

PASADENA

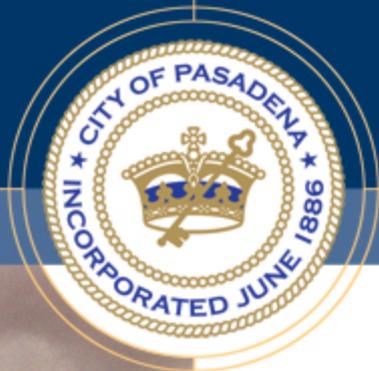


Fire Department

RESTRICTED PARKING WITHIN URBAN-WILDLAND INTERFACE AREAS DURING TIMES OF EXTREME FIRE HAZARD (Red Flag Days)

Public Meeting





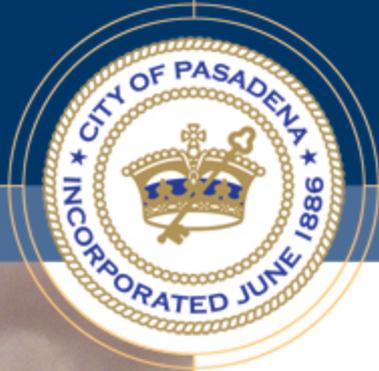
Welcome

Fire Department

- **Please Sign In!**
- **Agenda:**
 - > Presentation – 30 minutes
 - > Public Comments – 30-60 minutes
- **Thanks to the Library**
- **Housekeeping**
 - > Restrooms- Out the East (Right) door
 - Women's, first right outside the door
 - Men's on the left inside the Library's Main Entryway
 - > Please put your electronics on silent or vibrate, step outside to talk
 - > Assistive Listening Devices Available
- **Staff**
 - > Deputy Chief Mark Fasick, Fire Marshal
 - > James Weckerle, Hazardous Materials Specialist
 - > Norman Baculinao, Traffic Engineer
 - > Stephen Parra, Staff Assistant III

PASADENA





Framing the Issue

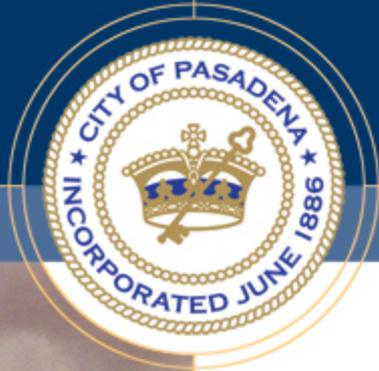
Fire Department

- **Video Links**

- > [News10 Nightside Open 1991 \(YouTube\)](#)
- > [KRON4- The Oakland Hills Fire \(SFGate\)](#)
- > [Fire in the Oakland Hills \(YouTube\)](#)
- > [Flashing back to the perfect firestorm \(YouTube\)](#)

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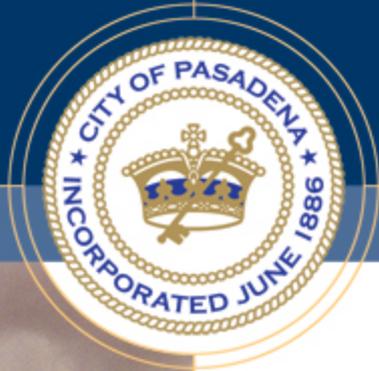
What we're not doing...

Fire Department

- **Discussing Brush Clearance and your insurance surcharge**
- **Discussing *Permanent, everyday* 24/7 parking restrictions**
- **Telling you about something that's already a "done deal"**

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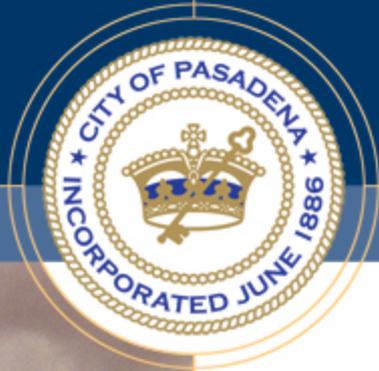


What we *ARE* doing...

Fire Department

- **Addressing concerns brought to the City by residents**
 - > We started this due to resident concerns and complaints, not by our choice
- **Asking for your input so we can create the best solution for all**
- **Trying to protect you, your friends and visitors**

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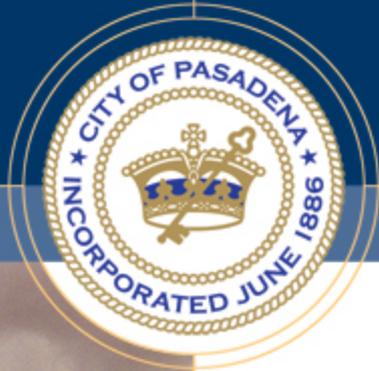
Ground Rules

Fire Department

- **Please don't kill the messenger...**
we're trying our best
- **Please let us complete the presentation (it's short), and then we can discuss as a group**
- **But, if you have a quick question, feel free to holler out**
- **Please be respectful of others (even if you really disagree)**

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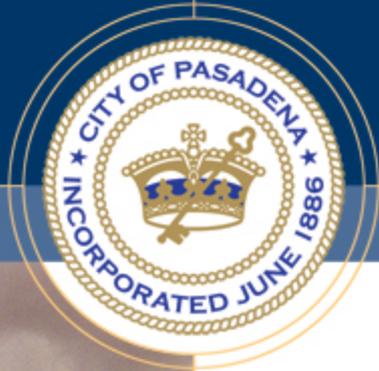
Background

Fire Department

- **The foothills of Pasadena have been highly sought after and continue to be highly developed**
 - > **Infrastructure dates to the 1950s**
 - > **Intermingled urban and wildland areas creating an urban-wildland brush interface**



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Infrastructure

Fire Department

- **Roadways**

- > **1950s**

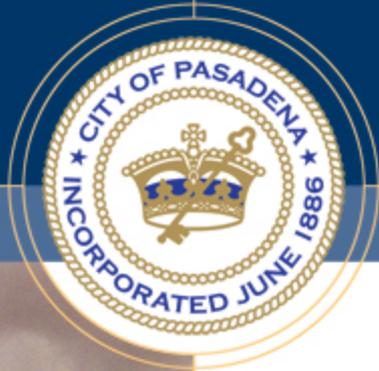
- **Cars 5½ ft wide**
 - **Fire Engines 22 ft long, 6 ft wide**

- > **21st Century**

- **Cars 6½ ft or more wide (SUVs)**
 - **Fire Engines 30 ft long, 10 ft wide**



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Infrastructure

Fire Department

- **Housing**

- > **1950s**

- **Greater Separation**
 - **Smaller Structures**
 - **Fewer People**

- > **21st Century**

- **Less Separation**
 - **Large Structures**
 - **More People**
 - **More Hazardous Locations (sides of and within canyons and draws)**

PASADENA





Tipton Way

Kaweah Dr

Evergreen Dr

Pleasant Way

Loma Rd

Glenullen

Juniper Dr

Chevrolet Dr

554 ft

© 2008 Tele Atlas

elev 908 ft

Jul 31, 2007

Go

Eye al

lat 34.132064° lon -118.182059°







Caruso Pl

Woodcliff Dr

Woodcliff Rd

Patricia Way

Glendale Blvd

Glendale

Image © 2008 City of Glendale

470 ft

©2008 Tele Atlas

elev 1206 ft

©2008

Go

Eye alt

lat 34.154469° lon -118.177675°



Image © 2008 City of Glendale
Image © 2008 DigitalGlobe
Image U.S. Geological Survey
© 2008 Tele Atlas
elev 1186 ft

140 ft

lon -118.177879°

Jul 31, 2007

Google

Eye alt 1990 ft







74923 1L

886



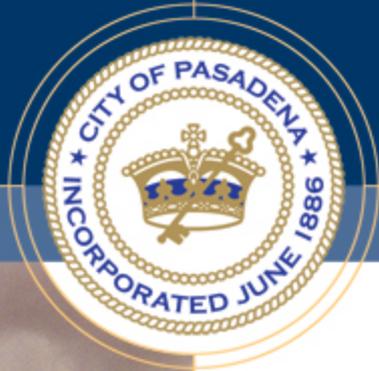


Villa Highlands Dr

Villa Knolls St

Fairpoint St

Old House Rd



Urban-Wildland Interface

Fire Department

- **Climate**

- > **Fire Risk**

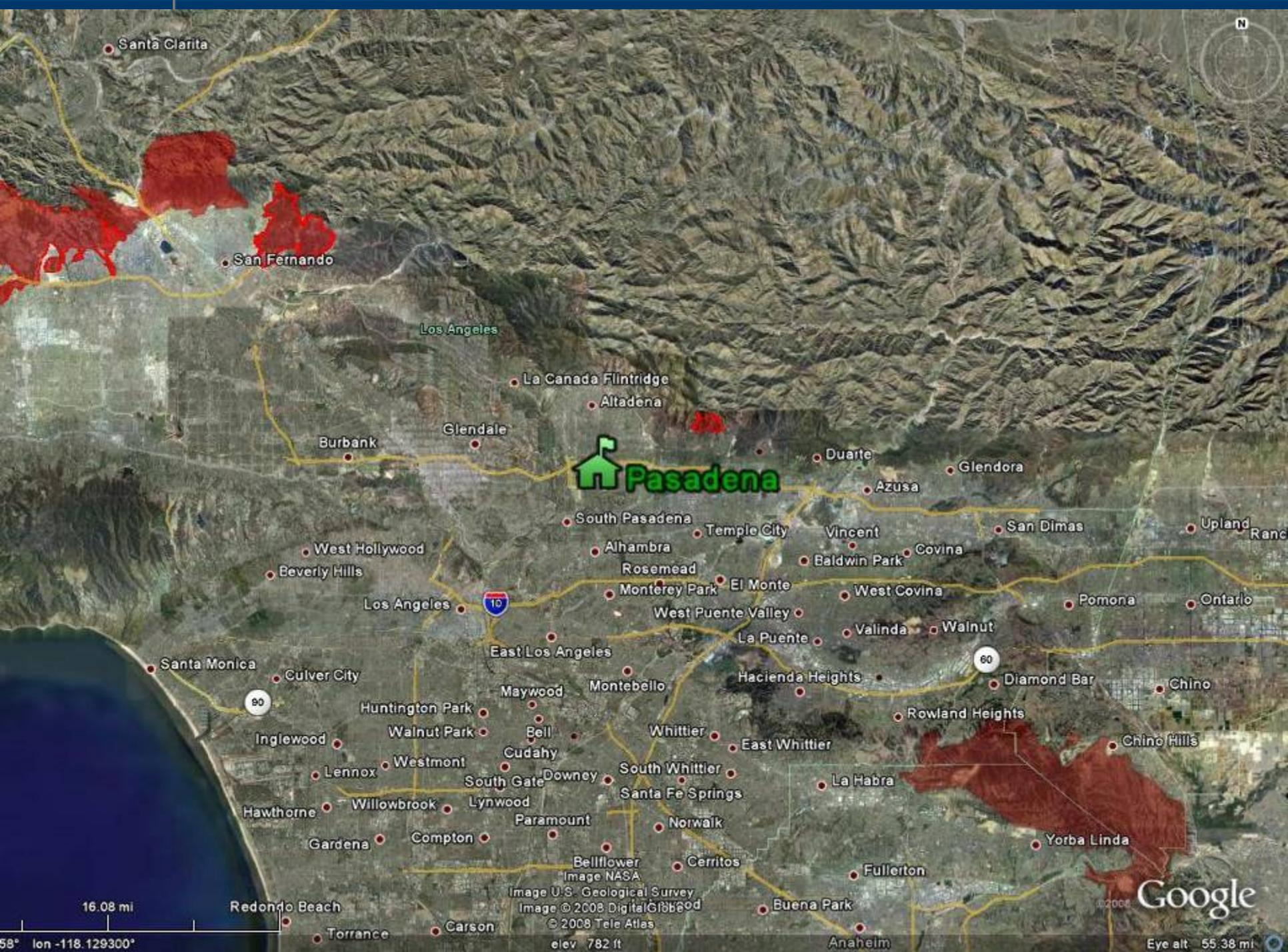
- **Apparent continuous increase in severity year-to-year**
 - **No foreseeable end**
 - » **Fire Season is year-round**

- > **Environmental Changes**

- **Continued drought conditions**
 - **Santa Ana Winds**

PASADENA





Santa Clarita

San Fernando

Los Angeles

La Canada Flintridge

Altadena

Burbank

Glendale

 Pasadena

Duarte

Glendora

Azusa

South Pasadena

Temple City

Vincent

San Dimas

Upland

West Hollywood

Beverly Hills

Alhambra

Rosemead

Monterey Park

El Monte

Baldwin Park

Covina

Los Angeles

10

West Puente Valley

West Covina

Pomona

Ontario

Santa Monica

Culver City

East Los Angeles

La Puente

Valinda

Walnut

60

Diamond Bar

Chino

Huntington Park

Maywood

Montebello

Whittier

East Whittier

Rowland Heights

Chino Hills

Inglewood

Walnut Park

Bell

Cudahy

South Whittier

Santa Fe Springs

La Habra

Yorba Linda

Lennox

Westmont

South Gate

Downey

Hawthorne

Willowbrook

Lynwood

Paramount

Norwalk

Gardena

Compton

Bellflower

Image NASA

Cerritos

Fullerton

Yorba Linda

Redondo Beach

Carson

Image U.S. Geological Survey

Image © 2008 DigitalGlobe

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elev 782 ft

Buena Park

Anaheim

Google

Eye alt 55.38 mi

16.08 mi

58° lon -118.129300°



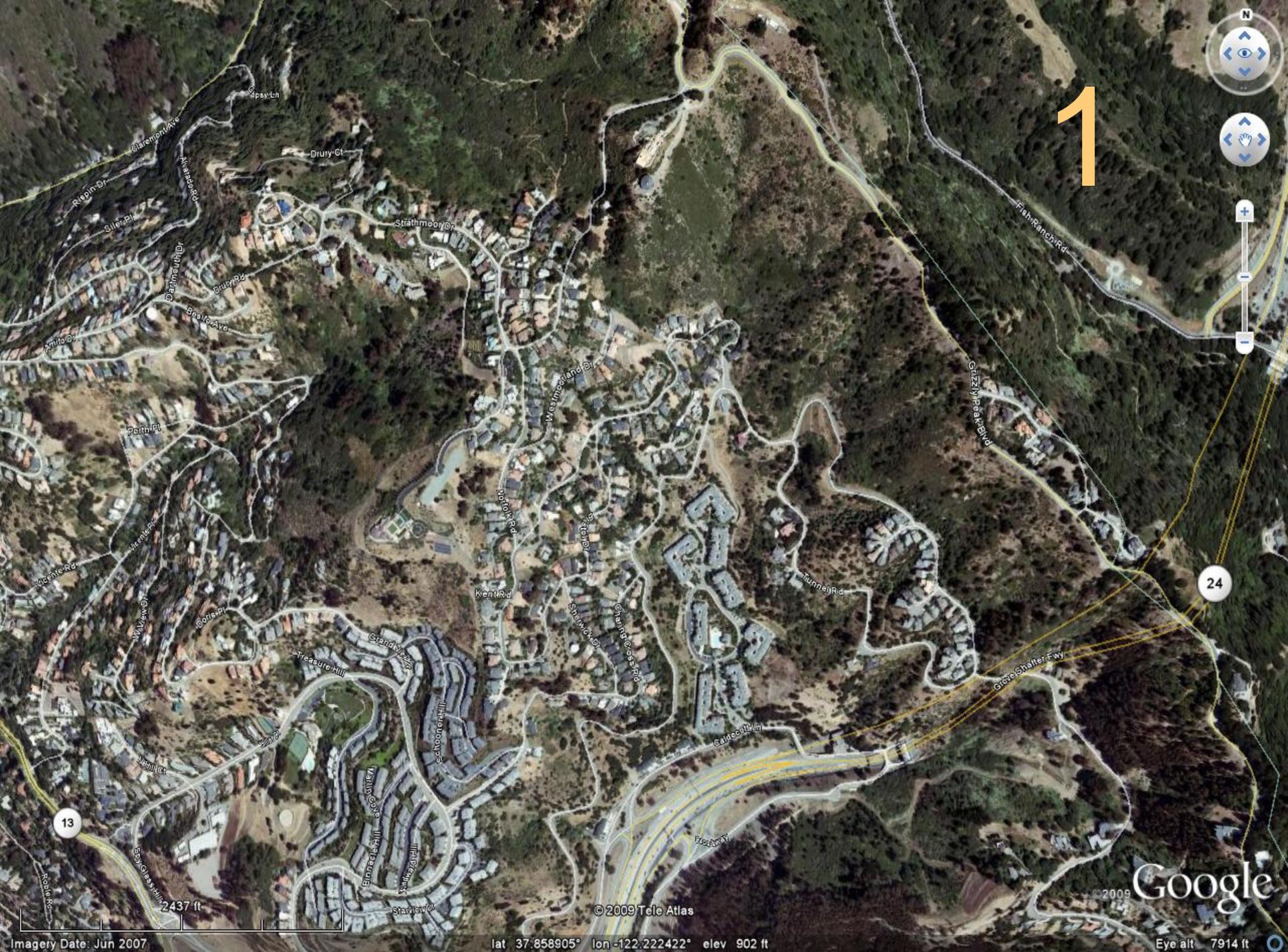
Learn from Example

Fire Department

- **East Bay Hills Fire, 1991**
 - > **Berkeley, California**
 - **Similar topography**
 - » **Hilly urban-wildland interface with winding, narrow roads**
 - **Similar climate**
 - » **Diablo winds**
 - **Similar infrastructure & housing**



PASADENA



1

24

13

2437 ft

© 2009 Google

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Imagery Date: Jun 2007

lat 37.858905° lon -122.222422° elev 902 ft

Eye alt 7914 ft

2

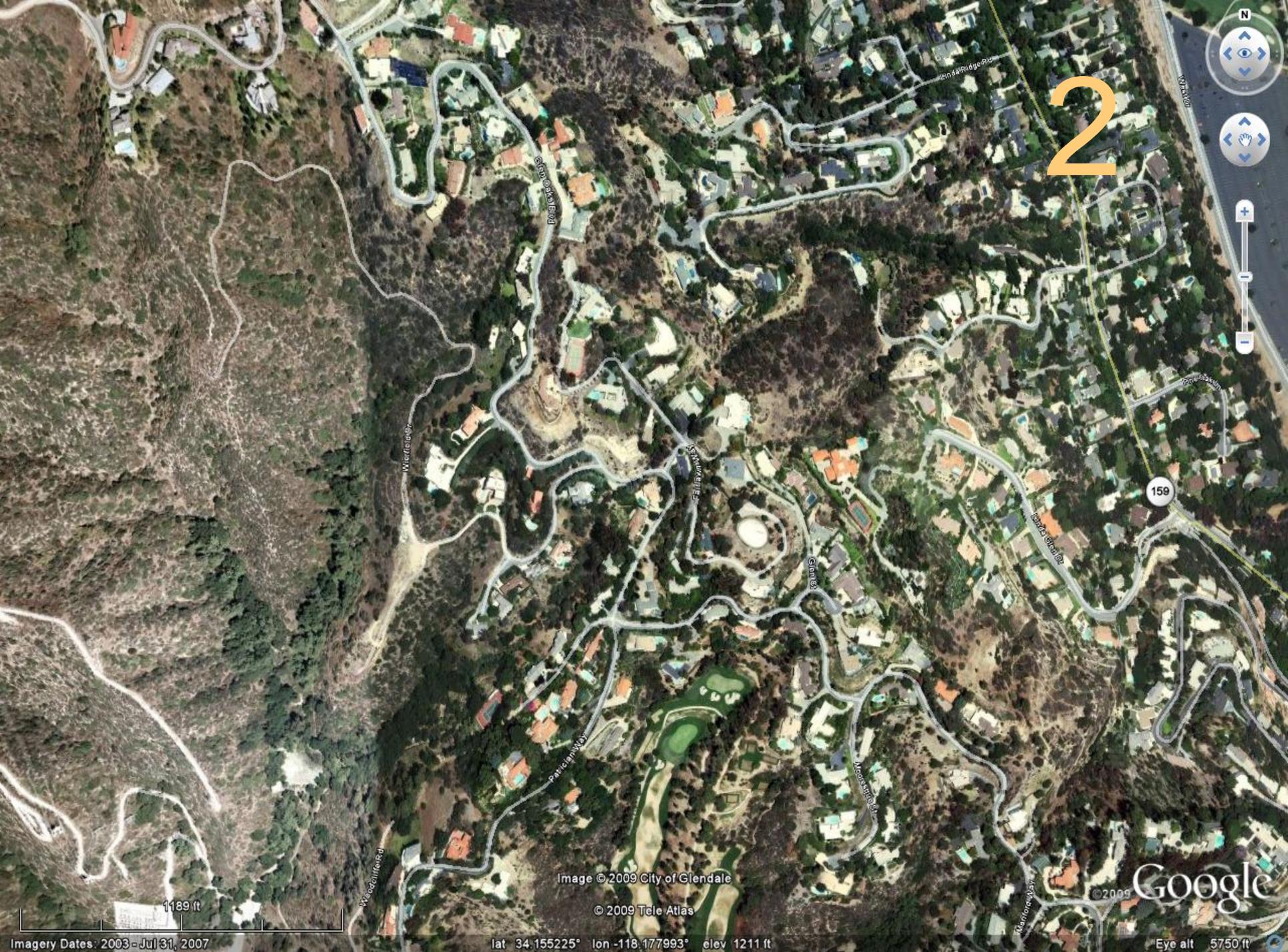


Image © 2009 City of Glendale

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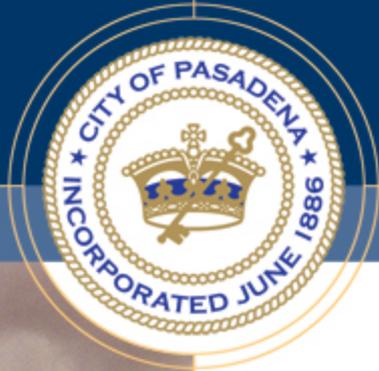
© 2009 Google

1189 ft

Imagery Dates: 2003-Jul 31, 2007

lat 34.155225° lon -118.177993° elev 1211 ft

Eye alt 5750 ft



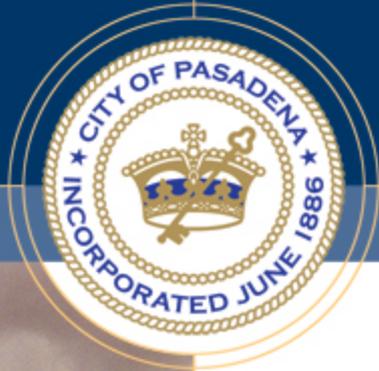
Similarity

Fire Department

- **1 = Oakland/Berkeley Hills**
- **2 = Linda Vista Hills, Pasadena**



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Learn from Example

Fire Department

- **East Bay Hills Fire, 1991**

- > **US Fire Administration Technical Report**

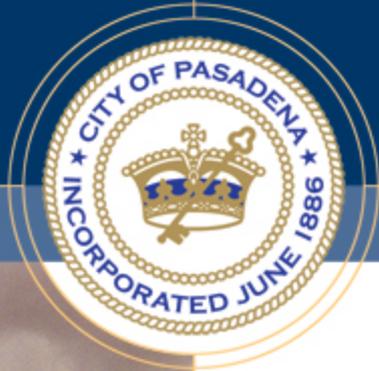
“The incident commander sent the only available companies to try to evacuate and protect the exposed apartment complex. At 1137 hours Engine 1, Truck 1, and Truck 3 tried to enter and work their way toward the rear of the complex, but they encountered backed-up traffic with more than 1,000 residents trying to escape on the private roadways.”

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- 
- **“Residents who had been standing in front of their homes moments before, watching a fire that was two blocks away, were suddenly piling belongings, children, and pets into their cars. The steep narrow streets, now obscured by swirling smoke, were suddenly clogged with cars as falling power lines and flaming brands ignited spot fires, adding to the confusion. Some of the narrow roads were blocked by collisions as panic stricken residents searched for safe escape routes.**

- **“The body of Oakland Police Officer John Grubensky was found, along with five civilian fatalities, at a narrow point on Charing Cross Road. It appeared that the cars were jammed at this point by a collision in the narrowest part of the road, and the occupants were unable to escape the advancing flames.”**



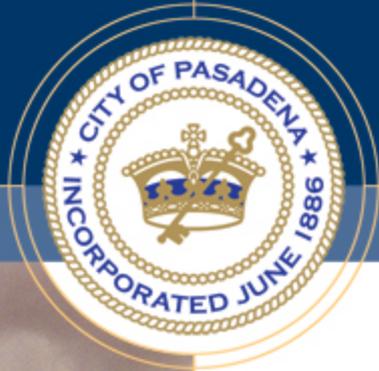
Proposed Mitigation

Fire Department

- 1. Restrict parking on days of extreme fire hazard, also known as "Red Flag" Warnings**
- 2. Improve emergency notification**



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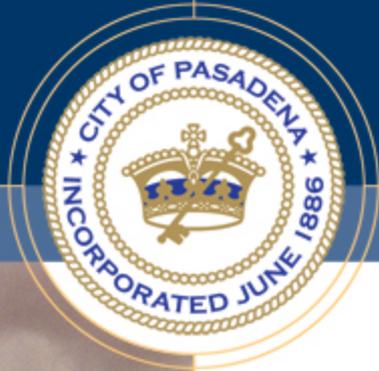


Proposed Parking Restriction

Fire Department

- **Modeled after LA City's program**
 - > Limited to urban-wildland interface areas
 - > Only on National Weather Service "Red Flag" Warning Days, or other specific extreme hazard (est. 30-45 days per year)
 - > Restrictions:
 - Streets less than 27ft wide, No Parking (est. 32 miles)
 - Streets between 27ft and 32ft wide, Parking on one side only (est. 13 miles)
 - > Street signage
 - > Multiple means of notification

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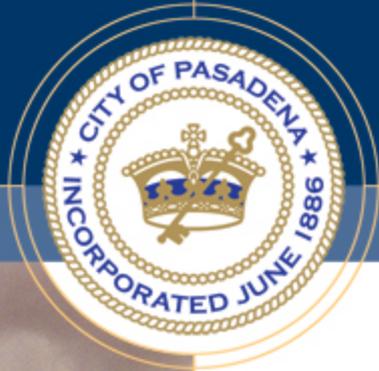
Notification

Fire Department

- **Multiple methods of notification**
 - > **National Weather Service announces “Red Flag” days to Media**
 - > **City of Pasadena Website**
 - > **Personal notifications provided by Pasadena Local Alert System (PLEAS)**



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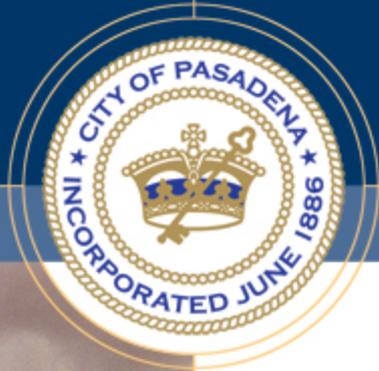


PLEAS Enhancements

Fire Department

- **Create web-based self registration portal**
 - > Citizen chooses notifications and methods
 - Email; telephone; cell phone; SMS text
- **Increase phone lines from 24 to 72**
 - > Increases calling capacity from approx. 800 per hour to 3,000 per hour
 - > Decrease estimated notification time from 9 hours to 3 hours
- **Enhance system to include email, SMS text and add second language**
- **Above enhancements also benefit City Emergency Management efforts**

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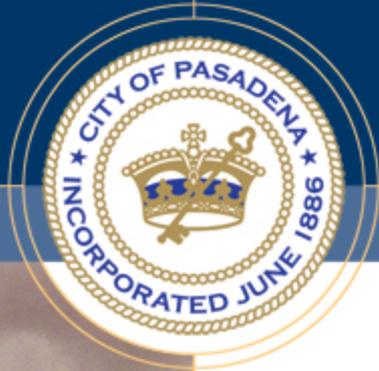


Fiscal Impact

Fire Department

- **Parking Restriction Signage**
 - > \$125,000 (one time)
- **Increased Parking Enforcement**
 - > \$37,000 (including additional vehicle, partially offset by citations)
- **PLEAS Enhancements**
 - > \$127,900
- **Annual Costs**
 - > \$51,400 (including continued enforcement and PLEAS maintenance/support)

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Next Steps

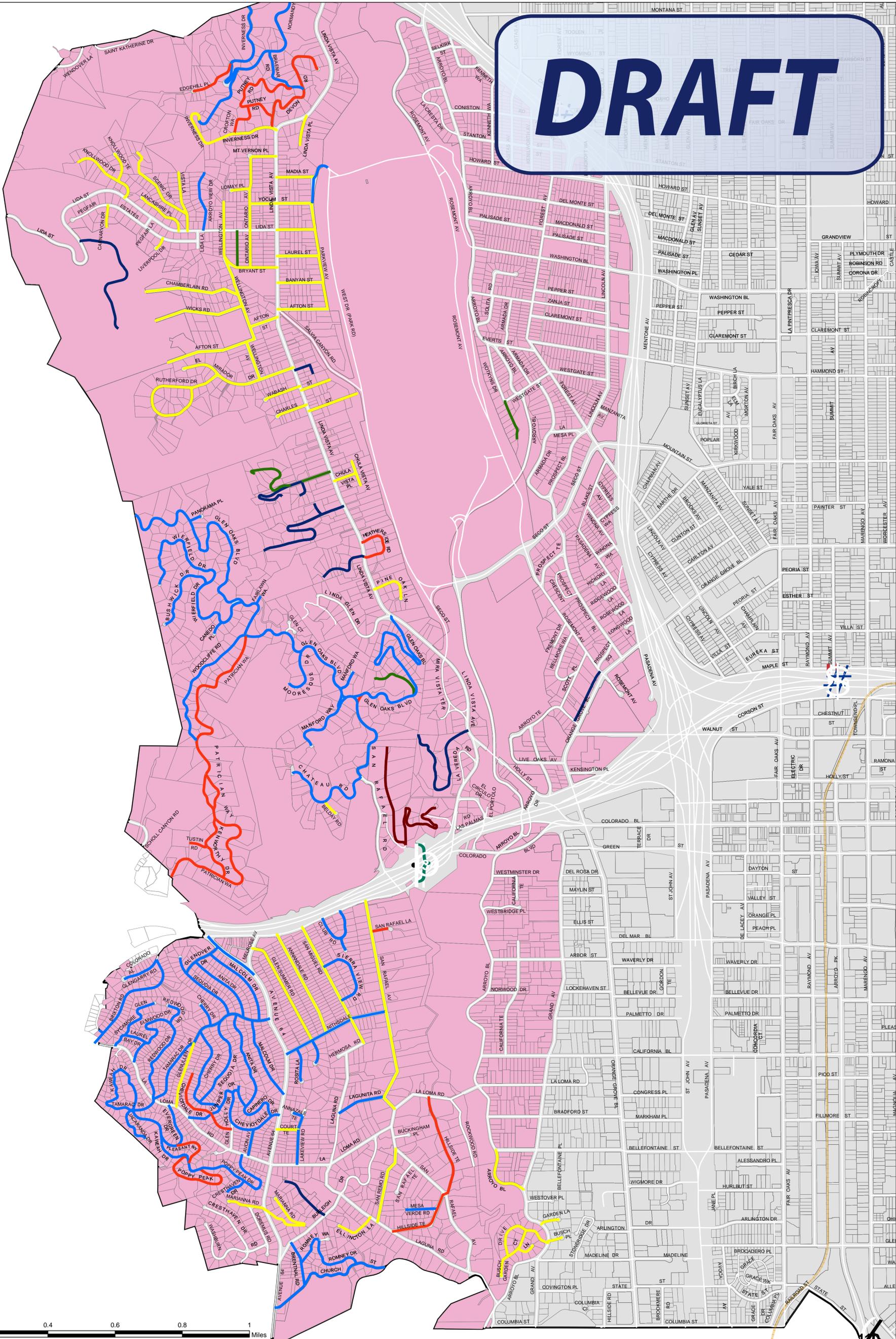
Fire Department

- **Incorporate Public Safety Committee Guidance & Direction**
- **Hold Community Meetings in affected neighborhoods**

- **Revise based on Public Comment and return to Public Safety Committee with recommendations to forward to City Council**

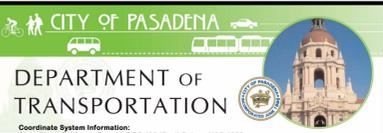
PASADENA

DRAFT



0 0.1 0.2 0.4 0.6 0.8 1 Miles

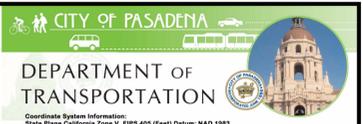
STREET WIDTH MAP



Coordinate System Information:
State Plane California Zone V, FIPS 405 (Feet) Datum: NAD 1983
Disclaimer: The maps and associated data are provided without warranty of kind.
Any resale of this information is prohibited. © 2009, City of Pasadena

- Gold Line
- Pasadena Fire Station
- Private Street (street width 0 - 15 feet)
- Private Street (street width 16 - 20 feet)
- Private Street (street width 21 - 30 feet)
- Roadway width (street width 0 - 20 feet)
- Roadway width (street width 21 - 26 feet)
- Roadway width (street width 27 - 32 feet)
- Fire Region Area

STREET WIDTH MAP



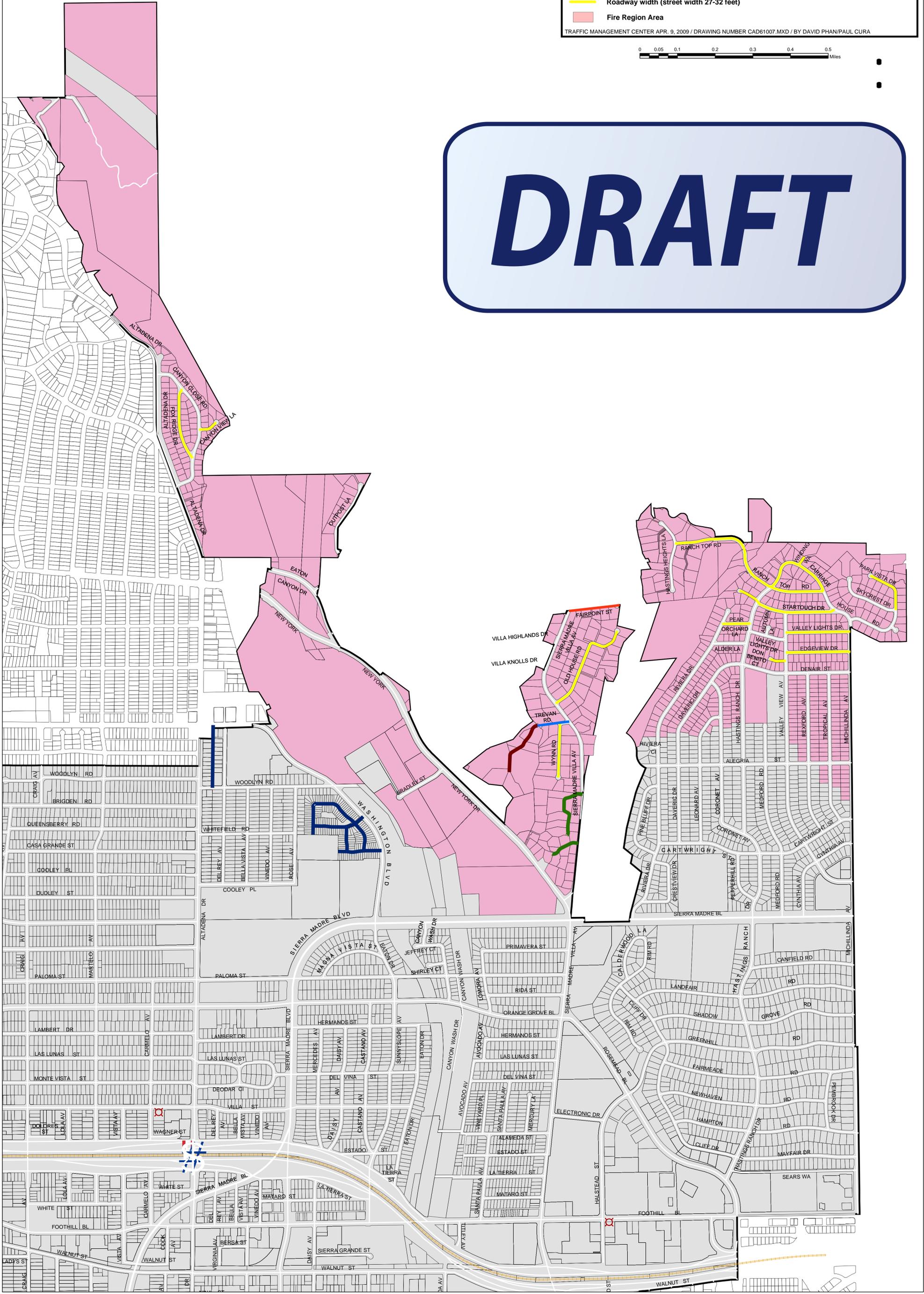
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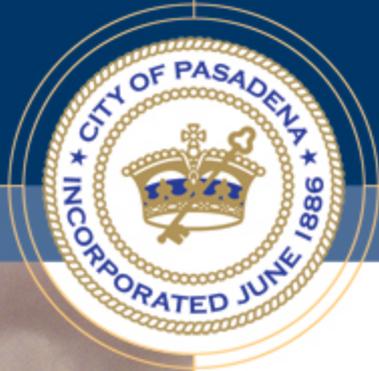
DEPARTMENT OF TRANSPORTATION
Coordinate System Information:
State Plane California Zone V, FIPS 405 (Feet) Datum: NAD 1983
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TRAFFIC MANAGEMENT CENTER APR. 9, 2009 / DRAWING NUMBER CAD61007.MXD / BY DAVID PHAN/PAUL CURA



DRAFT





Comments

Fire Department

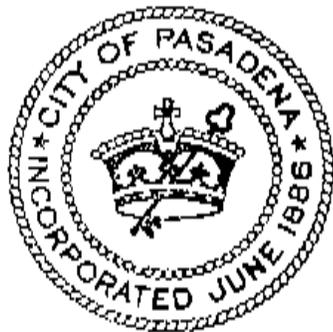
Please email comments to
redflagparking@cityofpasadena.net

More video:

[KPIX TV - CBS5 Raw News footage](#)

**To read the *Information Item* presented to
the City Council's Public Safety Committee
at their February meeting, continue.**

PASADENA



Agenda Report

TO: PUBLIC SAFETY COMMITTEE **DATE:** FEBRUARY 2, 2009
FROM: DENNIS J. DOWNS, FIRE CHIEF
SUBJECT: CONSIDERATION OF RESTRICTING PARKING WITHIN URBAN-
WILDLAND INTERFACE AREAS DURING TIMES OF EXTREME FIRE
HAZARD, ALSO KNOWN AS RED FLAG CONDITIONS

RECOMMENDATION:

This report is information only. Should the Public Safety Committee desire, staff will conduct neighborhood meetings within the affected areas to solicit citizen input. Once such meetings are concluded, staff will return to the Public Safety Committee with a recommendation regarding implementation of parking restrictions during times of extreme fire hazard.

BACKGROUND:

The City of Pasadena is widely known for its beautiful setting and enjoyable climate; the mountain foothills and the dry climate made Pasadena a resort destination soon after the City was founded. Today, the foothills of Pasadena are among the most sought after locations for luxury housing and contain areas of undeveloped property. The draw of the hillsides with the intermingling natural areas has created a circumstance, now known as the urban-wildland interface, where humans, their houses and the naturally flammable chaparral vegetation have become inseparable.

Much of the urban-wildland interface area within Pasadena was developed far before modern understanding of the hazards of the wildland interface was truly recognized and even before modern fire codes existed. The road and infrastructure system for much of these areas was developed in a time when houses were separated by much greater distances and cars were only five-and-one-half feet wide; fire engines were twenty-two feet long, 6 feet wide and 7 feet tall. Today, the only undeveloped properties are largely located on the sides of, or even within, brush-filled canyons and most of the vehicles frequently exceed six-and-one-half feet in width; fire engines are now 30 feet long, 10 feet wide and 9 feet tall. The roadways in these areas can be challenging to navigate on a normal day simply because the community has outgrown the original design.

The hillside urban-wildland interface is also affected by weather trends occurring within Southern California. Southern California has been experiencing increasingly severe fire seasons for the past several years with little forecast of abatement, as evidenced by this past year's Santa Anita, Sesnon, Tea, Sayre, and Freeway fires. So significant has been the trend that at least one major fire department in Southern California has declared that there is no longer a foreseeable end to "fire season", that "fire season" is year-round.

Pasadena is neither alone, nor unique, in this situation. The fire service in general applies best practices that are based on significant incidents of the past. An example of this type of significant incident is the Oakland Hills Fire in 1991; also known as the "East Bay Hills Fire" or the "Tunnel Fire". There are quite a few similarities between the area of the East Bay Hills Fire and the urban-wildland interface of Pasadena. Reading the U.S. Fire Administration's (USFA) Technical Report on the East Bay Hills Fire (USFA-TR-060) and comparing it with the wildland interface areas around Pasadena, the similarities include: the same winding narrow roads; the same densely populated urban-wildland interface; and the East Bay's Diablo winds and Pasadena's Santa Ana winds.

Of the lessons learned from the East Bay Hills Fire, perhaps the most startling were the evacuation difficulties the responders faced due to the crowded, narrow and winding roads. Two narratives from the USFA state:

"The incident commander sent the only available companies to try to evacuate and protect the exposed apartment complex. At 1137 hours Engine 1, Truck 1, and Truck 3 tried to enter and work their way toward the rear of the complex, but they encountered backed-up traffic with more than 1,000 residents trying to escape on the private roadways. The plume of superheated gases and the shower of burning brands were beginning to ignite exposed wood surfaces on the upper levels of the buildings at the rear of the complex. Trees among the buildings also ignited, adding to the exposure problem." [page 24]; and,

"Residents who had been standing in front of their homes moments before, watching a fire that was two blocks away, were suddenly piling belongings, children, and pets into their cars. The steep narrow streets, now obscured by swirling smoke, were suddenly clogged with cars as falling power lines and flaming brands ignited spot fires, adding to the confusion. Some of the narrow roads were blocked by collisions as panic stricken residents searched for safe escape routes.

"The body of Oakland Police Officer John Grubensky was found, along with five civilian fatalities, at a narrow point on Charing Cross Road. It appeared that the cars were jammed at this point by a collision in the narrowest part of the road, and the occupants were unable to escape the advancing flames." [page 26]

Mitigation under Consideration

Faced with existing, outdated infrastructure and the extreme challenge of balancing the need of the Fire Department to provide for an effective response and safe evacuation with the desires of the citizens for unimpeded enjoyment of their property, easy solutions do not exist.

The Fire Department's preferred mitigation for the hazards discussed above is a two-pronged approach to balance the difficult emergency response and evacuation issues that exist in Pasadena's urban-wildland interface areas: 1) restriction of parking on days of extreme fire hazard; and, 2) improved emergency notification within the urban-wildland interface areas.

The City of Los Angeles has pioneered the restriction of parking within urban-wildland interface areas as a method to simultaneously speed resident evacuations and emergency responder access. In fact, the Los Angeles Fire Department has credited the parking restrictions for greatly speeding the response to actual brush fires thereby mitigating significant damages to public and private property.

Similar to Los Angeles, the preferred parking restrictions would take place on days of extreme fire hazard, also known as "Red Flag" days. Red Flag days are declared by the United States National Weather Service's Los Angeles/Oxnard office (NWS) when one of the following conditions exist or is expected to exist in the predictable future in the immediate area of Pasadena:

- 1) Relative Humidity 15 percent or less **with** either sustained winds of 25 mph or greater or frequent gusts of 35 mph or greater for a duration of 6 hours or more;
- 2) Relative Humidity 10 percent or less for a duration of 10 hours or more; or,
- 3) Widespread and/or significant dry lightning.

The Fire Department receives routine notifications of Red Flag declarations from the NWS. The Fire Chief, or designee, would declare the activation of the Red Flag parking restrictions based upon the NWS declaration or based on other specific local hazard conditions, such as an active brush fire nearby despite the lack of Red Flag conditions. The City of Pasadena experiences approximately 30-45 Red Flag days per year.

The preferred restrictions for the City of Pasadena model those of the City of Los Angeles. The parking restrictions being considered within the urban-wildland areas on declared days of extreme fire hazard, or "Red Flag" days, are as follows:

1. No parking would be allowed on either side of the street on streets narrower than 27 feet in width (estimated at 32 miles of streets); and,
2. No parking would be allowed on one side of the street on streets between 27 and 32 feet in width (estimated at 13 miles of streets).

The above referenced restricted streets are those that do not comply with modern fire access requirements. Modern fire access requirements mandate 20 feet clear access for fire apparatus to allow for room for two fire engines to pass on a road. The requirement for two fire engines to pass on a road is necessary to prevent one fire engine from trapping another, or preventing access to an area. Given that fires in the urban-wildland interface are generally rapidly moving and evolving, free movement of fire engines is of primary concern. Therefore, streets narrower than 27 feet (20 feet fire access plus the usual width of a personal vehicle) would be restricted on both sides. Streets wide enough to allow for parking of a personal vehicle **and** 20 feet of fire access would be allowed to maintain parking on only one side. Streets wider than 32 feet would be unaffected by these restrictions. Streets subject to the parking restrictions being considered will be posted, consistent with existing Department of Transportation practices and requirements. It is estimated that 850 signs would be required.

In order to provide reasonable notice to the public, the Fire Department recommends the use of multiple notification methods when Red Flag parking restrictions are in place. First, Red Flag declarations from the National Weather Service are generally available on their website and are generally distributed to and broadcast by local radio and television stations. The City of Los Angeles Red Flag parking restrictions are also generally broadcast by the local media; Red Flag parking restrictions in Pasadena are expected to mostly coincide with those of the City of Los Angeles. Second, a logo indicating restricted parking will be placed on the City's Internet home page, with additional information available on the Fire Department's page. Third, consistent with the City of Los Angeles' notification systems, the Fire Department intends to use the Pasadena Local Emergency Alert System (PLEAS), enhanced as detailed below, to provide notifications via landline telephone, email and mobile devices.

In general, Red Flag declarations are made in advance of the actual events. With the recommended enhancements to Pasadena's telephonic notification system, PLEAS should be able to provide notifications during normal waking hours while in most cases avoiding late night and early morning calls. Fire Department staff believes these to be prudent enhancements for two reasons: 1) without enhancement, notifications by PLEAS for Red Flag alerts announced in the afternoon would continue into the late night and early morning hours, disrupting residents' sleep; and 2) failing to provide personalized notification of residents' choosing would lead to an unacceptable amount of complaint calls to the Fire Department, Department of Transportation, City Manager and members of the City Council.

As part of the Fire Department's attempt to provide multiple means of notice to the public of Red Flag parking restrictions, the Fire Department considers it vital that PLEAS be used to actively contact members of the public requesting such notification. In order to do so effectively, a number of enhancements to PLEAS will be necessary.

The recommended enhancements are as follows:

1. Create a web-based self registration portal for residents
2. Enhance the number of phone lines from 24 to 72
3. Enhance the notification methods to include email, SMS text messaging and notifications in a second language.

All of these enhancements also have the added benefit of improving the disaster preparedness and disaster response capabilities of PLEAS. The self-registration portal will allow for the self-registration of many individuals, even if uninterested in Red Flag parking restrictions, especially those who rely on non-traditional phone services like voice-over-internet protocol or cellular phones. The increase in phone lines should increase the throughput of notifications to an estimated 3,000-3,500 calls per hour (the current configuration supports approximately 600 calls per hour). Based on the current estimate of likely notification volume, the existing PLEAS would require in excess of 9 hours to provide notification; the enhanced PLEAS would only require roughly 3 hours.

As an alternative to enhancing the City's on-site PLEAS notification ability, the Fire Department considered using the PLEAS back-up system, which is hosted by the vendor. While the hosted system alternative has the benefit of limiting initial costs, the ongoing per-call charges make this alternative fiscally undesirable in less than one year and therefore was eliminated from further consideration.

Upon concurrence of the Public Safety Committee, staff will begin neighborhood meetings within the affected areas to solicit input. Once such meetings have concluded, staff will return to the Public Safety Committee with any modifications based on these meetings, along with a recommendation regarding the implementation of parking restrictions during times of extreme fire hazard.

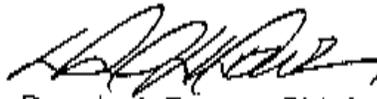
FISCAL IMPACT:

Implementation of a parking restriction program as discussed in this report is estimated to have one-time costs of \$289,900, as follows:

- Parking Restriction Signage including fabrication, installation and inspection - \$125,000
- Additional Parking Enforcement including addition of a vehicle (partially offset by increased citation revenue) - \$37,000
- PLEAS Enhancements - \$127,900

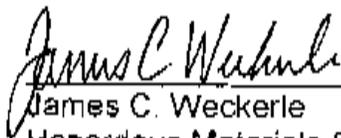
Annual costs, including continued parking enforcement and maintenance/support for PLEAS are estimated at \$51,400.

Respectfully submitted,



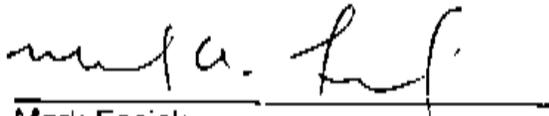
Dennis J. Downs, Chief
Fire Department

Prepared by:



James C. Weckerle
Hazardous Materials Specialist

Reviewed by:



Mark Fasick
Bureau Chief/Fire Marshal

Concur:



Fred Dock, Director
Department of Transportation