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16. ABSTRACT

Caltrans HQ Operations procured a market survey of various sources of traffic information relating to the Caltrans Highway Information Network (CHIN) . This generated many colorful graphs and contrasted the different approaches between the public and private sectors, and constitutes this final report.

The California Department of Transportation (Caltrans) manages transportation needs for more than 30 million residents using more than 45,000 miles of California's highways and freeways as well as the state's inter-city rail service. For more than 100 years, the department has played an active role in moving the people and commerce of California. To stay at pace with ever-changing needs, Caltrans maintains a strategic set of goals (Safety, Mobility, Delivery Stewardship and Service), and the structure of six primary programs to carry these out: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration and the Equipment Service Center.

The Caltrans Highway Information Network (CHIN) is a vital component of the Highway Transportation Program, and its performance is of direct impact to Caltrans strategic goals – specifically as relates to Mobility. CHIN offers California residents an inbound toll free number to call, that provides highway conditions 24/7/365 and advises travelers of road closures, restrictions and emergencies. Ensuring that the calling public has fast, simple, accurate and reliable access to up to date highway information, became vital to delivering to the goal of improved mobility for residents across California.

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Highway Conditions and Traffic Information Services in California

A Market Services Analysis

Prepared by ProProse



For Caltrans Highway Information Network



May 29, 2009

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1. Introduction

A. Purpose:

This report was created to assess services currently being provided by the Caltrans Highway Information Network (CHIN) compared to other public and private highway information services. The following literature search and market analysis of services was conducted for Caltrans in order to:

- Help assist in conducting focus groups and surveys of CHIN users to assess their satisfaction
- Provide Caltrans with knowledge and understanding of the broader traffic information sector in order to assist Caltrans in making service decisions to meet the needs of the driving public in California.

Caltrans does not compete with traffic information service providers in the direct sense. In fact, Caltrans is the source of much of the public data used by these providers, and Caltrans traffic cameras in particular are utilized as sources of current traffic condition information by the public and media alike. Caltrans is a direct partner and supporter of the 511 system in California.

However, this relationship necessitates awareness. While CHIN's purpose is to provide information about scheduled closures and other road conditions, the public's reason for accessing CHIN's services overlap with their reason for accessing other traffic information services. Drivers simply want to know what to expect on their drive, and whether there is another route or better time to travel in order to avoid delays. For this reason, services reviewed for this report include the full range of traffic information services.

As technologies and best practices change, so do consumer demands and expectations. This report does not try to assess consumers' satisfaction with each of the available services or service providers. That information is covered by three statewide surveys of CHIN telephone and website users as well as of general drivers in California. (See Wave 3 Survey report dated 5/28/09, issued by ConsumerQuest). This market analysis has also been used as a point of reference for focus groups in 2007 and each of the surveys conducted by ConsumerQuest and ProProse in 2007, 2008 and 2009.



B. Methodology:

A thorough search was conducted of existing literature, news sources and websites about traffic information sources, Internet search engines and related resource links to identify both public and private traffic information services. Traffic information services similar to or that could be considered a substitute for CHIN were analyzed for this report – including both their telephone and website features. Keywords “traffic alerts” were used to locate relevant websites and traffic information service providers. Keywords “online driving directions” were also used to locate online map and direction providers that now include traffic information overlays on maps and driving directions. Information from a 511 system operator was also used to complete the review.

The number of consumers purchasing Web-enabled phones is growing (including iPhones and phones equipped with Windows Mobile), and there has been a corresponding growth in mobile traffic information services. While world-wide sales of mobile phones fell 9.4 percent in the 1st quarter of 2009 from the first quarter of 2008 (the first sales decline since sales began being tracked in 2001), smart phone sales grew 12.7 percent in the same period, surpassing 36.4 million units¹. To capture updated information about new or emerging technologies, a complete search was made for in-dash GPS and mobile phone systems as well.

Also, television and radio news stations’ websites were reviewed to analyze the type of traffic information, traffic alert and personalized commuter information services options they provide. This is important because of the unique audience relationships being cultivated by media in this way. These services are available in most major media markets. For the purposes of these reports, media options were analyzed for one market only – Sacramento – as an example of the types and ranges of services being offered by local news media.

¹ source: CellularNews.com (<http://www.cellular-news.com/story/37570.php>)



2. Executive Summary

A. Industry Trends

When ProProse was first contracted in 2007 to conduct a survey of CHIN users, services relied on drivers to call or check a website for up-to-date information. The most popular method for receiving regular traffic information was by signing up for daily phone calls or emails with customized reports related to a driver's pre-set commute route. As new technology has emerged, personalized text messages allowed drivers to receive current information or traffic alerts directly on their cellular phones. Web-based services grew in popularity, but were not initially available to motorists on the road. Now those lines are blurring.

In 2009, many providers are increasing access and maximizing their services by providing information and access to drivers when they are on the road. Cell phones that receive text and email messages, GPS in-dash navigation systems, PDAs, and other Web-enabled "smart phones" have become a preferred way for commuters to receive and access traffic information in real time.

Telephone hotline services: 511, Traffic.com, and CHIN, are currently the only providers of telephone hotline services in California. CHIN remains a dominant and useful tool to motorists despite the gamut of competitive services that have joined the marketplace for information about road conditions and traffic – especially in areas not covered by robust 511 services.

Website-based services: Providers are setting the standard for technology, trending towards ever richer traffic information. Graphics that display the speed of traffic and causes of slowdowns instantaneously are increasingly in demand. Website traffic graphics have become much more sophisticated and include interactive website services that allow for personalized traffic alerts. Also, several of the online traffic information providers have developed or are in the process of unveiling beta versions of their programs. The enhanced online experience of accessing traffic information is still in very high demand.

Free vs. Subscription Services: As access to traffic information has increased, and the visibility and reach of the public 511 program increases, the cost of private service memberships has become questionable. Although private subscription-based services have helped drive the rapid increase in technology, free 511 and news media services may decrease the viability of charging for personalized traffic updates.

The role of local media services: The importance of creating ongoing relationships with loyal users is reflected in service design. Many local media affiliates provide traffic information to their communities as a way of building relationships with subscribers and reinforcing the station's visibility. While all private providers also encourage users to use personalized services, the potential for broader relationships outside of traffic information is used to great advantage by local television and radio stations.



B. Service Providers covered in this Report

The following traffic information service providers are identified in this report. Each system was reviewed, analyzed and placed into one of the following business categories:

Public Services:

California 511 Services:

- Limited service areas for 511 in California
- 511 Bay Area
- 511 Sacramento
- 511 San Diego

Other Public Services:

- CHP Traffic Incident Information Page

Private Subscription-Based Services

Online Services:

- Beatthetraffic.com
- DMV.org
- NAVTEQ Traffic.com
- Sigalert
- sfbaytraffic.com
- Travel Advisory News Network
- Weather.com

Local Media:

TV:

- CBS (i.e. CBS13.com, CBS5.com)
- News 10.net

Radio

- KFBK
- KFI – Los Angeles
- KXJZ

Online Maps

- Google Maps
- Google Maps Mobile



- MapQuest
- MapQuest Navigator 5.0 (Mobile phone application)
- Rand McNally
- Rand McNally Traffic (mobile phone application)
- Yahoo Maps
- Yahoo Mobile Maps

GPS Navigation Services

- Garmin
- SIRUS Traffic (satellite radio)
- TomTom
- XM NavTraffic (satellite radio)

Traffic Monitoring Services & New Technology

- iCone
- Mobile Millennium Project Traffic Pilot
- SmartRoute System



C. Key Universal Features

Analysis revealed several key universal features of traffic information services. Following are the features that are most commonly found:

- Free access to the website and use of online maps and alerts
 - List of traffic alerts
- Interactive map graphics
 - Zoom in to specific area
 - Color coded traffic speeds
- Personalized alerts sent to the subscriber's email or by text message to their cell phone*
 - Set specific times to send alerts
 - Save commonly used routes and destinations
- View saved personalized routes* showing:
 - Traffic incidents
 - Speed
 - Specified times of day or days of week
- Live feed on website showing:
 - Crashes or other traffic incidents
 - Road work
 - Speed on road
 - Travel times
 - Fastest route
- Mobile version of website for cell phone web browser view
- Mobile phone application download of traffic mapping software

** Often included with a paid subscriptions as additional features. Some providers request membership for free services. A few offer a free trial subscription using limited features.*



D. Competitor Grid:

Traffic Information Services	Public	Private	Online Service	Telephone Service	Text Alerts	Email Alerts	Mobile PDA	GPS Navigation	Subscription Fee	Free Service
511 Bay Area	X		X	X	X	X	X			X
511 Sacramento	X		X	X						X
511 San Diego	X		X	X						X
Beatthetraffic.com		X	X		X	X	X		X	
CBS 13 - Traffic		X	X		X	X				X
CBS 5 - Traffic		X	X		X	X				X
CHP	X		X							X
DMV.ORG		X	X							X
Garmin		X						X	X	
Google Maps		X	X							X
i-Cone		X							X	
KFBK Traffic		X	X							X
KXJZ News		X	X							X
Mapquest		X	X				X			X
MapQuest® Navigator 5.0		X					X		X	
Mobile Google Maps		X					X			X
Mobile Millennium	X				X		X			X
NAVTEQ Traffic.com		X	X	X	X	X	X			X
News10 Beat the Traffic Alerts		X	X		X					X
Rand McNally		X	X				X			X
Rand McNally Traffic		X					X		X	
SFBayTraffic.com		X	X		X	X			X	
Sigalert.com		X	X		X	X			X	
SIRIUS Traffic		X						X	X	
SmartRoute System		X	X		X	X	X	X	X	
Tom Tom		X						X	X	
Travel Advisory News Network		X					X		X	
Weather.com		X	X							X
XM NavTraffic		X						X	X	
Yahoo Maps		X	X				X			X
Yahoo Mobile		X					X			X



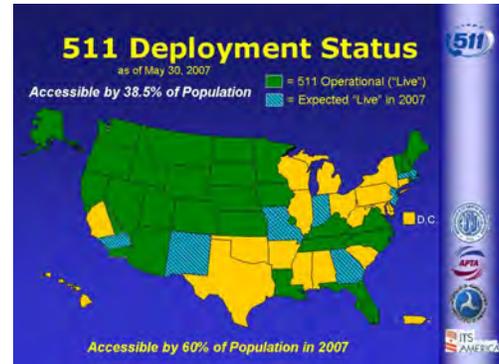
3. Detailed Services Review

A. Public Services:

1) 511 Services



511 was designated the official dialing code for traffic information by the Federal Communications Commission in 2000. Travelers and commuters nationwide use and recognize this number as a source of traffic information. There are 29 states and two regions of Canada that currently participate, totaling 45 distinct state or regional programs. Every state is expected to operate 511 services by 2010.



There is no cost to users for any of the 511 services.



Nearly half (47%) of Californians had access to call 511 as of March, 2008 – with projections at that time for 98% of Californians to be able to use the service by 2009. Although efforts are being made to cover the entire State of California with 511 services, many of the outlying areas have limited service. Caltrans is taking the lead for 511 planning and deployment in rural areas. There is some conflicting information about what the service areas are. The chart to the left shows 511 system plans as of 3/2008 (source: Caltrans)

Caltrans' 511 website (dot.ca.gov/caltrans511) shows the service areas to the right, which do not match entirely with the preceding map.

This map links to the areas shown, however links to the Central Coast, North Coast and Northern California pages currently provide no information, and the link to the Yosemite region links to a tourism website, Yosemite.com, which does not contain any road information.





Regional 511 Services in California:

The following areas of California have limited 511 services:

Eastern Sierra

Type of Business: 511 Services

Accessed via: Phone only

511 callers in the Eastern Sierra region (Inyo and Mono counties) are routed directly to 800-427-ROAD, the CHIN hotline. 511 does not provide online information for this region.



Central Coast

Type of Business: 511 Services

Accessed via: Phone only

The Central Coast 511 phone line links to the SLOCOG (San Luis Obispo Council of Governments) and appears to only serve SLO County. According to the private industry website, DMV.org: “At this time, the Central Coast and Central California regions are still unavailable.”

Services are provided in Spanish and English. There is a referral to a website for SLOCOG, which has links to information about road conditions, rideshare/carpools, public transportation and roadside assistance.

Los Angeles & Southern California

Type of Business: 511 Services

Accessed via: Phone

Calling from the Los Angeles area connects to a hotline operated by Commute Smart.. Callers can select information about public transportation, freeways and highways, RideShare and Park-N-Ride, Metrolink, and bicycle commuting.

Additional information is available at their website, www.CommuteSmart.info, which is a partnership between Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. Plans as of March 2008 were that the Southern California region will eventually be served by at least 6 independent 511 systems – all separately funded, designed and managed.



The following areas provide more complete services, including branded 511 websites that augment their 511 telephone services:

511 Bay Area

Type of Business: 511 Services

Accessed via: Phone, Web, Email, Mobile PDA



Services provide traffic condition updates via email and text message. Website also includes a public transportation trip planning service. Personalization and consistent use is encouraged. Users create accounts to receive updates, and their home pages can be personalized with traffic information and camera views on frequently used routes.

After creating an account on the website, users can use the phone service. Up to three phone numbers per account are recognized. Personalized trips – such as “home to work” – can be saved so callers can bypass the basic 511 information to get traffic conditions on their specific route. Users can sign up to receive anticipated drive times and alternate routes via phone, email or text at a designated times – such as prior to each morning’s commute. Bike route and ride sharing information is also provided.

The system is highly publicized in the service area with roadway signs, publicity through partnerships with Bay Area Rapid Transit (BART) and other promotions. Partnerships with Muni and the FastTrak program are likewise visible on the site- users can apply for FastTrak on the home page, as well as sign up for Muni’s TransLink, a new program being implemented to pay electronically for public transit.

Phone services are available in English and Spanish.

Website address:
www.511.org



511 Sacramento

Type of Business: 511 Services

Accessed via: Phone, Web

The 511 services in the Sacramento area are operated by Sacramento Area Council of Governments (SACOG). Although SACOG plans to expand functionality of 511 services to add the robust options available with 511.org in the Bay Area, currently callers to 511 are only able to hear recorded messages of road conditions.

Online, 511 provides additional information by linking to other partners at www.sacregion511.org. Website visitors can view real-time traffic condition information by linking to BeatTheTraffic.com. Links to Caltrans live traffic cameras are provided, and require downloads of RealPlayer or Windows plug-ins. Caltrans is also the linked provider of information on road-work related closures, emergencies, and delays, both for current and future Caltrans projects. Site also links to accidents and incidents on roadways via the California Highway Patrol website. Finally, the site links to the National Weather Service page for area weather, including road advisories and lake wind advisories.

Online transit planning service consists of linking to Google Maps' function that allows users to select "by public transit" (or "by car" or "walking") when using Google for directions. Links to airport shuttles and the region's transportation agency websites are also listed.

Visitors can sign up for the Commuter Club, which records members' home and work addresses, and their usual means of commuting. Members can be matched to ride shares and receive information about other activities and support for those who commute by bicycle. Bicycling services include a link to the Bike Commute Guide published by SACOG, as well as 'related links.'

511 Sacramento Web pages are viewable in English, Spanish, Chinese, French, German, Italian, Japanese, Korean, and Portuguese. 511 phone services provide English and Spanish.

Website address:
www.sacregion511.org

511
Sacramento Region
Travel Info

TRAFFIC TRANSIT RIDESHARE BICYCLING

IT'S TIME TO TRY TRANSIT

511: Comprehensive Sacramento Region Travel Information

511 provides access to information about all modes of travel: traffic conditions for commuters, bus and light rail information for more than 20 transit agencies, paratransit services for the elderly and disabled, ridesharing information and information on commuting by bike. The telephone service is available in English and Spanish.

Try Transit

If high gas prices are bringing you down, for fast relief try transit a few days a week and save money for the things you enjoy! [Plan a trip on RT](#) or learn more about [your local transit provider](#).

Mayisbikemonth.com
2008
Log your commute, errand, and recreation miles...
click me over to visit the website

Regional Transit Sacramento Region
Commuter Club



511 San Diego

Type of Business: 511 Services

Accessed via: Phone, Web

Launched: 2/21/2007

Traffic information is provided on the site (as opposed to linking to another service provider like BeatTheTraffic.com). Current driving times between major distinct areas in the region and suggest alternate routes during times of heavy traffic are provided on the traffic home page. The features and maps are smaller than the other 511 sites, and appear less user-friendly- the FAQ section is copious and addresses many browser/toolbar issues.

In addition to all 511 traffic services, users of mobile phones within San Diego County can call 511 to connect to the highway safety line that Emergency Call Boxes connect to.

The public transit trip planner service links to the San Diego Metropolitan Transit System website, which uses Twitter to send short updates to its followers. Ride sharing and bicycling information is provided with a service called iCommute that connects users with carpools and bike buddies that use the same routes.

Web pages are available in English and Spanish.

Website address: www.511sd.com

The screenshot displays the 511 San Diego website interface. At the top, the header reads "San Diego Traffic, Transit, & Commute Info" with the 511 logo and the tagline "Click. Call. Connect." Below the header are navigation tabs for Traffic, Transit, Compass Card, RideLink, Bicycling, and FastTrak. The main content area is divided into several sections:

- Real Time Traffic Conditions:** A map of San Diego showing major highways (78, 15, 56, 94, 163, 94, 78) with color-coded traffic conditions: green for no congestion, red for heavy, yellow for moderate, and black for stop and go.
- Current Driving Times:** A list of routes and their estimated travel times:
 - Sorrento Valley to Oceanside: 80 minutes
 - Downtown San Diego to Oceanside: 73 minutes
 - Sorrento Valley to Escondido: 30 minutes
 - Downtown San Diego to Escondido: 40 minutes
 - Sorrento Valley to Chula Vista: 31 minutes
- Transit Trip Planner:** A form with fields for "From:" and "To:" and dropdown menus for "Date:" (set to 20 2008) and "Time:" (set to 55 PM). It includes radio buttons for "Departure" and "Arrival" and a "Plan Trip" button.
- Commuter Promotions:**
 - BIKE TO WORK DAY 2008:** Promoting registration for May 15th.
 - Calculate Your Commute Costs!** A calculator icon.
 - I-15 Express Lanes:** Promoting innovation that moves you.
 - Try transit once a week:** A green banner.

The footer includes the SANDAG logo, navigation links (Home, Traffic, Transit, Compass Card, RideLink, Bicycling, FastTrak, Contact Us), and a copyright notice: "Brought to you by SANDAG and the San Diego Area Transportation Partners ©2008 SANDAG".



2) Other Public Services:

CHP Traffic Incident Information Page

Type of Business: Public Service

Accessed via: Website

Provides online updates by city area and by CHP-designated "traffic hot spots." The site, a basic technical list, is updated by CHP every sixty seconds.

Services in English only.

Cost: Free

Website address: <http://cad.chp.ca.gov/>

CHP Traffic Incident Information Page - Windows Internet Explorer

http://cad.chp.ca.gov/

CHP Traffic Incident Information Page

Area: Sacramento Go! Search: Hot Spots Go! Resources: Driving Tips To Consider Go!

list | map | both Number of Incidents: 15 Updated as of 3/20/2009 3:52:29 PM

Sacramento Communications Center

No	Time	Type	Location	Area
1450	3:52PM	Hit & Run - No Injuries	OAK ST AT SQUIRREL CREEK RD	Grass Valley
1449	3:52PM	Collision - No Further Details	FRUITRIDGE RD AT ENRICO BLVD	South Sacramento
1446	3:52PM	Disabled Vehicle	NB SR99 JSO EB US50	South Sacramento
1439	3:50PM	Disabled Vehicle	NB I5 JNO ELK GROVE BLVD	South Sacramento
1437	3:49PM	Disabled Vehicle	NB SR51 JSO MARCONI AV	North Sacramento
1435	3:48PM	Traffic Hazard - Vehicle	NB SR51 JSO N ST	South Sacramento
1433	3:48PM	Traffic Hazard	NB SR51 JSO EL CAMINO AV	North Sacramento
1409	3:43PM	Traffic Hazard	EB I80 ON EUREKA RD OFR	Auburn
1404	3:42PM	Hit & Run - No Injuries	WB US50 JEO JEFFERSON BLVD	Woodland
1391	3:39PM	Traffic Hazard	WB US50 AT 65TH ST	South Sacramento
1377	3:34PM	Collision - Non Injury	SB SR99 ON EB 47TH AV OFR	South Sacramento
1376	3:33PM	Traffic Hazard - Vehicle	WB US50 JEO BRADSHAW RD	Rancho Cordova
1335	3:23PM	Traffic Hazard - Vehicle	EB US50 TO NB SR51 CON	South Sacramento
1295	3:12PM	Disabled Vehicle	SB SR99 JNO CALVINE RD	South Sacramento
1155	2:24PM	Collision - Ambulance - Blocking Lane	WB US50 JEO STOCKTON BLVD	South Sacramento

Click on the incident for additional detailed information.
Screen will automatically refresh in 60 seconds

This is a new version updated 2/29/08

©All Rights Reserved 2003-2008, Department of California Highway Patrol
Please Forward Comments and Suggestions to [Contact CHP](#)

Done Internet | Protected Mode: Off 100%



B. Private Services

1) Online Traffic Services:

Beatthetraffic.com

Type of Business: Private Traffic Information Services

Accessed via: Email, Mobile PDA, Text, Website

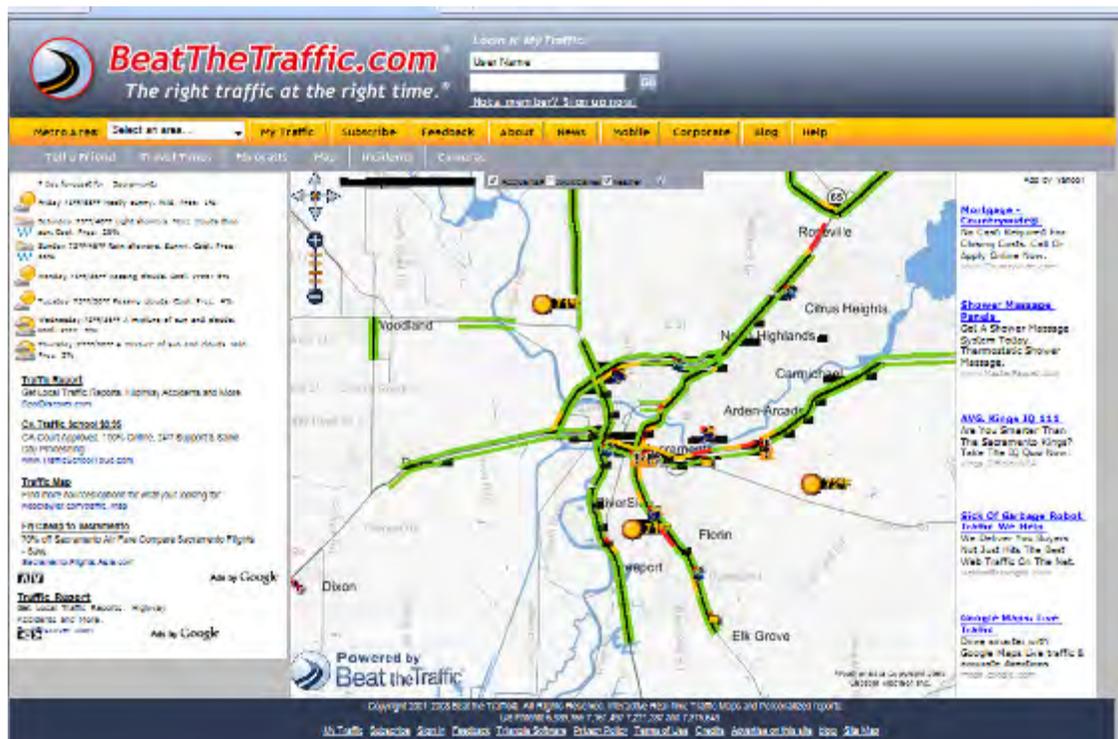
Provides traffic condition information nationally and in Canada. After signing up for a “My Traffic” account, email and text message alerts about commute times and traffic delays are sent. The site also features 7 day traffic forecasts, which are made based on historical data. Live traffic cameras, weather reports, and incident reports are also provided.

Group subscriptions are available. The Wiimote technology developed by the company allows users of Nintendo’s Wii remote to navigate maps. This service is used by some television traffic reporters.

The Traffic Mobi sister site is designed for use by PDAs like the Blackberry. As opposed to the text message cell phone alerts, the site is intended for surfing using mobile devices with internet access.

Cost: \$19.95 for a one year subscription

Website address: www.beatthetraffic.com





DMV.ORG: The Unofficial Guide to the DMV

Type of Business: Private Traffic Information Services Accessed via: Website

Provides vehicle, licensing and driving information to drivers. Includes direct links to 511 and Traffic.com under "traffic alerts." However, this traffic information is not obviously displayed, and not linked to directly from the home page or listed in its drop-down menus. Users must search the site for "traffic" or click on "News & Alerts" in the site map to find these links.

Services provided in English only.

Cost: Free

Website address: <http://www.dmv.org/traffic-alerts.php>





NAVTEQ Traffic.com

Type of Business: Private Traffic Information Services

Accessed via: Text, Email, Mobile PDA, Website, Phone

Provides all standard traffic information services including maps, drive times, and personalized route information via email, RSS and text alerts. Registered MyTraffic account members receive RSS feeds with information about their saved routes; non-registered users can receive alerts by area. Route comparisons and a telephone hotline service are also provided. New features include a news ticker and a 'summary' homepage that gives an overall area rating for traffic conditions, the total number of accidents, 'traffic events,' construction zones, and weather.

Mobi Traffic.com is the free mobile browser website, designed for use by Internet-enabled cell phones and PDAs. It offers all the features and maps of the Internet site.

The site also provides three free downloads- real-time traffic widgets deliver information about user-selected routes and traffic jams to computer desktops for both PCs and Macs. The third download is for "Traffic Desktop Community" which adds an online community element along with delivering traffic updates. Users remain anonymous, receive RSS feeds, and can view gas prices via supported provider GasBuddy.com. Traffic Desktop Community is available for users in Los Angeles and San Francisco.

Services are offered in English only.

Cost: Free

Website address: www.traffic.com

Mobile address (WAP): mobi.traffic.com

Telephone Hotline: 1-866-698-7232



http://mobi.traffic.com/traffic/-1-5-2;jsessionid=...

Sacramento Hotspots

- [1. I-80](#)
Eastbound
CLR SLW 7.8 JAM
- [2. Capital City Frwy/Business I-80](#)
Eastbound
CLR SLW 7.2 JAM
- [3. I-80](#)
Eastbound
CLR SLW 7.2 JAM
- [4. Hwy-50](#)
Westbound
CLR 6.0 JAM
- [5. I-80](#)
Eastbound
CLR 6.0 JAM
- [6. I-205](#)
Eastbound
CLR 5.6 JAM
- [7. Capital City Frwy/Business I-80](#)
Eastbound
CLR 5.1 JAM
- [8. Hwy-65](#)
Northbound
CLR 4.5 JAM
- [9. Hwy-120](#)
Eastbound
CLR 3.6 SLW JAM
- [0. I-80](#)
Eastbound
CLR 3.4 SLW JAM

[More](#)

4:35 PM PDT



Sigalert

Type of Business: Private Traffic Information Services

Accessed via: Mobile PDA, Text, Website

Provides all standard services, including route customization, accident information, freeway speeds, traffic camera views, available by email or text message alerts. Maps and route information is clearly labeled with the time data is taken from, usually from the last ten minutes. Local traffic updates are available for free to all users on the website. Subscribers get to view the website without ads, the benefit being that maps are larger. The site also has its own application for the iPhone for optimized use by subscribers.

Services in English only.

Cost: \$2.95 a month or \$19.95 a year

Website address: www.sigalert.com

The screenshot displays the SigAlert.com website interface. At the top left is the SigAlert.com logo. To the right is a 21st Century Insurance advertisement with the text: "Switch to personalized 21st Century Insurance and Save Hundreds - Click Here. Just Right. Just for You.™". Below the header is a navigation menu with links for Map, Details, Routes, My SigAlert, Change Cities, and Support. The main content area features a traffic map of the Orange County region, showing major roads like I-5, SR 15, SR 101, SR 16, SR 40, SR 44, SR 52, SR 56, SR 60, SR 67, SR 70, SR 78, SR 91, SR 94, SR 100, SR 103, SR 104, SR 105, SR 106, SR 107, SR 108, SR 109, SR 110, SR 111, SR 112, SR 113, SR 114, SR 115, SR 116, SR 117, SR 118, SR 119, SR 120, SR 121, SR 122, SR 123, SR 124, SR 125, SR 126, SR 127, SR 128, SR 129, SR 130, SR 131, SR 132, SR 133, SR 134, SR 135, SR 136, SR 137, SR 138, SR 139, SR 140, SR 141, SR 142, SR 143, SR 144, SR 145, SR 146, SR 147, SR 148, SR 149, SR 150, SR 151, SR 152, SR 153, SR 154, SR 155, SR 156, SR 157, SR 158, SR 159, SR 160, SR 161, SR 162, SR 163, SR 164, SR 165, SR 166, SR 167, SR 168, SR 169, SR 170, SR 171, SR 172, SR 173, SR 174, SR 175, SR 176, SR 177, SR 178, SR 179, SR 180, SR 181, SR 182, SR 183, SR 184, SR 185, SR 186, SR 187, SR 188, SR 189, SR 190, SR 191, SR 192, SR 193, SR 194, SR 195, SR 196, SR 197, SR 198, SR 199, SR 200. The map shows traffic conditions with green, yellow, and red lines. A sidebar on the left contains a 21st Century Insurance advertisement with the text: "We crosscheck 21 unique personal factors and you may save hundreds on coverage that's just right for you." and a "Click Here" button. The bottom right corner of the map area has the SigAlert.com logo. The top right corner of the map area shows the date and time: "Data from: 3:58 PM".



SFBayTraffic.com

Type of Business: Private Traffic Information Services Accessed via: Email, Text, Website

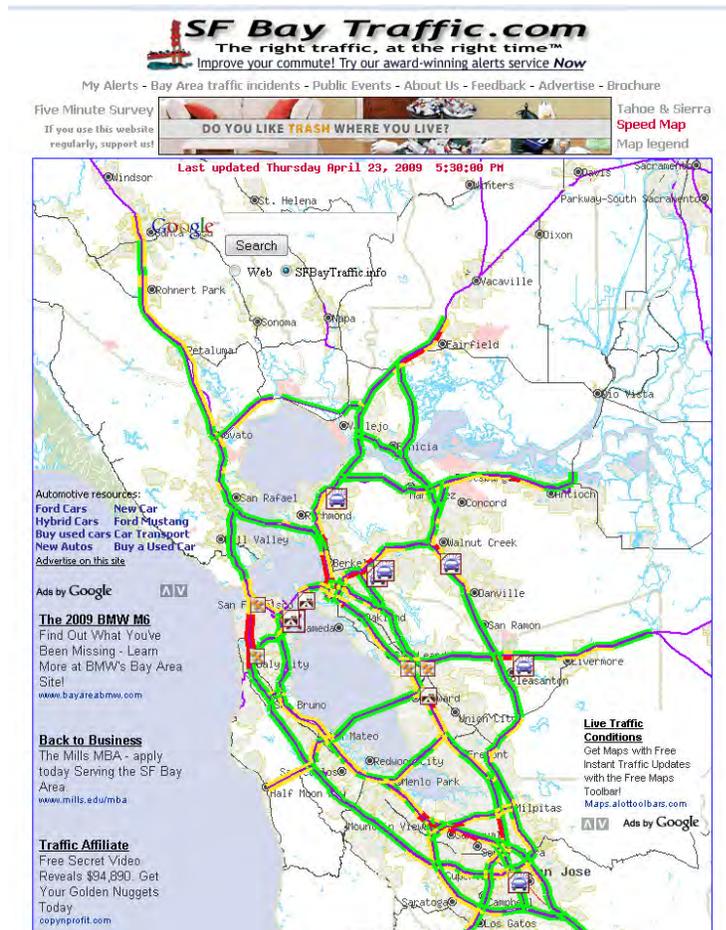
Services online include a map of Bay Area traffic conditions and listings of area accidents. Map is not dynamic- it shows major highways only, from Sacramento to San Francisco and south to Santa Cruz. Personalized route information can be sent at designated times to users' cell phones and/or email accounts.

Site also provides a schedule of Bay Area events that may impact traffic in the future, and a Tahoe and Sierra road conditions page.

Cost: \$4.45 per month

Services are provided in English.

Website address: www.sfbaytraffic.com



Travel Advisory News Network (TANN)

Type of Business: Private Traffic Information Services Accessed via: Mobile PDA

Services are not provided on the website to unsubscribed users, but information about TANN's programs is available. These include a carpool-finder called Multipurpose RideMatch, a public transit scheduler called TransiTrips, information about park and ride facilities in the program ParkRideSearch, and CommuteSaver, which tracks miles and emissions saved by telecommuting, transit or carpooling. Users also gain access to personalized real time traffic congestion maps and traffic cameras on their mobile device.

Memberships for individuals and for companies are available. Services are provided in English.

Cost: \$5.95 per month or \$59.95 per year subscription

Website address: <http://traffic.tann.net/>



The screenshot displays the TANN Traffic website interface. At the top, it reads "REAL TIME TANN TRAFFIC ON MOBILE PHONES". Below this is a navigation menu for "CommuteOne" with links to various services like "Multipurpose RideMatch", "TANN Traffic", "CommuterSaver", and "Sign Up". The main content area features a "TANN Traffic" section with a description of the service and a sub-section titled "Wireless Real Time Traffic Maps on TANN Traffic:". This section shows two mobile phones, one blue and one silver, both displaying traffic maps. Below the phones is a call-to-action box that says "TAKE CONTROL OF YOUR COMMUTE. SAVE MONEY & IMPROVE YOUR ENVIRONMENT. SIGN UP TODAY!". To the right of the phones is a vertical banner for "Any-Credit-Auto-Loans" with a "APPLY NOW" button. The banner includes text like "You Could Get Pre-Approved Today with Our Low Interest Auto Loans!" and "GOOD CREDIT", "BAD CREDIT", "NO CREDIT".



Weather.com

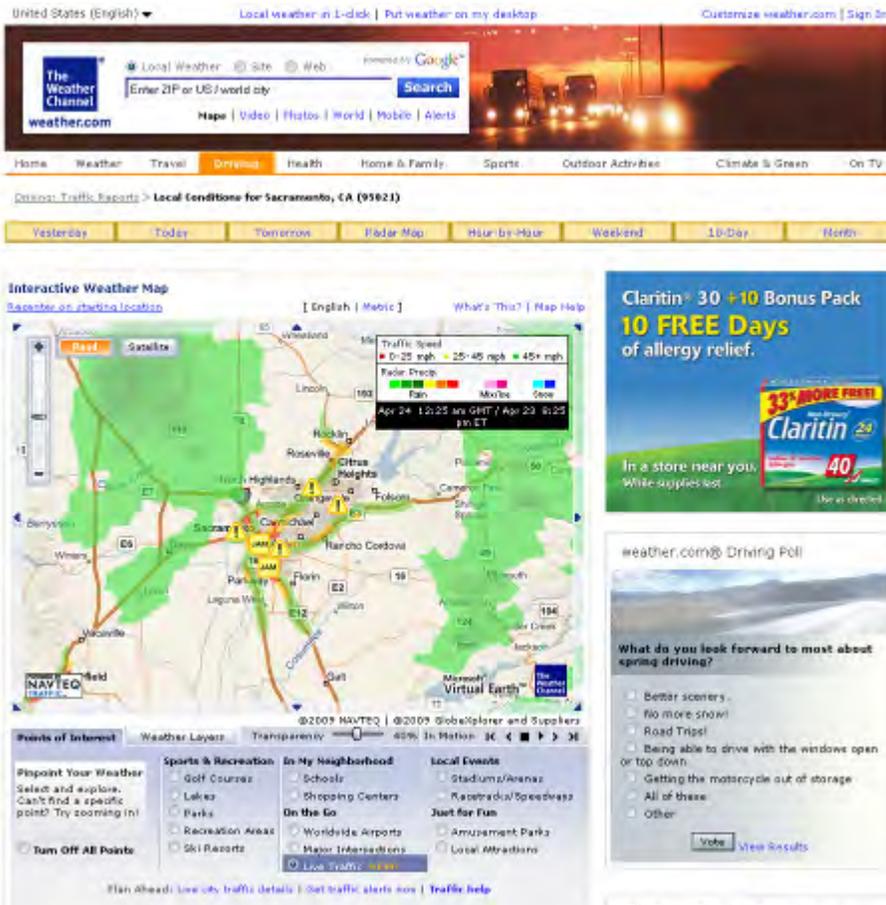
Type of Business: Private Traffic Information Services Accessed via: Website

Traffic services provided on the website include morning and evening rush hour forecasts and real-time traffic conditions, accident reports and construction delays. The main focus of information regards driving tips in adverse weather conditions and other safety topics. The site also provides a free desktop weather and traffic alert download for PCs only.

Services are provided in English only.

Cost: Free

Website address: <http://www.weather.com/>





2) Online News Services:

Television

CBS 13 - Traffic

Type of Business: Online News

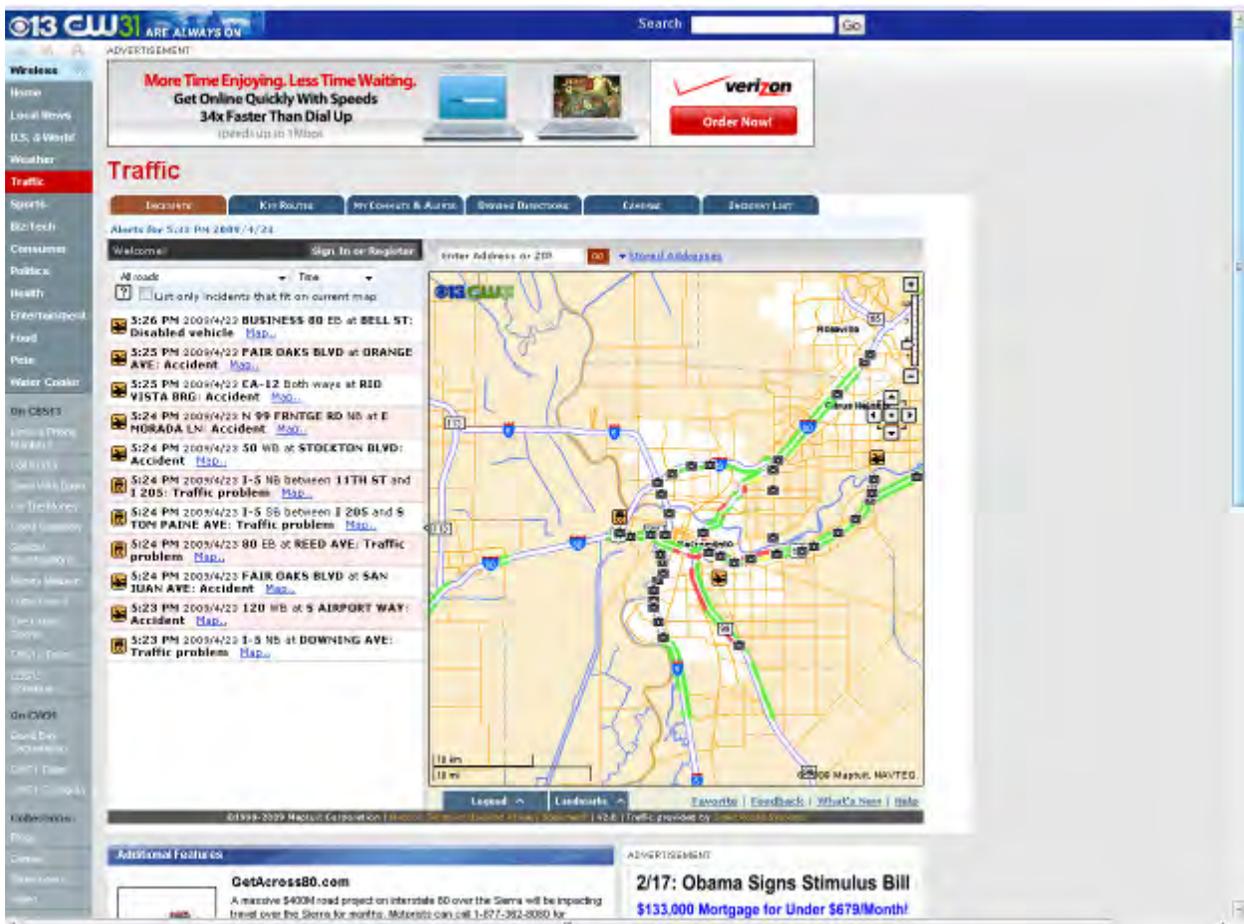
Accessed via: Website

Provides Sacramento-area traffic information, including incidents, key routes, and live traffic cameras. Users can create accounts to receive personalized My Commute alert emails and text messages.

Services provided in English only.

Cost: Free

Website address: <http://cbs13.com/traffic>





CBS 5 - Traffic

Type of Business: Online News

Accessed via: Website

Provides Bay Area traffic information, including incidents, key routes, and live traffic cameras. Users can create accounts to receive My Commute alert emails and text messages.

Services provided in English only.

Cost: Free

Website address: <http://cbs5.com/traffic>

The screenshot shows the CBS 5 Traffic website interface. At the top, there is a search bar and a navigation menu. Below the search bar, there is an advertisement for Honda dealers. The main content area is titled "Traffic" and features a traffic map of the San Francisco Bay Area. To the left of the map is a list of traffic incidents, including:

- 5:33 PM 2009/4/23 680 NB after 242: Object on roadway
- 5:32 PM 2009/4/23 GOLDEN GATE BRIDGE Both ways: Traffic flowing freely
- 5:32 PM 2009/4/23 680 NB between MISSION BLVD (NORTH) and WASHINGTON BLVD: Slow traffic
- 5:31 PM 2009/4/23 80 WB at THE TOLL PLAZA: Traffic flowing freely
- 5:31 PM 2009/4/23 101 SB between GREAT AMERICA PKWY/BOWERS AV and CAPITOL EXPWY: Slow traffic
- 5:31 PM 2009/4/23 680 NB between GREAT HALL PKWY and 237: Slow traffic
- 5:30 PM 2009/4/23 80 EB before APPIAN WY: Injury accident
- 5:30 PM 2009/4/23 85 SB between 237 and WINCHESTER BLVD: Slow traffic
- 5:29 PM 2009/4/23 280 SB between FOOTHILL EXPWY and WOLFE RD: Slow traffic
- 5:29 PM 2009/4/23 80 WB before 5TH ST: Object on roadway
- 5:28 PM 2009/4/23 MONTAGUE EXPWY at 680: Accident on the right shoulder
- 5:27 PM 2009/4/23 87/GUADALUPE PKWY SB before CURTNER AV: Injury accident
- 5:25 PM 2009/4/23 580 EB at HACIENDA DR: Accident
- 5:25 PM 2009/4/23 80 EB after STERLING ST ONRAMP: Disabled vehicle, Right lane blocked
- 5:25 PM 2009/4/23 280 EB at BIRD AV

At the bottom of the page, there is a section for "CBS 5 Web Cams" and an advertisement for "YOUR AD HERE".



News10 Beat the Traffic Alerts

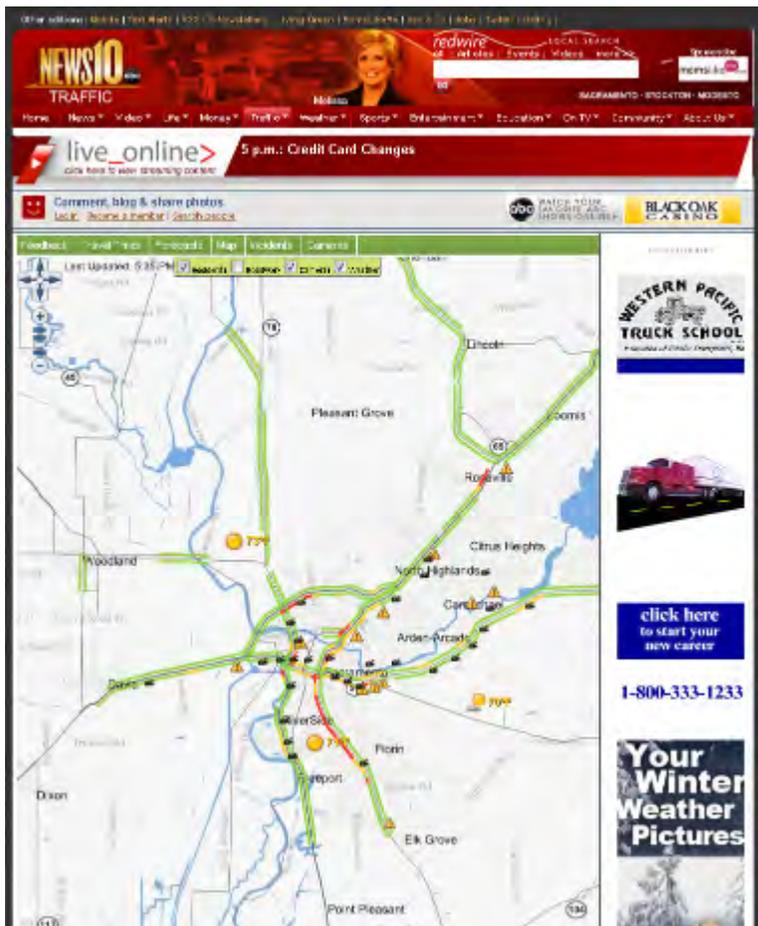
Type of Business: Online News

Accessed via: Text

Users can subscribe to get text messages on their mobile phone or PDA with updates of major traffic incidents. Users can customize these messages to also include AMBER Alerts, news, and weather. Traffic alerts are not customizable- subscribers only receive general information about major traffic delays.

Cost: Free

Website address: <http://www.news10.net/news/mobile/text.aspx>





Radio

KFBK Traffic

Type of Business: Online News

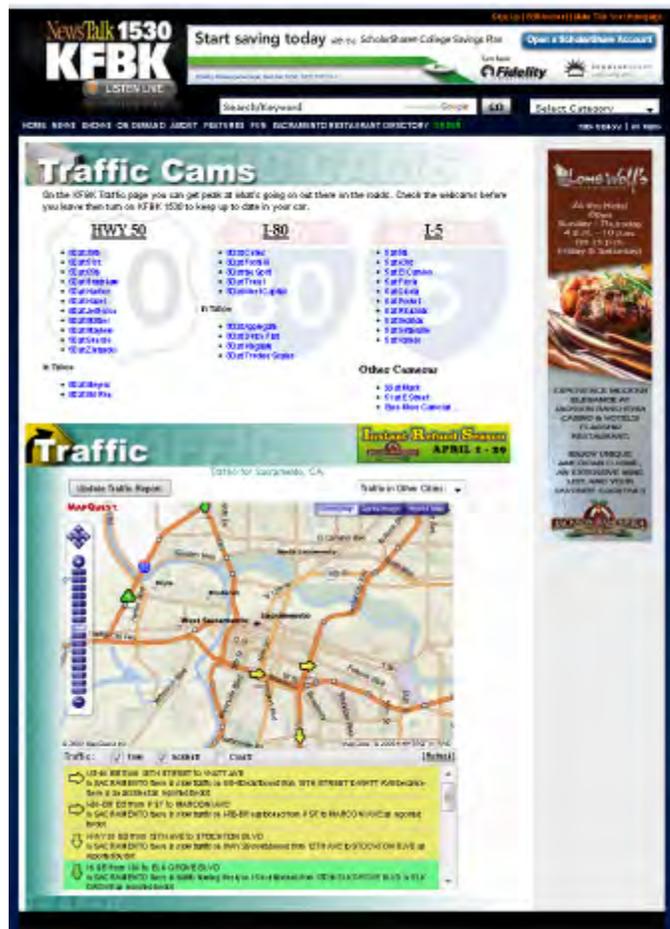
Accessed via: Website

The KFBK Traffic webpage provides webcams for Sacramento-area users to view real-time traffic conditions. It also has a map showing traffic flow and incidents and traffic camera links. Descriptions of traffic conditions on major local routes are listed, but are rather cryptic and technical

Services provided in English only.

Cost: Free

Website address: <http://www.kfbk.com/cc-common/traffic/traffic.html>





KFI AM 640

Type of Business: Online News

Accessed via: Website

This major area radio station uses Mapquest to display a map of current traffic conditions in downtown Los Angeles.

Services provided in English only.

Cost: Free

Website address: <http://www.kfi640.com/cc-common/traffic/traffic.html>

KFI AM 640
More Stimulating Talk Radio

EXCEL LASIK INSTITUTE
Call or click for a **FREE** custom LASIK exam. (A \$250 value)

Endorsed by KFI's Dr. Laura

LISTEN LIVE

Search/keyword or

HOME | LISTEN | ON AIR | NEWS | PHOTOS | CALENDAR | CONTESTS | FEATURES | INFO

Traffic Traffic for Los Angeles, CA

Update Traffic Report

MAPQUEST

Los Angeles

Traffic: Flow Incidents Constr

5 (I-5) Santa Ana / San Diego Fwy NB from E 7TH ST to I-5 I-10 NORTHERN SPLIT
In LOS ANGELES there is slow traffic on 5 (I-5 SANTA ANA / SAN DIEGO FWY) northbound from E 7TH ST to I-5 I-10 NORTHERN SPLIT

110 (SR-110 Pasadena Fwy) NB from I-10 to US-101
In LOS ANGELES there is slow traffic on 110 (SR-110 PASADENA FWY) northbound from I-10 to US-101 in DOWNTOWN LOS ANGELES

101 (US-101 Ventura Fwy) NB from I-5 to 110 PASADENA FWY
In LOS ANGELES there is slow traffic on 101 (US-101 VENTURA FWY) northbound from I-5 to 110 PASADENA FWY

110 (I-110 Harbor Fwy) SB from EXPOSITION BLVD to VERNON AVE
In LOS ANGELES there is slow traffic on 110 (I-110 HARBOR FWY) southbound from EXPOSITION BLVD to VERNON AVE

LOS ANGELES FILM FESTIVAL PASSES ON SALE NOW

ROLLOVER TO PLAY GAME



KXJZ News

Type of Business: Online News

Accessed via: Website

News page displays a traffic monitor banner, listing the “jam factor” on four major sections of Sacramento-area freeways. Users are linked to Traffic.com for more information.

Services provided in English only.

Cost: Free

Website address: <http://www.capradio.org/news/>

The screenshot shows the KXJZ News website layout. At the top left is the KXJZ logo and station information. The main header reads "CAPITAL PUBLIC RADIO NEWS". The central content area features several news articles with headlines and dates, such as "Supervisors Bring in Outside Help for Sac. County CPS" (Wed Apr 22, 2009) and "Legislative Staffer Pay Hikes Rescind" (Wed Apr 22, 2009). On the right side, there is a "Latest Newscast" section, a "Broadway: Around the World in 30 Blocks" section, and a "Traffic Monitor" section. The traffic monitor displays Sacramento Area Traffic with details for routes 99, 99A, 99B, 99C, 99D, and 99E, including jam factor percentages and incident counts. At the bottom right, there is a "Contact" section.



3) Online Maps:

Google Maps

Type of Business: Online Maps

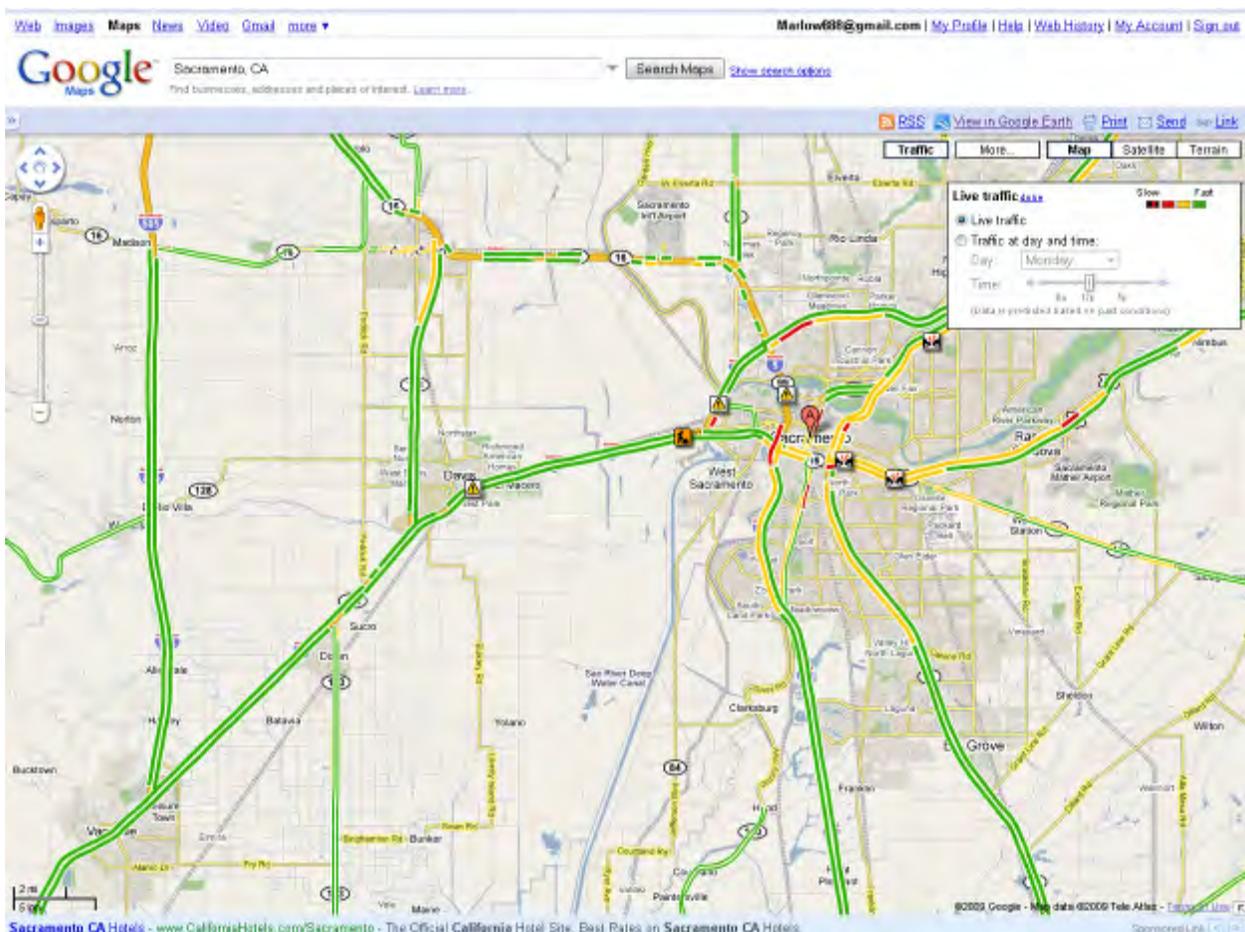
Accessed via: Website

Service: Google Maps features a “traffic” option that provides real-time traffic, detailed directions, integrated search, easily movable maps, and satellite imagery. Traffic maps show incidents and traffic spreads.

Service is relatively universal- map uses colors to show highway speeds and a crash icon to show accident locations.

Cost: Free

Website address: <http://google.com/maps>





Mobile Google Maps

Type of Business: Mobile Online Maps Accessed via: Mobile PDA

Users enter their phone number online at the website, and a link is mailed to their PDA or internet-enabled mobile. Users can then use Google Maps and traffic on their mobile phone. Services include real-time traffic information, movable maps, satellite imagery, incidents, and traffic speeds.

Cost: Free

Website address: m.google.com

Mapquest

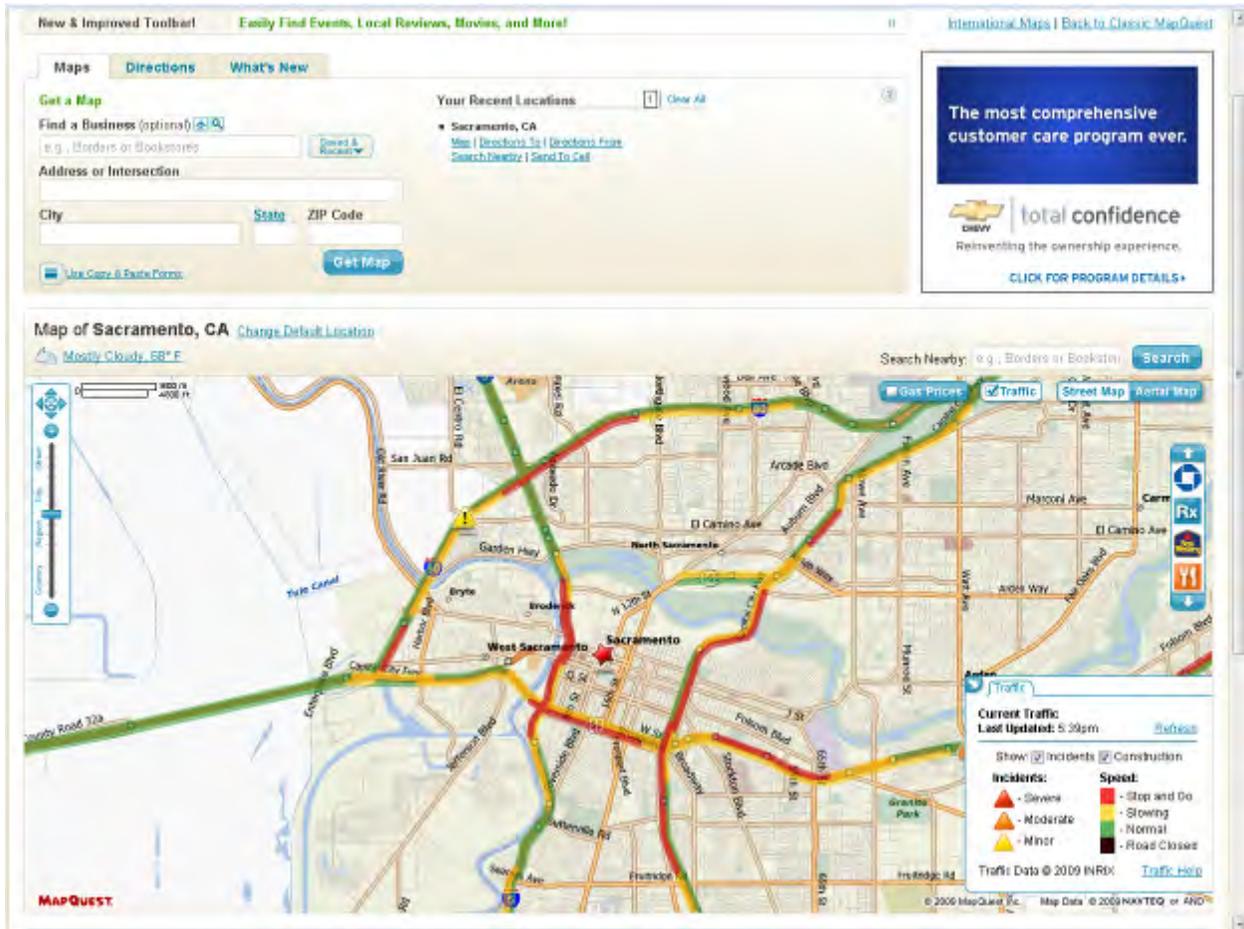
Type of Business: Online Maps Accessed via: Website

Clicking the Traffic button on any Mapquest map shows highway speeds, incidents, construction, and the time of last update.

Service provided in English only (although users have options of English, Spanish, French, German, and Italian when searching for map area.)

Cost: Free

Website address: www.mapquest.com



MapQuest® Navigator 5.0

Type of Business: Mobile Online Maps Accessed via: Mobile PDA

Traffic services are provided as a supplement to this GPS navigation technology service for cell phones. Mainly focused on directions and area information, the service also uses real-time traffic information, only when traffic slowdowns are on a user's chosen route.

Cost: \$49.99 per year, some cell phone carriers offer free trials.

Website address: <http://wireless.mapquest.com/mapquest-navigator>



Rand McNally

Type of Business: Online Maps

Accessed via: Website

Provides traffic information services by linking directly to Traffic.com.

Cost: Free

Website address: www.randmcnally.com

The screenshot shows the Rand McNally website homepage. At the top, there is a navigation bar with links for Home, Store, Maps and Directions, For Educators, and For Businesses. A search bar is located on the left side. The main content area features a large "Maps and Directions" section with a search form for "From" and "To" addresses, including fields for City, State, and ZIP. Below this, there are promotional banners for "More Roads - Better Directions™" and "CustomView Wall Maps". A "From Our Store" section highlights a new "2010 Rand McNally Road Atlas" and "Solar Recharge Lights & Travel Lights". On the right side, there are sections for "HomeAway.com" (Rent a whole house), "EXPLORE AMERICA" (Georgia & Florida Historic Waterfront), "BOOK TRAVEL" (Flights, Hotels, Cars), and "Local Travel Conditions" (LOCAL WEATHER CONDITIONS).



Rand McNally Traffic

Type of Business: Mobile Online Maps Accessed via: Mobile PDA

Service for mobile phone users provides maps, directions, area and traffic listings, and help service. Users can subscribe to receive real-time traffic updates on their mobile phone. It includes accidents, traffic congestion, average road speeds (in select cities), toll back ups, road or lane closures, and public transit delays. Users can also access their commute route using a start and end zip code and save the location for easy retrieval or use the location as their home page.

Cost: \$3.99 per month.

Website address: www.randmcnally.com

Yahoo Maps

Type of Business: Online Maps Accessed via: Website

Checking the "Traffic" button on any Yahoo map gives information about incident locations and severity, and traffic speeds on freeways and major city roads.

Services are provided in English, German, Spanish, French and Italian.

Cost: Free

Website address: maps.yahoo.com



Yahoo Mobile

Type of Business: Mobile Online Maps Accessed via: Mobile PDA

This service, an internet download for PDAs and the iPhone, mainly provides applications for reading email, uploading photos, and reading internet news updates. Traffic information is available when users search for directions and local news updates, and maps are displayed, but it is not a fully developed application.

Cost: Free

Website address: www.mobile.yahoo.com



4) GPS Navigation Services:

Garmin

Type of Business: GPS Navigation System Accessed via: In-dash Navigation

Garmin provides a traffic receiver and traffic services for compatible Garmin devices. The GPS navigator uses traffic information to minimize traffic delays on given route. Depending on where the device is located and the type GPS navigator, traffic information can be available in three formats: MSN direct, which broadcasts in select areas, via FM radio broadcasts, and NavTraffic, provided by XM radio.

Cost: Additional fee above Garmin service

Website address: <http://www8.garmin.com/traffic/>

SIRIUS Traffic

Type of Business: GPS Navigation System Accessed via: Satalite Radio

SIRIUS Traffic provides real-time information on accidents, traffic flow, construction, and road closures, when added to an existing SIRIUS Satellite Radio subscription. Premium data service which works in conjunction with compatible navigation systems.

Cost: \$16.94 per month or \$190.33 per year. To add to existing subscriptions, \$3.99 monthly.

Website address: <http://www.sirius.com/traffic>

Tom Tom

Type of Business: GPS Navigation System Accessed via: In-dash Navigation

Provides real-time traffic information, integrated into the navigation process of TomTom systems. Available only for model GO 740 LIVE, with Bluetooth capabilities and wireless data connections. Navigation system accesses real-time traffic reports and advice for best alternative routes to avoid jams. (In CA: Sacramento, SF, San Jose, LA, San Bernadino, San Diego). The TomTom USB RDS-TMC Traffic Receiver receives traffic incidents while driving and sends the data to the TomTom device. TomTom then routes around each incident.

Cost: Additional fee above TomTom service, plus mobile service provider may charge

Website address: www.tomtom.com



XM NavTraffic

Type of Business: GPS Navigation System Accessed via: Satalite Radio

Satellite-delivered traffic information service provides access to customized information such as traffic congestion, accidents, incidents, road construction, average speed and estimated driving time via a in-dash navigation screen. It enables the user's vehicle's navigation system to display current traffic conditions. The service is available as either a standard or optional feature with navigation systems such as Garmin.

Cost: XM NavTraffic alone costs \$9.95 per month. To add to existing XM subscription, \$3.99

Website address: <http://www.xmradio.com/navtraffic/index.xmc>



5) Traffic Monitoring Services & New Technology:

SmartRoute System

Type of Business: Traffic Monitoring Accessed via: Provider

Provides traffic information systems for local media and public agencies, 511, and private sector companies like OnStar. Services include live traffic incident reporting, congestion and flow reports, scheduled construction and event-related closures and delays, speed sensor information and segment travel times.

Cost: Available as an upgrade on General Motors vehicles only at a variety of package prices.

Website address: www.smartroute.com

Mobile Millennium

Type of Business: Traffic Monitoring Accessed via: New Technology

Mobile Millennium is a pilot program created by a UC Berkeley public-private research partnership providing drivers with current traffic conditions. The system uses anonymous speed and position information gathered by GPS-equipped cell phones, fuses it with data from static traffic sensors, and broadcasts traffic information back to mobile phones. A 'collective' system, its effectiveness depends on the number of public users.

Cost: Free

Website address: <http://www.traffic.berkeley.edu/>

i-Cone

Type of Business: Traffic Monitoring Accessed via: New Technology

An information system developed for highway agencies and construction companies, as well as service providers like Garmin and OnStar. The iCone is a construction-zone drum that uses GPS to transmit its exact location and the speed of passing traffic. The drum itself is sold to construction agencies and the information is used by those public agencies and also national traffic service providers.

Cost: NA

Website address: <http://www.calmartelematics.com/icones.php>