds to provide important habitats and/or enhance in a manner commensurate with continued salt production.
5. Maintain environmental corridors across the bay plain such as creeks with native vegetation.
6. Utilize drought-tolerant plant materials in city landscaping.
7. Encourage the planting of native vegetation to preserve the visual character of the area and reduce the need for toxic sprays and groundwater supplements.
8. Preserve mature vegetation where possible to provide shade, break unwanted wind, and enhance the appearance of development.

Geologic and Seismic Hazards

5. Seek to minimize risks from geologic and seismic hazards in the siting and design of development.

1. Continue enforcement of the seismic safety provisions of the Alquist-Priolo Act and the Building Code to minimize earthquake-related hazards in new development, particularly as they relate to high occupancy structures or buildings taller than 50 feet in height.
2. Work with Caltrans and BART to minimize earthquake-related hazards with regard to freeway and rail overpasses.
3. Work with other agencies to ensure that electric transmission lines, water supply systems, wastewater collection systems, gas mains and oil transmission lines

crossing fault traces include provision for automated shut-off-valves, switches and equipment needed to restore service in the event of a major fault displacement.

4. Assume that any site within 50 feet of any fault zone is underlain by an active fault trace until proven otherwise, and prohibit placement of structures for human occupancy across such trace.

6. Continue development and implementation of programs to strengthen existing structures that may pose a significant threat to human life.

1. Examine the feasibility of developing a program to reduce the hazards posed by soft-story buildings (multifamily structures with little or no first floor bracing).
2. Examine the feasibility of developing a program to minimize risks to buildings in areas subject to liquefaction or other areas where soil/substrata amplify and prolong ground motion.
3. Strongly encourage the retrofitting of existing structures, using recognized techniques to withstand ground shaking.

7. Promote greater public awareness of earthquake hazards, along with assistance to help property owners make their homes and businesses more seismically safe.

1. Expand the scope of educational materials about seismic risks and mitigation measures distributed through the city's emergency preparedness program to include maps that identify potential ground shaking and liquefaction hazards.
2. Explore possible programs (e.g., community fairs, tool-lending libraries) to assist single-family homeowners with earthquake retrofitting measures to reduce the risk of damage and injury during an earthquake.

Flood Hazards

8. Cooperate with federal, state and county agencies to develop short- and long-term programs that reduce flood hazards in the city.

1. Continue to work with the Federal Emergency Management Agency to ensure that Federal Insurance Rate Maps correctly depict flood hazards in the city.
2. Implement federal requirements relating to new construction in flood plain areas to ensure that future flood risks to life and property are minimized.

3. Work with the Alameda County Flood Control and Water Conservation District to ensure that flood channels are regularly cleaned and maintained.

Hazardous Materials

9. Work with other agencies to minimize risks associated with the use, storage and transport of hazardous materials.

1. Continue implementation of the Hazardous Materials Program and enforcement of ordinance on use and storage of hazardous materials.
2. Maintain a suitable buffer zone between industrial firms involved with hazardous materials and residential areas.
3. Coordinate with state and federal agencies to provide appropriate labeling on vehicles transporting hazardous materials through the city and to encourage utilization of designated routes.
4. Continue collection program for household toxic wastes and small business generators.
5. Provide educational materials concerning hazardous materials to the general public and enforcement agencies.

Air Quality

10. Incorporate measures to improve air quality in the siting and design of new development.

1. Provide adequate buffers between sources of toxic air contaminants or odors and existing or potential sensitive receptors.
2. Evaluate hazardous air pollutant emissions in review of proposed land uses that may handle, store or transport hazardous materials.
3. Consider measures, including a local ordinance, which would reduce PM₁₀ emissions from fireplaces and wood stoves.

11. Maintain improved air quality by creating efficient relationships between transportation and land use.

1. Guide development into patterns that reduce dependency on automobile usage.

2. Require pedestrian-, bicycle-, and transit-oriented features in new development projects.
3. Encourage compact development featuring a mix of uses that locates residences near jobs and services.
4. Facilitate the development of higher-density housing and employment centers near existing and proposed transit stations and along major transit corridors.

12. Support implementation of Transportation Control Measures adopted by the Bay Area Air Quality Management District.

1. Work with regional and local organizations to promote ridesharing opportunities.
2. Review and evaluate the Bicycle Facilities Master Plan to determine if revisions are necessary to promote bicycle usage.
3. Encourage employers and developers to provide bicycle access and facilities.
4. Continue ongoing local signal timing programs.
5. Incorporate subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.
6. Promote demonstration projects to develop new strategies to reduce motor vehicle emissions, such as projects that include Low Emission Vehicle (LEV) fleets and refueling infrastructure.
7. Emphasize pedestrian travel through establishment of pedestrian-friendly design standards and inclusion of pedestrian improvements in capital improvement programs
8. Consider traffic calming strategies in capital improvement programs.

Noise Mitigation

13. The City will seek to protect the public health, safety and welfare against the adverse effects of excessive noise.

1. Provide educational material and assistance to the community regarding noise mitigation, and promote the full disclosure of potential noise impacts within new infill development.

2. Continue to review new development to assure compatibility with surrounding land uses and compliance with accepted noise standards.
3. Encourage mitigation of noise through appropriate site planning, building orientation, and building materials.
4. Cooperate with adjacent jurisdictions and other agencies involved in noise mitigation, and work with transportation companies and/or agencies to mitigate noise impacts.
5. Continue to consider potential noise impacts in evaluating proposals for new transportation facilities, including streets and highways.
6. Encourage the California Department of Transportation (Caltrans) to construct attractive noise barriers along State highways adjacent to noise-sensitive uses.
7. Investigate methods for decreasing local street noise, such as modification of paving materials, removal of surface irregularities, and synchronization of signals to facilitate smooth traffic flow.
8. Continue to monitor the effectiveness of noise control programs at the Hayward Executive Airport.
9. Enact a community noise control ordinance.

8. PUBLIC UTILITIES AND SERVICES

This section presents an overview of the public utilities and services provided by the City of Hayward or other agencies within the planning area. Issues addressed include fire protection and emergency response, water supply and distribution, wastewater collection and treatment, solid waste management, telecommunications facilities, and energy conservation. While these topics may involve environmental concerns, they pose no major constraints to future development at this time.

Fire Protection and Emergency Response

The City of Hayward Fire Department provides service to the entire city and to the Fairview Fire Protection District on a contract basis. There are seven fire stations located within the city, while two more stations are located in the Fairview area. Existing stations and their response areas are shown in **Figure 8-1**.

At the present time, 90% of all emergency calls result in the first fire department unit arriving in five minutes or less. In the City of Hayward four units are dispatched to all single-family dwelling fires with five units responding to apartment houses and commercial and industrial fires. The City of Hayward has been able to deliver all dispatched units to 90% of all reported structures fires within ten minutes.

The Hayward Fire Department requires special protection measures in buildings that are difficult to access such as high-rise or larger industrial complexes. Measures include fire sprinklers and smoke detectors, above and beyond what may be required elsewhere.

With regard to the industrial area, the higher standards for fire protection set by nationally recognized organizations have encouraged the construction of many new buildings already equipped with fire protection and alarm systems that meet the needs of high-tech industries. In addition, the high water flows required by these nationally recognized standards and provided by the City water delivery system easily satisfy specifications not only for on-site equipment but also for fire suppression and emergency response equipment. However, older buildings, as well as efforts to convert existing warehouses to more intensive uses, may pose special problems.

The transition to more high-tech industries and the development of previously undeveloped lands in the area will likely bring more people into the industrial corridor. The conversion from existing open warehousing operations to high tech industries will increase the population density within buildings. This in turn may spawn additional demand for commercial development that serves the needs of the larger employee population. Generally, a greater population will result in a higher demand for emergency services.

FIRE STATIONS AND RESPONSE AREAS

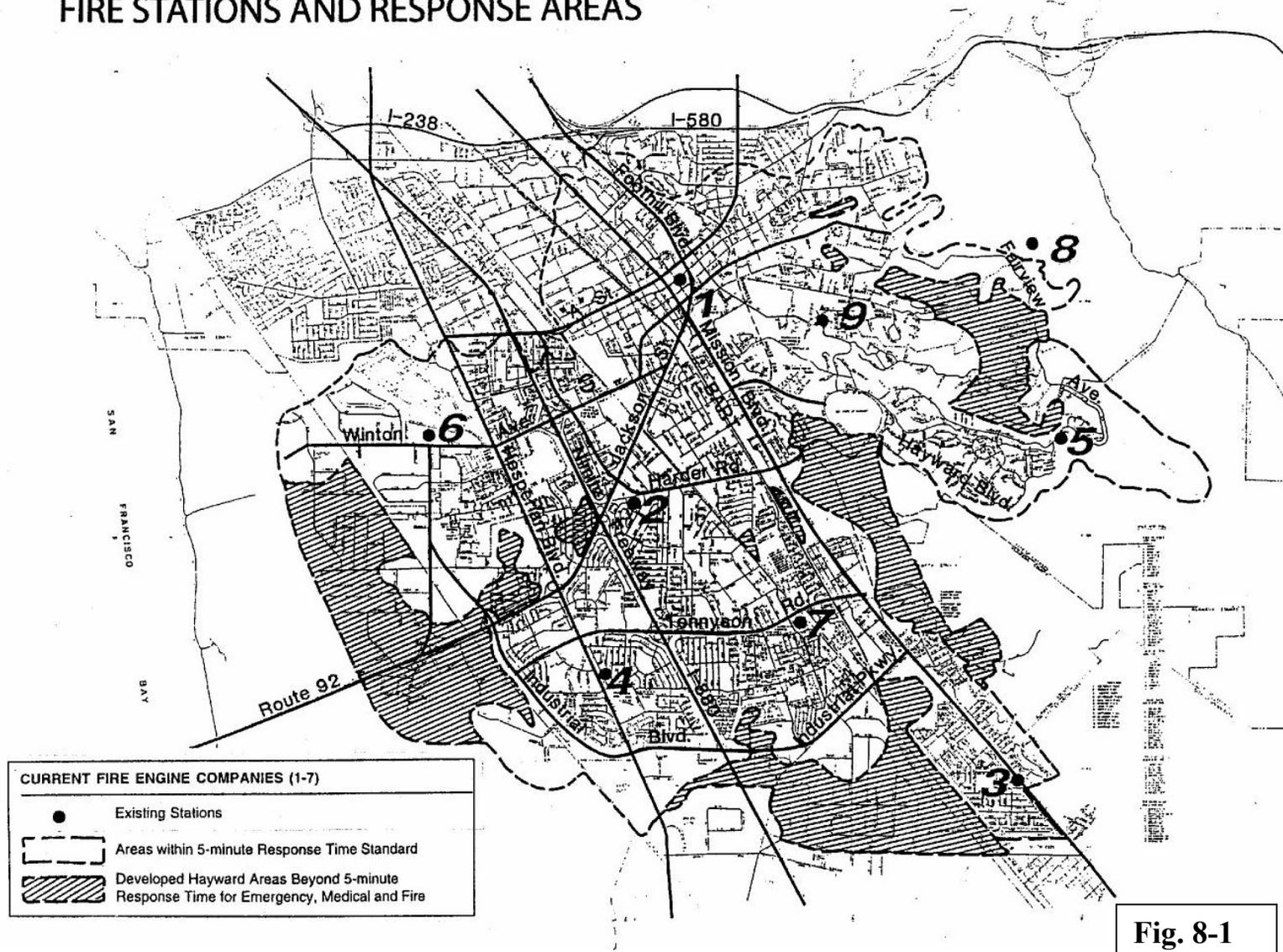


Fig. 8-1

The City has upgraded its Emergency Response System by installing traffic signal priority for Fire Department vehicles. The system has improved response times. Additional funding is being pursued for this program.

Wildland Fire Hazards

The City has adopted Wildland/Urban Interface Guidelines for development in the hill area to address potential fire hazards. The Wildland/Urban Interface is defined as the hill area south of D Street and east of Mission Boulevard. Dispatch levels during the fire season are adjusted from moderate to high to extreme fire risk depending on the weather. Four off-road vehicles, one Type 3 engine and three smaller Type 4 engines, are available for deployment.

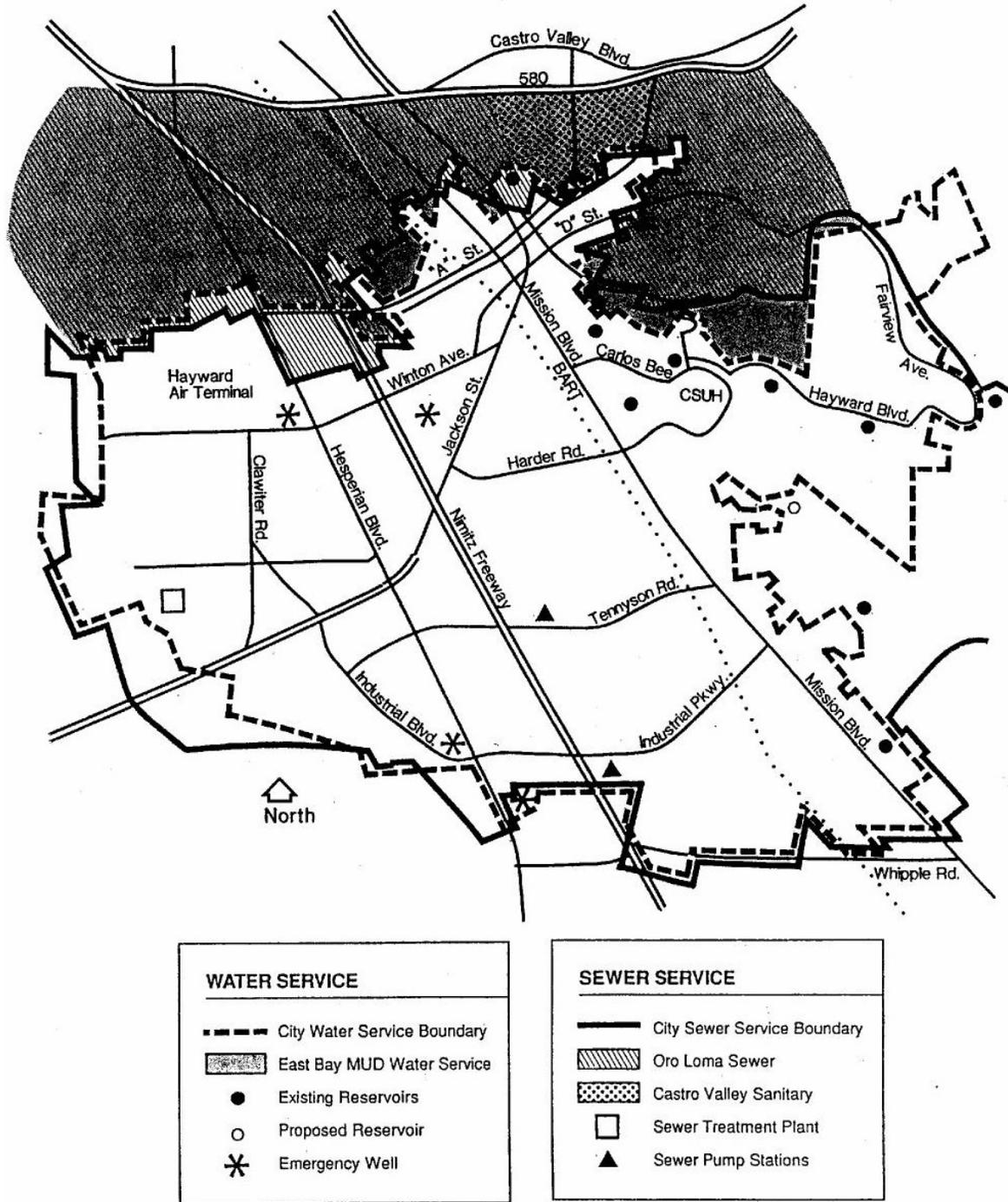
Municipal Utility Systems and Capacities

The City of Hayward owns and operates its own water distribution and wastewater collection and treatment systems. Updates of both the Water Distribution System Master Plan and the Wastewater Collection System Master Plan are currently underway with completion scheduled in 2002. The update of the Master Plan for the Water Pollution Control Facility was completed in the summer of 2001.

Water Supply and Distribution

The City purchases all water from the San Francisco Water Department. Most of the water is soft snow water from the high Sierras. The water is captured in the Hetch Hetchy watershed and piped, entirely by gravity, one hundred and fifty miles from their reservoirs in northern Yosemite Park to the Bay Area. A local source, Calaveras Reservoir, is occasionally blended with this snow water to an average content of five percent of the total. The City delivers water through two aqueducts along Mission Boulevard and Hesperian Boulevard that have a total capacity of 32 million gallons per day. The service area is shown in **Figure 8-2**.

The water system is generally in good condition and does not pose significant concerns in terms of accommodating additional development. Local storage and distribution facilities are adequate, with needed improvements programmed in the Capital Improvement Program. Additional needed improvements may be identified in the Master Plan update currently underway. Local emergency wells have been developed as emergency water supply sources in the event of a disruption in water supply, such as might result from an earthquake. The City has also developed emergency interties with the Alameda County Water District and other systems. The present system can provide enough water to serve existing needs and still have reserve capacity for protection against fire, peak demands, and other emergencies. Hayward's annual average water consumption in recent years is depicted in **Figure 8-3**.



WATER AND SEWER SERVICE AREAS

Fig. 8-2

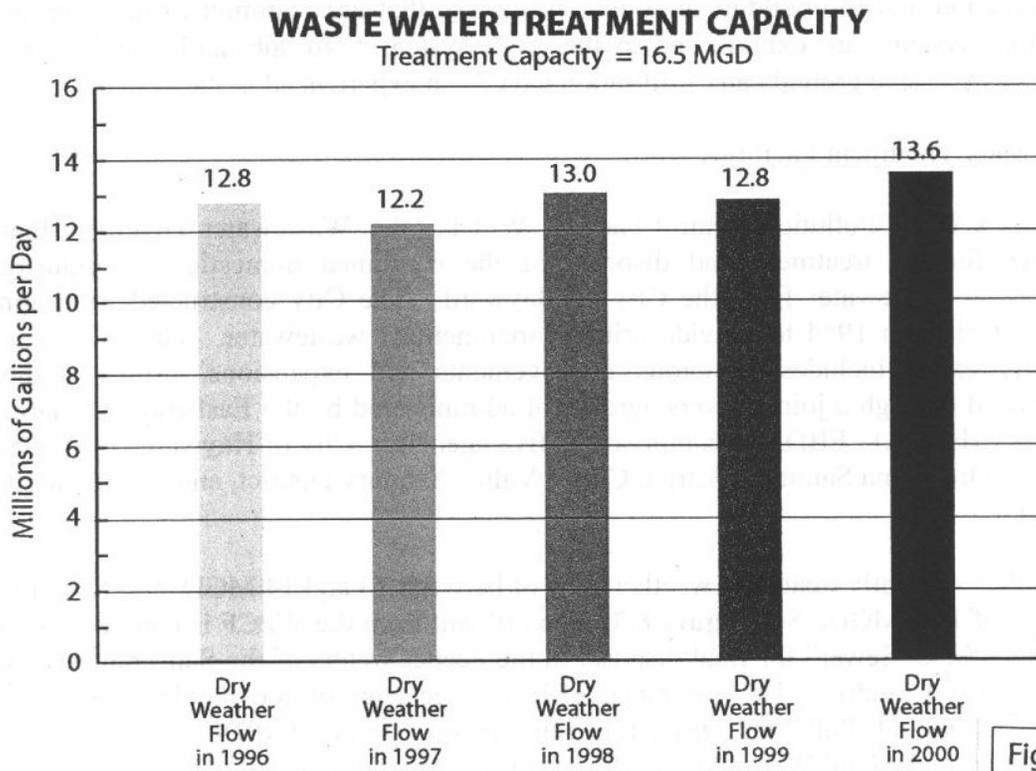
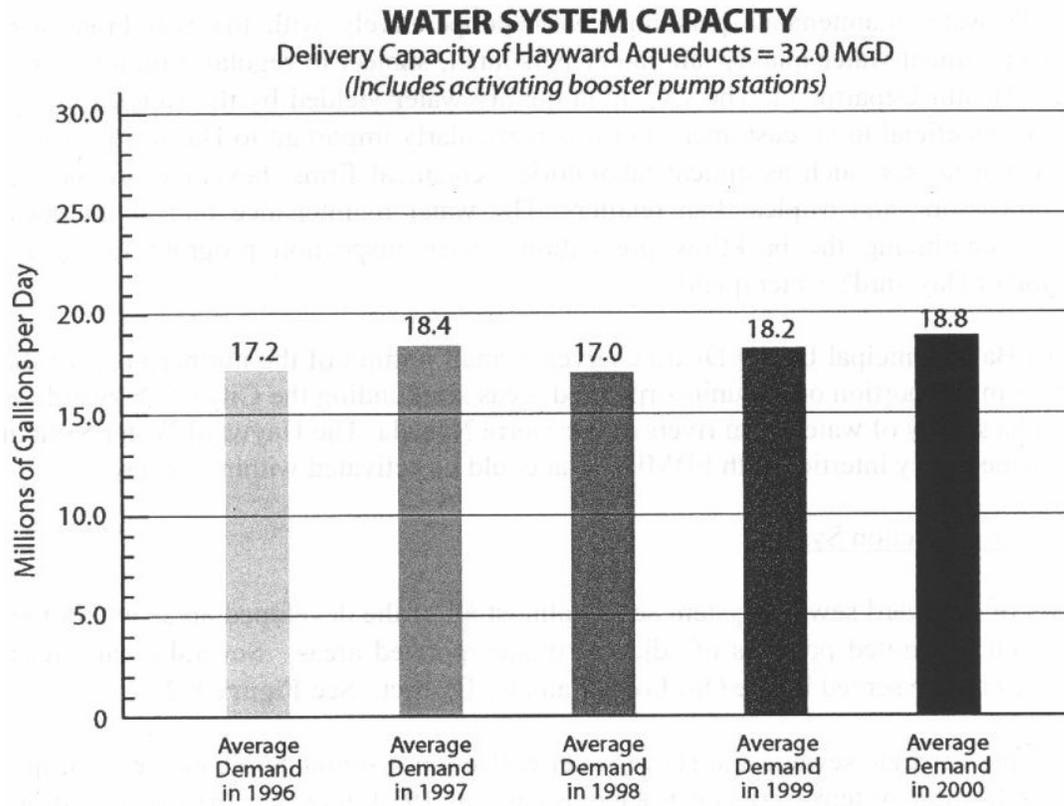


Fig. 8-3

Hayward's water maintenance personnel work cooperatively with the San Francisco Water Department water quality laboratory personnel, subject to regular monitoring by the State Health Department. The very high quality water yielded by the Hetch Hetchy System is beneficial to all customers, but it is particularly important to Hayward's water sensitive businesses, such as optical laboratories, chemical firms, beverage producers, photo processors, and tropical fish retailers. The water maintenance budget includes funds for continuing the backflow prevention device inspection program to assure protection of Hayward's water quality.

The East Bay Municipal Utility District serves a small portion of the northern part of the city and a major portion of the unincorporated areas surrounding the City of Hayward. It receives its supply of water from rivers in the Sierra Nevada. The Hayward Water System has two emergency interties with EBMUD that could be activated within one day.

Wastewater Collection System

The City of Hayward sewage system serves almost all of the developed areas within the city as well as limited portions of adjacent unincorporated areas. Several small areas within the city are served by the Oro Loma Sanitary District. See **Figure 8-2**.

The City has separate sewage and storm water collection systems. Some elements of the sewage collection system were constructed as early as 1910; however the major portion of the existing system was developed in the post-World War II years. The problems of root intrusion and the buildup of solids and grease that are common to most sewage collection systems are experienced in the city's system. No substantial problems of silting or excessive groundwater infiltration have been experienced in the system.

Wastewater Treatment Facilities

The City's Water Pollution Control Facility, WPCF, (aka, Wastewater Treatment Plant) provides for the treatment and disposal of the combined domestic and industrial/commercial wastewater from the City of Hayward. The City constructed its original treatment plant in 1954 to provide primary treatment of wastewater. The WPCF as it currently exists includes numerous improvements and expansions, primarily those constructed through a joint powers agreement administered by the East Bay Dischargers Authority (EBDA). EBDA is comprised of five agencies: City of Hayward, City of San Leandro, Oro Loma Sanitary District, Castro Valley Sanitary District, and Union Sanitary District.

The WPCF currently treats dry weather flow of between 13 and 14 MGD, and has a rated capacity of 16.5 MGD. See **Figure 8.3**. The effluent from the WPCF is pumped into the EBDA's "Super Sewer" for final disposal in the deeper waters of the San Francisco Bay west of San Leandro. The combined effluent meets all of the requirements of the EBDA's National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the Federal Water Pollution Control Act Amendments of 1972.

The WPCF's rated capacity is sufficient to meet the wastewater treatment needs of the City for the development anticipated under the proposed General Plan Update. However, the City has currently undertaken design of phase I of a two-phase project to substantially improve the performance and reliability of, and provide redundancies for, various processes in the City's wastewater treatment plant. Construction of these improvements would be consistent with the projections for planned growth and development in the General Plan. After completion of the improvements contemplated in two phases of the project, the rated capacity of the plant would remain at 16.5 MGD. However, the WPCF will be enabled to treat the rated volume of the wastewater without its current reliance on flow diversion and storage into the former oxidation ponds.

Additional improvements may be implemented with the construction of the Russell City Energy Center, which would add tertiary treatment to the WPCF in order to produce highly purified water for use by the Energy center. The environmental review for construction of said improvements would be under the auspices of the California Energy Commission. Again, the total rated treatment capacity of the WPCF would remain 16.5 MGD.

Solid Waste Management

The State of California requires that integrated waste management plans be developed for every county in the state. In Alameda County, the responsibility for preparing that plan is accorded the Alameda County Waste Management Authority, pursuant to a Joint Exercise of Powers Agreement between the County of Alameda, the incorporated cities in the county, and the three special districts in the county. State law requires that the waste management plan describe local waste diversion programs that divert 25% of its waste by 1995 and 50% by the year 2000, using 1990 as the base year. The City was able to achieve 25% diversion in 1995. In addition, the City's calculation, which is currently being reviewed by the State, shows that the City has achieved a 50% diversion rate in 2000.

The disposal facility used by the City of Hayward is Altamont Landfill, which is owned and operated by Waste Management, Inc., and is located in the eastern part of the county. The estimated closure date of Altamont is 2024. The other two disposal sites located in Alameda County are the Vasco Road Landfill and the Tri-Cities Landfill. The Vasco Road Landfill is owned by Republic Industries, Inc. and is also located in the eastern part of the county. The estimated closure date for Vasco is 2015. The Tri-Cities Landfill is located in the City of Fremont and serves the Cities of Fremont, Newark and Union City. This site is operated by Waste Management, Inc. and is slated for closure in 2002. Thus, the combined disposal capacity of the three facilities is approximately 31 years, based on the rate of fill in 2000.

Currently, the City of Hayward has a franchise agreement with Waste Management, Inc. for collection and disposal of solid waste generated within its jurisdiction. The franchise agreement between the City of Hayward and Waste Management, Inc. is in effect through May 2007. In addition to the franchised collector, contracted collectors and individuals

haul minor amounts of wastes. The Hayward area is served by the Davis Street transfer station, which is located in San Leandro and owned and operated by Waste Management, Inc.

Recycling Programs

The City has adopted a Source Reduction and Recycling Element that addresses recycling issues and establishes recycling programs. The California Integrated Waste Management Act of 1989 (AB 939) requires that all jurisdictions in California reduce the amount of material that is landfilled by 50% by the year 2000. In response to that state law, the City has implemented the following programs and services:

The City has executed a contract with Waste Management, Inc., a private company, to provide weekly garbage and recycling services. Single-family residents are provided with weekly collection of a variety of recyclables, including yard trimmings, newspaper, mixed paper, glass jars and bottles, aluminum and steel containers, juice/drink boxes, plastic bottles marked #1 - 7, cardboard, and used motor oil. Multi-family residents can recycle all of these materials, except motor oil. Christmas trees are also collected following the holiday from single- and multi-family residences. Educational materials are regularly disseminated to residents regarding all of these services. In order to reduce the amount of waste disposed by businesses, City staff offers its assistance to implement waste reduction and recycling programs, including educational materials for employees.

In an effort to comply with the state law, the City requires recycling of construction and demolition debris. As construction activities have increased in the Bay Area, construction and demolition debris has become a significant component of the waste stream and is a targeted material for diversion.

Telecommunications Facilities

Fiber optic installations are important to the overall economic competitiveness of the city, and especially to the continued development of the Industrial Corridor. Since 1995, staff has been tracking installation of fiber optic conduits throughout the city. The location of existing and proposed routes is shown in **Figure 8-4**. Existing routes extend to all parts of the Industrial Corridor. Two of the existing routes also serve the Downtown area and California State University-Hayward. Major proposed routes would extend along Upper B Street, Mission Boulevard, and West A Street. The City may wish to consider requiring that large development projects incorporate the provision of fiber optic facilities.

California State University-Hayward is currently considering a proposal to construct an internet switching facility (or carrier hotel) in the southern portion of its campus. This facility would help meet the ongoing demand for such services and provide support for academic programs on campus. The CSUH administration is also pursuing the construction of a fiber optic ring that would serve the Hayward community.

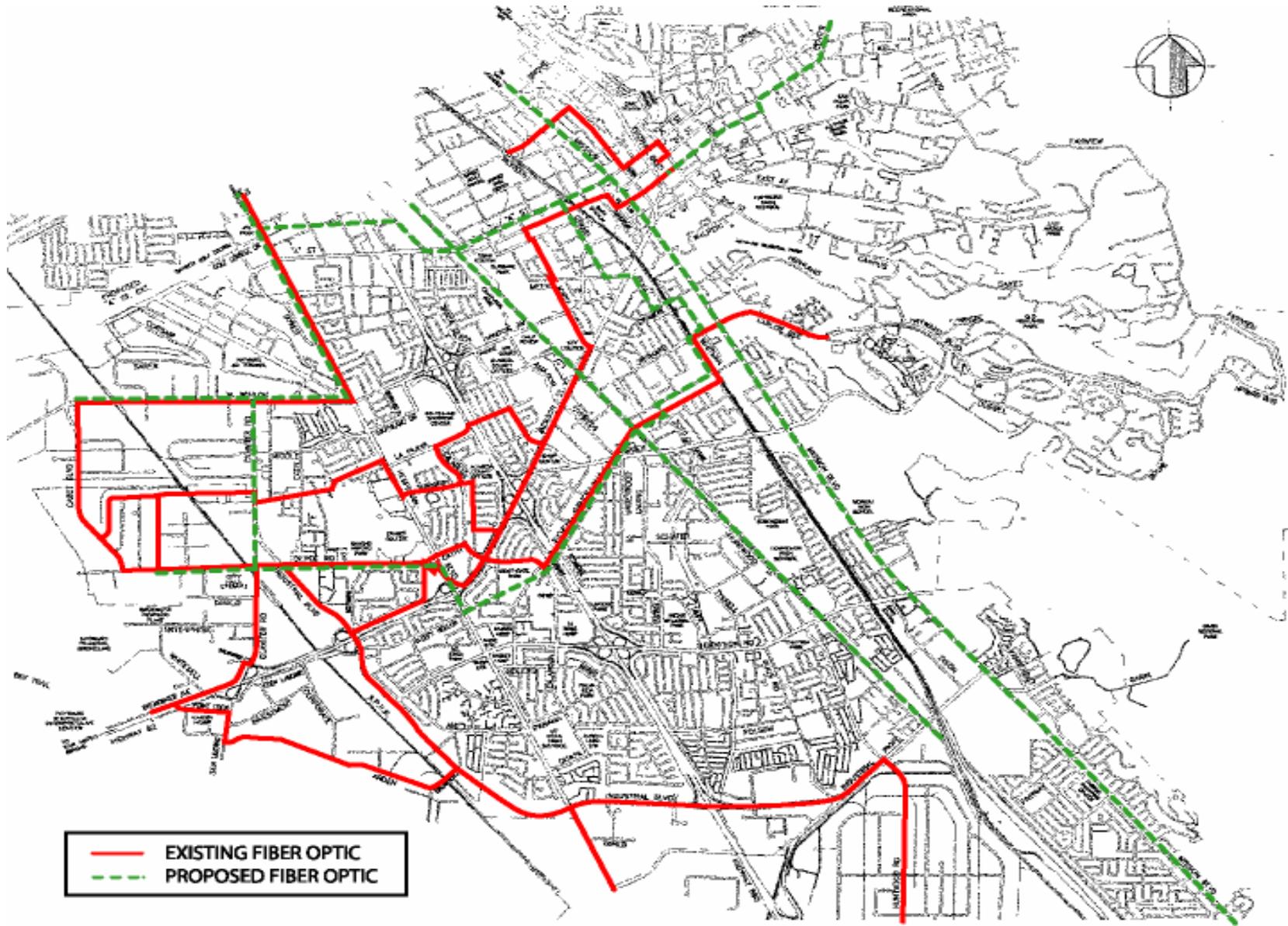


Fig. 8-4

Energy Conservation

Because energy and land were relatively cheap during the time most of Hayward was developed, low density development served by automobile transportation was typical. Energy conservation was not an important consideration in construction or siting of buildings. As energy costs rise in response to world demand and resource limitations, and as the connection between scattered development, automobile use, and deterioration of air quality is recognized, energy conservation becomes a critical element of planning. Transportation, land use, and building standards must seek to reduce fossil fuel consumption and to develop the use of renewable energy sources.

The City has implemented various programs to reduce energy consumption. Extending beyond its own facilities, the City has also developed programs to promote energy conservation for residents. Community Development funds provide subsidized or deferred loans to remedy building code-related defects and to weatherize the homes of seniors or low / moderate income households. The City also provides grant funds to the Senior Minor Home Repair program, which often includes weatherization in the services it provides program recipients. Grant funds are also used to support Eden Housing, a local non-profit housing development corporation, which developed a model project incorporating passive utilization of solar energy in its basic design and active solar hot water heating.

City of Hayward building codes are modeled upon the State Codes, and to the extent energy conserving features are a State requirement, they are included in the local codes. These codes specify minimum insulation and weather-stripping requirements, heating and cooling appliance requirements, and maximum glazing areas in new residential construction so that new construction meets a defined standard of energy efficiency.

Hayward residents and businesses are also able to take advantage of programs offered through Pacific Gas and Electric Company. City participation in these programs serves to make energy conservation a community priority and facilitate outreach.

The City may elect to go beyond outreach or provision of incentives in promoting energy conservation by adopting a variety of energy related ordinances. Local ordinances might require all new and existing swimming pool installations to use solar energy. In addition, a solar access ordinance might protect existing and future solar installation from shading by adjoining development or growth.

Land use decisions and policies also affect energy conservation. Consumption of conventional energy resources can be reduced by encouraging development patterns that concentrate growth along transportation corridors or integrate with existing transit systems, and by creating higher density, mixed-use areas.

PUBLIC UTILITIES AND SERVICES
POLICIES AND STRATEGIES

Emergency Response and Preparedness

1. The City will seek to maintain an appropriate level of emergency response commensurate with the needs of residents and businesses.

1. Adopt and enforce building and fire codes utilizing fire suppression capabilities available to the City.
2. Maintain a well trained and equipped fire suppression force commensurate with the level of risk to life and property from fire.
3. Provide a program of fire safety education for all citizens, but directed primarily at the high-risk population (senior citizens and young children).
4. Support training of fire and police personnel to ensure an adequate level of emergency medical response.

2. The City will seek to minimize urban wildfire hazards in the hill area.

1. Implement the Wildland/Urban Interface Guidelines during the planning and design of development in high fire hazard areas.
2. Enforce building and fire prevention codes that require property owners to reduce wildfire hazards on their properties.
3. Coordinate with other jurisdictions and agencies to address wildfire hazards in the East Bay hills.

3. The City will promote disaster preparedness at both the citizen and government levels.

1. Provide public education promoting citizen awareness and preparedness for self-action in case of a major disaster.
2. Maintain response capabilities within the Department of Public Works to assure that City resources can be appropriately utilized during incidents of major or disaster proportions.

Public Utilities

4. Public facilities will be maintained and operated in a manner that protects and enhances the environment.

1. Control waste discharge to avoid contamination of water resources, damage to bay ecology and hill erosion.
2. Utilize dredged silt and processed waste sludge productively, such as for marsh restoration and park development.

Energy Conservation

5. Hayward will promote energy conservation.

1. Promote development patterns that are integrated with existing transit systems and encourage transit, bike and pedestrian circulation.
2. Encourage mix of shopping, employment and residential use in areas that are to be more intensely developed.
3. Monitor energy use of City facilities and street lighting; utilize public buildings to demonstrate solar orientation and energy conservation principles.
4. Emphasize energy conservation measures for existing development, and encourage use of periodic energy audits.
5. Study feasibility of requiring energy audit and performance of cost effective conservation measures when properties are sold (such as ceiling insulation, weatherstripping, etc.).
6. Support the improvement and enforcement of State energy conservation standards for new construction.
7. Develop an ordinance that encourages solar orientation in the site planning for new construction, protects solar access from future adjacent development, and promotes the use of solar systems where cost effective.
8. Seek to expand programs that capture energy from waste treatment.
9. Promote energy education with fairs, bike or solar tours, workshops, or media campaigns.

SAFETY ELEMENT

The aim of the safety element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, earthquakes, landslides, and other hazards. Other locally relevant safety issues, such as airport land use, emergency response, hazardous materials spills, and crime reduction, may also be included. Some local jurisdictions have even chosen to incorporate their hazardous waste management plans into their safety elements.

The safety element overlaps topics also mandated in the land use, conservation, and open-space elements. When preparing a new general plan or undertaking a comprehensive revision of an existing general plan, OPR suggests addressing these common topics in a single place rather than scattering them among four separate elements. The key concern should be to integrate effectively these common issues into the decision-making process.

The safety element must identify hazards and hazard abatement provisions to guide local decisions related to zoning, subdivisions, and entitlement permits. The element should contain general hazard and risk reduction strategies and policies supporting hazard mitigation measures. Policies should address the identification of hazards and emergency response, as well as mitigation through avoidance of hazards by new projects and reduction of risk in developed areas. Communities may use the safety element as a vehicle for defining “acceptable risk” and the basis for determining the level of necessary mitigation. Policies may address not only methods of minimizing risks, but also ways to minimize economic disruption and expedite recovery following disasters.

Seismic Hazards

The safety element must establish policies to minimize the loss of property and life as a result of earthquake. The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code §2621, et seq.), the Seismic Hazards Mapping Act (Public Resources Code §2690, et seq.), the Unreinforced Masonry Law (§8875, et seq.), and the associated maps and regulations of the State Board of Geologists and Geophysicists and the State Mining and Geology Board offer crucial information and a starting point for local policies.

The Department of Conservation’s California Geological Survey (CGS, also known as the Division of Mines and Geology), the Seismic Safety Commission (SSC), the Office of Emergency Services (OES), and the U. S. Geological Survey (USGS) offer a number of publications that are very useful in identifying, analyzing,

and addressing seismic hazards. The CGS has hazard maps and other information available online at www.conservation.ca.gov/cgs. The SSC’s *California Earthquake Loss Reduction Plan 1997-2001* is a strategic plan for state and local government actions to mitigate earthquake hazards. Technical information about earthquake hazards is available online from USGS at <http://quake.wr.usgs.gov> (maps and reports); the Northern California Earthquake Data Center at <http://quake.geo.berkeley.edu> (technical earthquake data); and the Southern California Earthquake Center at www.scec.org (earthquake modeling and probability). In the San Francisco Bay Area, the Association of Bay Area Governments (ABAG) offers a variety of earthquake hazard and mitigation information on its website at <http://quake.abag.ca.gov>.

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code §2621, et seq.) restricts development on the surface traces of known active faults. The State Geologist has produced maps that identify faults throughout the state and makes copies available to planning agencies. The Seismic Hazards Mapping Act (Public Resources Code §2690, et seq.) directs the State Geologist to map potential ground shaking, liquefaction, earthquake-triggered landslides, and other identifiable earthquake-related hazards in California. Current information and an index map of the over 70 quadrangles zoned under the Seismic Hazards Mapping Act in Orange, Los Angeles, Ventura, Contra Costa, Alameda, Santa Clara, and San Mateo counties can be found on the website of the California Geological Survey, www.conservation.ca.gov/cgs. Call (916) 445-5716 for more information.

The Unreinforced Masonry Law (Government Code §8875, et seq.) requires cities and counties within Seismic Zone 4 to identify hazardous unreinforced masonry buildings and consider local regulations to abate potentially dangerous buildings through retrofitting or demolition. The 1990 Loma Prieta quake graphically illustrated the advantages of abatement ordinances: although seismic retrofitting is primarily aimed at saving lives rather than protecting buildings, structural damage was substantially less in communities that had enacted abatement ordinances than in neighboring communities that had not. Information on the Unreinforced Masonry Law, including the status of compliance as of 2000 and a 1995 model seismic retrofit ordinance, is available online from the Seismic Safety Commission at www.seismic.ca.gov. Call (916) 263-5506 for more information.

Flood Hazard

The safety element must also identify flood hazard areas and establish policies to avoid unreasonable flood

risks. A comprehensive approach should include mapping floodplains; establishing general policies to keep intensive new development out of floodplains or to mitigate and protect against flood impacts if development is to be located in such areas; minimizing impacts on existing development where possible; establishing policies regarding capital improvements or acquisitions necessary to ensure flood protection; and establishing flood management policies which may include both structural and non-structural approaches to flood control using a multi-objective watershed approach.

Flooding is often a regional problem that crosses multiple jurisdictional boundaries. Policies should be developed cooperatively with local, state, and federal agencies, including special districts, to create feasible solutions.

The Department of Water Resources' Division of Flood Management can provide floodplain management and flood control information, including floodplain maps where available (www.dfm.water.ca.gov). The Federal Emergency Management Agency (FEMA) also has helpful information on mitigation. It offers a flood insurance program for communities that enact zoning regulations to limit development within flood zones and prepares Flood Insurance Rate Maps delineating those zones. Information on maps can be found at <http://web1.msc.fema.gov/MS>. The telephone number for the flood insurance program at FEMA's western regional office is (510) 627-7177. Another federal source of flood hazard information is the U.S. Army Corps of Engineers at (415) 977-8173. The Corps can develop or interpret data on flood depths or stages; the extent, duration, and frequency of flooding; and obstructions to flooding. The Corps also offers special studies on all aspects of floodplain management planning. The Natural Resources Conservation Service (NRCS), part of the U.S. Department of Agriculture, offers an Emergency Watershed Protection program and can provide advice on erosion control. NRCS's California office can be contacted at (530) 792-5600.

Fire Hazard

The safety element must identify urban fringe and rural-residential areas that are prone to wildland fire hazards. It must also analyze systems, such as adequate evacuation routes and peakload water supplies, that can reduce fire hazards. The policies of the safety element should form the basis for adopting fire safe ordinances and strategic fire defense system zoning.

The State Board of Forestry has adopted the *California Fire Plan*, which describes the environment at risk for fire and the state's activities to reduce that risk. It has also adopted fire safe regulations for counties with State Responsibility Areas (SRAs) as a means of

reducing pre-fire fuel loads (Title 14, §1270, et seq., California Code of Regulations). Although most of these regulations are too specific and regulatory in nature to include in a general plan, they offer useful ideas for local policies and can be adapted into local fire safe ordinances and regulations outside of SRAs. The state-wide fire safe regulations include:

- ◆ Road standards, including width, surface, and grade, for emergency access and evacuation.
- ◆ Standards for signs identifying streets, roads, and buildings.
- ◆ Minimum water supply reserves for emergency fire use.
- ◆ Fuel breaks (i.e., defensible space) around structures and greenbelts around new subdivisions.

With certain exceptions, after July 1, 1991, all new construction and subdivisions within SRAs must meet the Title 14 standards or equivalent local requirements that have been certified by the State Board of Forestry. In addition, any city or county within an SRA is required to submit a copy of its draft safety element or any amendments to that element to the State Board of Forestry and to every local agency that provides fire protection in its jurisdiction for review and comment at least 90 days prior to adopting or amending the element (Public Resources Code §4128.5). If the city or county decides not to follow the board's or a local agency's recommendations, it must advise the board in writing as to its reasons for not doing so.

For SRAs, the California Department of Forestry and Fire Protection (CDF) and counties that contract with CDF for SRA fire protection can identify areas of high risk/high asset value under the *California Fire Plan*. The objective is to reduce the costs and losses from catastrophic fire by fostering public/private partnerships for prevention, fuels management, and other activities. The *California Fire Plan* may be obtained from CDF or viewed at <http://www.fire.ca.gov>. Individual data layers for counties can be obtained from local Ranger Unit offices.

Fire hazard severity zoning information developed by CDF pursuant to Government Code §51175-§51179 is available from the State Fire Marshal (<http://osfm.fire.ca.gov>) for adoption by local agencies. The State Fire Marshal, pursuant to §51189.5, has also developed a model ordinance for space and structure defensibility linking hazard severity zoning or classification with building standards.

General information about fire safety, including vegetation (fuel load) maps and fire management maps, is available from CDF's Fire and Resource Assessment Program at <http://frap.cdf.ca.gov> or (916)

227-2651.

Health and Safety Code §13143.5 allows local fire officials to change or modify state fire safety codes when reasonable and necessary because of local climate or geologic or topographical conditions. Any changes cannot be less restrictive than the minimum state standard.

Landslides

The landslides generated by the El Nino storms of 1998 and 1992 illustrated the hazards to life and property posed by debris flows and landslides. Deep-seated landslides are caused by the infiltration of water from rain or other origin into unstable material. Fast-moving debris flows are triggered by intense rains that oversaturate pockets of soil on hillsides. Landslides are the result of both natural conditions and the works of man. The California Geological Survey and the U.S. Geological Survey have published landslide inventory and landslide and debris-flow susceptibility maps at a variety of scales for selected areas of California. Areas prone to rainfall-triggered landslides overlap areas where earthquake-induced landslides, mapped under the Seismic Hazard Mapping Act, are likely.

Other Hazards

The Office of Emergency Services administers the Standardized Emergency Management System (SEMS), which provides a framework for coordinating multi-agency emergency responses (§8607 and Title 19, §2400, et seq., California Code of Regulations). SEMS

incorporates mutual aid agreements, establishes lines of communication during emergencies, and standardizes incident command structures, among other things. Local agencies are not required to participate in SEMS but are not eligible for reimbursement of response costs under disaster assistance programs unless they do so. The safety element may include general policies for cooperation and assistance consistent with SEMS. For information about emergency response planning, contact the OES Planning and Technological Assistance Branch at (916) 464-3200.

The safety element may address any other subjects that, in the judgment of the local legislative body, relate to the physical development of the county or city (§65303). A number of local jurisdictions have chosen to include the subject of crime safe community planning. The safety element may be used to establish programs and policies that promote neighborhood, institutional, governmental, and business safety. This need not be limited to protection against criminal activity, but may also include policies designed to avoid accidents throughout the community. These policies are commonly implemented through the design review process and address issues such as:

- ◆ Adequate lighting and landscaping for improved natural surveillance.
- ◆ Park and open-space usership, safety, and accident avoidance.
- ◆ Homelessness issues and residential shelters.
- ◆ Safety and accident prevention through design.

Prior to preparing or revising its safety element, a city or county must consult with the Office of Emergency Services and submit one copy of its draft safety element to the California Geological Survey for review (§65302(g)). These agencies can provide safety element advice, particularly in the areas of emergency response, inundation resulting from dam failure, seismic hazards, and geologic hazards. Local governments must consider the findings of the California Geological Survey prior to final adoption of the safety element. In addition, the Department of Water Resources, pursuant to §65303.4, may develop site design and planning policies to assist local agencies that request help in implementing flood control objectives and other land management needs.

Court and Attorney General Interpretations

As of this writing, the provisions of a safety element have not been the subject of a decision by an appellate court or an interpretation by the California Attorney General.

Urban Design as Crime Prevention

Planners, architects, and law enforcement officials have become increasingly aware of the relationship between urban design and crime prevention. Terms for this concept include Safescape and Crime Prevention Through Environmental Design (CPTED). Planning and design strategies that deter crime include natural surveillance (eyes on the street), walkable environments (human/pedestrian scale), demarcated public and private space, and mixed-use development (high levels of activity).

Resources:

- ◆ International CPTED Association, www.cpted.net
- ◆ *Safescape*, by Art Zelinka and Dean Brennan (APA Planners Press, 2001)

Relevant Issues

The safety element must examine issues related to protecting the community from any unreasonable risks associated with:

- ◆ Seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure.
- ◆ Slope instability leading to mudslides and landslides.
- ◆ Subsidence, liquefaction, and other seismic hazards identified on seismic hazard maps.
- ◆ Other known geologic hazards.
- ◆ Flooding.
- ◆ Wildland and urban fires.

It must also address the following as they relate to known fire and geologic hazards:

- ◆ Evacuation routes and signage.
- ◆ Peakload water supply requirements.
- ◆ Minimum road widths and turnouts.
- ◆ Clearances around structures.

The safety element must also contain a map or maps of known seismic and other geologic hazards. The official maps of the Alquist-Priolo Earthquake Fault Zones and seismic hazard zones, available from the California Geological Survey, may be included or incorporated by reference.

Ideas for Data and Analysis

The following are suggested as topics for consideration during the data collection and analysis phase of preparing a safety element.

The general geology and seismic history of the region and the planning area

- ◆ Map known seismic and geologic hazards. (MAP) (O)

The potential for seismically induced surface rupture

- ◆ Determine the location of active fault zones designated by the State Geologist under the Alquist-Priolo Earthquake Fault Zoning Act. (MAP) (O)
- ◆ Perform a geologic evaluation of the potential for displacement along active and potentially active faults in the planning area. (MAP) (O)

The potential for seismically induced ground shaking

- ◆ Identify active and potentially active faults in the

region. (MAP) (O)

- ◆ Gather historical data on seismic ground shaking within the planning area.
- ◆ Perform a geotechnical evaluation of the potential for localized ground shaking based on the state probabilistic earthquake hazard map. (MAP)
- ◆ Identify hazardous or substandard structures that may be subject to collapse in the event of an earthquake, including, but not limited to, unreinforced masonry buildings (§8875, et seq.).

The potential for seismically induced ground failure

- ◆ Perform a geotechnical evaluation of the potential for earthquake-triggered landslide, mudslide, liquefaction, and soil compaction. (MAP) (O)
- ◆ Determine the location of zones of required investigation for liquefaction and earthquake-induced hazards on a seismic hazard zone map prepared by the State Geologist. (MAP) (O)

The potential for seismically induced dam failure

- ◆ Identify areas that would be inundated in the event of a dam failure. Dam inundation maps are available from the Office of Emergency Services. (MAP) (O)
- ◆ Identify the development, facilities, and people potentially at risk in areas subject to potential inundation. (O)

Slope instability and the associated risk of mudslides and landslides

- ◆ Gather historical data on landslides and mudslides. (O)
- ◆ Identify areas that are landslide-prone by using, among other sources, landslide features maps produced by USGS and the California Geological Survey's seismic hazard zone maps, landslide hazard identification maps, watershed maps, and geology for planning maps. (MAP) (O)
- ◆ Perform a geotechnical evaluation of the local potential for landslides and mudslides. (MAP) (O)

The potential for seismically induced seiches and tsunamis

- ◆ Gather historical data on the occurrence of tsunamis and seiches within the planning area. (O)
- ◆ Perform a geophysical evaluation of the potential “run-up” of tsunami and seiche waves. (MAP) (O)

Useful Definitions: **Safety Element**

Alquist-Priolo Earthquake Fault Zone: A regulatory zone, delineated by the State Geologist, within which site-specific geologic studies are required to identify and avoid fault rupture hazards prior to subdivision of land and/or construction of most structures for human occupancy.

Critical Facility: Facilities that either (1) provide emergency services or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility. Examples include hospitals, fire stations, police and emergency services facilities, utility facilities, and communications facilities.

Fault: A fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a zone of related faults which commonly are braided, but which may be branching. A fault trace is the line formed by the intersection of a fault and the earth's surface.

Active Fault: A fault which has exhibited surface displacement within Holocene time (approximately the past 11,000 years).

Potentially Active Fault: A fault which shows evidence of surface displacement during Quaternary time (the last 2 million years).

Flooding: A rise in the level of a water body or the rapid accumulation of runoff, including related mudslides and land subsidence, that results in the temporary inundation of land that is usually dry. Riverine flooding, coastal flooding, mud flows, lake flooding, alluvial fan flooding, flash flooding, levee failures, tsunamis, and fluvial stream flooding are among the many forms that flooding takes.

Ground Failure: Mudslide, landslide, liquefaction or soil compaction.

Hazardous Building: A building that may be hazardous to life in the event of an earthquake because of partial or complete collapse. Hazardous buildings may include:

1. Those constructed prior to the adoption and enforcement of local codes requiring earthquake resistant building design.
2. Those constructed of unreinforced masonry.
3. Those which exhibit any of the following characteristics:
 - ◆ exterior parapets or ornamentation which may fall on passersby
 - ◆ exterior walls that are not anchored to the floors, roof or foundation

- ◆ sheeting on roofs or floors incapable of withstanding lateral loads
- ◆ large openings in walls that may cause damage from torsional forces
- ◆ lack of an effective system to resist lateral forces
- ◆ non-ductile concrete frame construction

Hazardous Material: An injurious substance, including pesticides, herbicides, toxic metals and chemicals, liquefied natural gas, explosives, volatile chemicals, and nuclear fuels.

Landslide: A general term for a falling, sliding, or flowing mass of soil, rocks, water, and debris. Includes mudslides, debris flows, and debris torrents.

Liquefaction: A process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking.

Peakload Water Supply: The supply of water available to meet both domestic water and fire fighting needs during the particular season and time of day when domestic water demand on a water system is at its peak.

Seiche: An earthquake-induced wave in a lake, reservoir, or harbor.

Seismic Hazard Zone: A regulatory zone, delineated by the State Geologist, within which site-specific geologic, soils, and foundation engineering studies are required to identify and avoid earthquake-caused ground-failure hazards, or selected other earthquake hazards, prior to subdivision of land and for construction of most structures for human occupancy.

Subsidence: The gradual, local settling or sinking of the earth's surface with little or no horizontal motion (subsidence is usually the result of gas, oil, or water extraction, hydrocompaction, or peat oxidation, and not the result of a landslide or slope failure).

Seismically Induced Surface Rupture: A break in the ground's surface and associated deformation resulting from the movement of a fault.

Tsunami: A wave, commonly called a tidal wave, caused by an underwater seismic disturbance, such as sudden faulting, landslide, or volcanic activity.

Wildland Fire: A fire occurring in a suburban or rural area which contains uncultivated lands, timber, range, watershed, brush or grasslands. This includes areas where there is a mingling of developed and undeveloped lands.

The potential for land subsidence, liquefaction, and other seismic hazards

- ◆ Collect historical data on land subsidence resulting from extraction of groundwater, natural gas, oil, and geothermal resources and from hydrocompaction. (O)
- ◆ Identify areas of known risk from liquefaction, subsidence, or ground shaking. (MAP)
- ◆ Evaluate the potential risks associated with other known geologic hazards, such as volcanic activity, avalanche, or cliff erosion.
- ◆ Refer to information from the state seismic hazard maps, when available.

The risk of wildland fires

- ◆ Identify and classify areas of varying fire hazard severity based on degree of development, fuel loading (vegetation), weather and slope, accessibility to fire protection assistance (i.e., response time, availability of helispots, proximity of air tanker attack bases, etc.), historical data, and other pertinent information. (MAP) (O)
- ◆ Analyze the potential for fire to critically impact or eliminate habitat or open-space values. Identify the policy implications of fire safe or fuels reduction policies for both public and private conservation or open-space areas. (CO, O)
- ◆ Assess the need for greenbelts, fuel breaks, fuel reduction, and buffer zones around communities for different levels or zones of fire hazard to mitigate potential losses.

The potential for flooding

- ◆ Define the reasonably foreseeable floodplain (MAP) (CO, L, O)
 - Identify areas subject to inundation by a 100-year flood and a 500-year flood.
- ◆ Collect historical data on flooding, such as frequency and intensity. (CO, L, O)
- ◆ Identify areas vulnerable to post-wildfire flooding.

The risk of fires in urban areas

- ◆ Identify and classify areas of varying fire hazard severity based on age, condition, size, occupancy and use of structures and the spacing between them; access; fire flows; fire crew and equipment availability; response time; historical fire data; and other pertinent information. (MAP)

Emergency evacuation routes as they relate to known fire and geologic hazards

- ◆ Evaluate the adequacy of access routes to and from hazardous areas relative to the degree of development or use (e.g., road width, road type, length of dead-end roads, etc.). (CI, O)
- ◆ Identify potential improvements necessary to avoid unreasonable community risk.

Peakload water supply requirements necessary to avoid unreasonable risks from known fire and geologic hazards

- ◆ Evaluate the adequacy of the existing peakload water supply.
- ◆ Project future peakload water supply and demand and needed improvements, if any, to ensure the provision of adequate water supplies.

Minimum road widths and clearances around structures necessary to avoid unreasonable risks from known fire and geologic hazards

- ◆ Evaluate the adequacy of existing standards.
- ◆ Analyze the need for revised standards.
- ◆ Assess the potential for disruption to evacuation routes from landslide movement, fault ruptures, earthquake-triggered failures, and volcanic eruption.

Emergency response

- ◆ Determine the service areas of emergency services, including fire, police, ambulance, etc.
- ◆ Evaluate the adequacy of existing service and the demand for additional service.

Ideas for Development Policies

Here are some ideas for the general types of policies that may be incorporated into the safety element to the extent that they are locally relevant. Policies may take the following forms:

- ◆ Development standards and restrictions to limit risk to acceptable levels within Alquist-Priolo Earthquake Fault Zones, including limits on allowable development, development intensity, and setbacks from the fault trace. (L, O)
- ◆ A determination of what constitutes an “acceptable risk” in the community (e.g., life safety—the state-wide minimum or some higher standard).
- ◆ Requirements for a geologic evaluation of the po-

- tential for displacement prior to site development to limit risk to acceptable levels along identified active and potentially active faults. (O)
- ◆ Regular safety element revisions to incorporate new seismic hazard maps or other information as it becomes available.
 - ◆ The removal or rehabilitation of hazardous or substandard structures that may be expected to collapse in the event of an earthquake, including, but not limited to, unreinforced masonry buildings, bridges, and critical facilities.
 - ◆ Development standards and restrictions, such as limits on the types of allowable development, development intensity/density standards, and subdivision design policies, to limit risk to acceptable levels for sites subject to seismically induced landslide, mudslide, liquefaction, or subsidence. (L)
 - ◆ Requirements for geotechnical evaluation of the potential for earthquake-triggered landslide, mudslide, liquefaction, and subsidence prior to site development to limit risk to acceptable levels in areas where such hazards have been identified. (L, O)
 - ◆ Use of geologic hazard abatement districts to finance the prevention, mitigation, abatement, or control of geologic hazards. (Public Resources Code §26500, et seq.).
 - ◆ Development standards and restrictions to limit risk to acceptable levels within areas that would be inundated as a result of dam failure. (L, O)
 - ◆ Development standards and restrictions, such as subdivision design policies and building setbacks, to limit risk to acceptable levels within areas subject to inundation as a result of a tsunami or seiche. (L, O)
 - ◆ Development standards and restrictions, such as limits on development and restrictions on water wells, in areas subject to subsidence. (L)
 - ◆ Development policies, standards, and requirements, including setback requirements and subdivision design, to limit risk to acceptable levels within areas subject to other known geologic hazards (e.g., volcanic activity, avalanches, cliff erosion, etc.).
 - ◆ Contingency plans for immediate post-earthquake response and longer-term reconstruction activities in areas potentially subject to significant damage.
 - ◆ Requirements for evaluating the potential risks associated with other known geologic hazards, such as volcanic activity, avalanches, or cliff erosion, and for limiting risk to acceptable levels prior to development.
 - ◆ Requirements for geotechnical evaluation prior to site development of the potential for liquefaction and earthquake-triggered landslides in identified seismic hazard zone. (O)
 - ◆ Development standards and restrictions to limit the risk of loss to acceptable levels within identified floodplains or areas subject to potential inundation by a 100-year flood or by levee failure. These might include subdivision design, setback requirements, and development intensity/density standards. (CO, L, O)
 - ◆ Floodplain management policies, including both structural and non-structural approaches, and cooperative actions with other agencies. (CO, L, O)
 - ◆ Policies to support the enactment of floodplain zoning necessary to qualify for FEMA’s National Flood Insurance Program. (CO, L, O)
 - ◆ Development policies, standards, and restrictions to reduce the risk of urban and wildland fires to an acceptable level, including:
 - Peakload water supply requirements and performance standards for urban, suburban, and rural development.
 - Clearances around structures (i.e., defensible space).
 - Property line setbacks for structures in wildland fire hazard areas.
 - Fire equipment response time.
 - Land use intensity/density standards.
 - Subdivision design for fire safety, including defensible space.
 - Fire safe building materials.
 - Standards conforming to the fire safety standards established by the State Board of Forestry for SRAs (Title 14 §1270, et seq., California Code of Regulations).
 - Road standards for fire equipment access.
 - Standards for signs identifying streets, roads, and buildings.
 - Minimum private water supply reserves for emergency fire use.
 - Land use policies and safety standards that take into account the recurrent nature of wildland fires.
 - ◆ Strategies for both structural fire protection and for

preventing or mitigating wildland fire impacts that correspond to different fire hazard levels (e.g., high or very high fire severity in LRAs or high risk/high value areas in SRAs).

- ◆ Policies and standards addressing multihazard evacuation and emergency access, including:
 - Evacuation routes. (MAP)
 - Design, reservation, and requirements for emergency access in new development.
 - Minimum road widths. (CI)
- ◆ Future service facilities. (MAP)
- ◆ Emergency preparedness protocol and procedures, including SEMS.
- ◆ Crime safe community policies and programs to encourage community support and involvement in

crime and accident prevention through planning.

Technical Assistance

The following state agencies can provide information or assistance in the preparation of the safety element:

- ◆ Department of Conservation, including the California Geological Survey (also known as the Division of Mines and Geology) and the State Geologist
- ◆ Department of Forestry and Fire Protection
- ◆ Department of Transportation (Caltrans)
- ◆ Department of Water Resources
- ◆ Governor’s Office of Planning and Research.
- ◆ Office of Emergency Services
- ◆ Seismic Safety Commission