Smoke Signals
A Case Study in Air Quality Messaging During the North Bay Wildfires

Flood Forecasting
Trespass Grows
Transit Integration
Help Us Keep the Lights On

Last spring, for the first time in its 140-year existence, The Washington Post adopted a slogan: "Democracy Dies in Darkness." The newspaper’s owner, Jeff Bezos, later elaborated on the choice by noting, "I think a lot of us believe this, that democracy dies in darkness, that certain institutions have a very important role in making sure that there is light." A paragon of journalism, the Post clearly inhabits that role. But guess what? So does the Bay Area Monitor.

Granted, in comparison to corporate media behemoths, we wield a mere candle while they command solar radiance. But we strive toward similar goals, attempting to enhance our readers' understanding of the world in a way that encourages them to become more engaged participants in their communities and in civic life. Our publisher, the League of Women Voters, even has an analogous slogan: "Making Democracy Work."

What we do not have is an abundance of funding. Bezos, the founder of Amazon.com, is the richest person on the planet, with a reported net worth topping $100 billion. Lacking anywhere near those kinds of resources, we turn to you for help.

Within this edition you will find a donation envelop, which we hope you will feel compelled to use. If you do, you’ll be demonstrating your support for:
- Raising awareness about policies, plans, programs, and legislation that affect quality of life in the San Francisco Bay Area and beyond;
- Enhancing sustainability, conserving resources, advancing equity, increasing efficiency, and safeguarding people across the region; and
- Maximizing stakeholder involvement in those efforts.

Also within this edition you’ll find the usual set of articles from our hard-working writers. On the next page, Leslie Stewart examines air quality messaging during the North Bay wildfires. The pollutive effects of this tragedy are captured above and on this edition’s cover by Robin Meadows, who photographed the smoky conditions near her Fairfield home. Her own article about a new flood warning system appears on page 5, followed on page 7 by Aleta George's article about the impact of marijuana legalization on trespass grows. Cecily O'Connor rounds out our coverage on page 9 by looking at calls to make Bay Area transit more cohesive.

This last article previews our next Bay Area League Day, which will explore regional governance. We’re holding the annual forum February 3 in Oakland — please save the date and join us then.

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Published in August, October, December, February, April, and June, the Monitor appears both in print and online at www.bayareamonitor.org. Distributed in the nine-county San Francisco Bay Area and other parts of California, the Monitor’s readership consists mainly of elected and appointed officials, government staff, business and community leaders, nonprofit affiliates, library patrons, engaged residents, and League members. Subscriptions to the publication are free.

The Monitor’s primary financial support comes from the Metropolitan Transportation Commission and the Bay Area Air Quality Management District. The publication also receives funding from other government agencies and through reader donations.
Smoke Signals: Communicating with the Public about Air Quality

On Wednesday, October 11, San Francisco’s skyline was clouded with smoke from the North Bay wildfires.

By Leslie Stewart

On Monday, October 9, Carole Levenson complained to friends, “I woke up this morning and my building was full of smoke.” It had permeated her Oakland residence after traveling more than 40 miles, generated by fires which had started the night before in the North Bay counties of Napa and Sonoma.

Soon the smoke was affecting even South Bay locations. The Bay Area Air Quality Management District issued a public health advisory, and smoke problems began receiving attention in the news and on social networks. Lisa Fasano, a spokesperson for the Air District, fielded calls from national media. “That’s how unprecedented this smoke situation was,” she explained, adding, “Air quality during the fires was the worst we’ve ever seen. Friday the 13th was the worst day — the whole area was blanketed, all over the Bay.”

For two weeks, a haze enveloped the region as firefighters struggled to contain what ended up being the deadliest set of fires in state history, claiming at least 42 lives across Northern California. While most reporting on the fires focused on emergency response and evacuations, the smoke still got plenty of attention. The whole episode offered an instructive case study of how authorities communicate with the public about air quality issues, and how effectively their messaging is received.

Smoke from the wildfires was quite visible, creating smoggy streetscapes and turning the sun red, but public health officials knew that the worst danger was invisible: tiny bits of soot, known as fine particulate matter, which can move deep into the lungs and even into the bloodstream. They irritate airways, aggravate asthma, inhibit lung function, and can even affect the heart. Carbon monoxide is also a hazard, primarily in smoke close to smoldering fires, causing headaches, nausea, and dizziness, among other symptoms. Acrolein and formaldehyde, other respiratory irritants, are present as well. Beyond these standard pollutants, smoke from the North Bay wildfires contained a slew of by-products from the combustion of thousands of buildings and their contents. “We always tell people smoke is toxic,” explained Randy Sawyer, director of the Contra Costa Hazardous Materials Program, “but this was worse because of all the materials that burned in structural fires.”

Air quality and public health experts had already prepared considerable information about how people should protect themselves. A U.S. EPA resource document, Wildfire Smoke: A Guide for Public Health Officials, had been completed in May 2016 for use in the 2017 fire season. It was based on material originally developed by staff from the California Air Resources Board and the California Department of Public Health.

Greg Vlasek, assistant secretary for local program coordination and emergency response at the California EPA, worked on the 2008 and 2012 versions of the guide. He credited the U.S. EPA for including information on health effects of smoke and recommendations for the most effective masks, specifically the N95 mask to protect against fine particulate matter. As Vlasek described it, “The guide gets into background that local health departments and air
Smoke Signals (from page 3)

districts can use, not just for advisories, but to answer more detailed requests.”

Matt Conens, who handles media relations for the California Department of Public Health, confirmed by email that “the guide was used as a reference for the preparation of messaging and website information during the 2017 North Bay wildfires.” And Melanie Turner, a public information officer with the California Air Resources Board, recommended it to fellow public information officers at regional air districts. The guide is posted on U.S. EPA’s AirNow.gov, an air quality mapping and forecasting website that Turner told reporters to use as a resource. The website experienced extremely heavy traffic during the wildfires.

For many Bay Area news agencies, school districts, county public health departments, and emergency response agencies, the Air District was a primary source of information. Fasano pointed out that the Air District regularly addresses localized woodsmoke and wildfire air quality issues, using material drawn from a variety of sources. She referred media and the public to the Air District’s website with constant updates on fine particulate matter levels. Reporter Denis Cuff of the Bay Area News Group relied on air quality maps from the Air District as well as the AirNow website for his smoke-related coverage, which he noted received higher than usual readership.

Overall, messaging from information sources consistently focused on two main points. First, avoid smoke — especially important for people with health problems — by staying indoors, restricting the entry of outdoor air, and reducing outdoor activities such as jogging. Second, if exposure is unavoidable, get the right mask (N95 or P100), but be aware that it won’t work on children or bearded faces because a tight seal is essential.

How much traction did the messaging gain? It varied. The West Contra Costa School District sent copies of the Air District’s October 9 public health advisory on how to avoid smoke exposure to its school administrators. On Tuesday, October 10, acting on a new advisory, school district staff spent two days distributing masks to all staff and students; however, some recipients had to make do with less effective surgical masks, due to a shortage of N95 ones (which themselves would not provide an adequate seal on the faces of smaller kids anyway). West Contra Costa schools closed Thursday and Friday, and outdoor activities for students were limited again the following week when smoky conditions recurred.

Joshua Grossman, a Berkeley resident with a history of asthma, checked out air quality on the AirNow website and other news sites; he complained that although N95 masks were mentioned, he didn’t see any information about what they looked like or where to get them. Grossman, who is self-employed, chose to leave the area for a week.

In Fairfield, Bay Area Monitor writer Robin Meadows was exposed to greater risk. “At first I was concerned about how close the fires were,” she commented. “Then I realized that even indoors, with all the windows shut, the smoke was really bad and I was feeling unwell. That’s when I Googled ‘symptoms of smoke toxicity’ and decided I needed to leave.”

After evacuating her smoky home, Meadows spent some days with friends in a less smoke-impacted part of the North Bay. She relied on social media for information, checking county emergency response sources (particularly the sheriff’s department) and the NextDoor lists for her area, but saw little about smoke issues. For example, smoke alerts from the nearby Yolo County Air Quality Management District were primarily about where to expect smoke as the wind shifted, not what to do about exposure. She did see the advice to get N95 masks, but not where to get them.

On the other hand, Meadows mentioned she has friends with asthma living in San Francisco who obtained masks. The California Department of Public Health website includes a fact sheet on correct mask choices and sources. KTVU aired a segment on October 10 showing N95 masks, noting that the Air District was recommending them, and including an interview with a hardware store employee who said that the masks were selling fast in Oakland. The Monitor heard about one Bay Area resident who returned from a trip to New York with a stock of N95 masks in her
luggage after hearing from friends about local shortages. Residents of the North Bay, who were the most impacted by the smoke, had difficulty following the public health advisories, no matter how detailed; many people were unable either to leave or otherwise find ways to protect themselves. Recognizing the need, the Air District purchased N95 masks from sources outside the region, and sent 40,000 of them to shelters and emergency relief agencies. “They were experiencing very unhealthy air for a substantial amount of time, and there was no other respite we could give them,” said Fasano.

Air quality agency documents, websites, and press materials proved to be reliable resources for information about smoke. However, when people need news quickly about a developing emergency, they turn to smartphones, often using social media. Fasano considers the EPA guide too long and detailed to meet this need. According to Conens, it “is being tested in 2017 and simultaneously being revised into a 2018 version with a series of companion fact sheets.” However, more flexibility may be needed for public messaging, such as how the Air District’s Facebook and Twitter feeds included health advisory tips and links during the fires. An accurate, consistent message is already available; if agencies and news sources shape it to be easily accessible, everyone can benefit from it.

Leslie Stewart covers air quality and energy for the Monitor.

New Radar System Being Developed to Help Pinpoint Flooding

By Robin Meadows

On the heels of northern California’s wettest year on record — with nearly 90 inches of rain — a team of water agencies and weather researchers is installing a new radar system to upgrade flood prediction in the San Francisco Bay Area. For many, it can’t come soon enough.

Take last February, an extremely wet month in an extremely wet winter. Flooding closed Highway 37, which runs along the northern edge of San Pablo Bay, and shrank westbound I-80 to barely a lane in Fairfield, which adjoins the Suisun Marsh. And in San Jose, Coyote Creek overtopped its banks. Fourteen thousand people were ordered to evacuate, and 582 residences, 118 businesses, and about 300 vehicles were damaged or destroyed. Initial estimates put the cost of Coyote Creek flooding at $73 million.

“The new system will tell us how much, when, and where it will rain with greater precision,” said Carl Morrison, executive director of the Bay Area Flood Protection Agencies Association, continued on page 6
adding, "It will be hugely helpful to flood agencies."

Most of last winter’s rain fell from storms called atmospheric rivers — swathes of water vapor that can be hundreds of miles wide and thousands of miles long. Atmospheric rivers start in the tropics and drop rain or snow when they hit land. The "Pineapple Express," which starts in Hawaii, is a common atmospheric river on the West Coast. Rather than having a relatively fixed course like rivers on land, those in the sky are shaped by other large-scale atmospheric forces and can end up anywhere from southern California to Alaska.

Locally, the risk of flooding is highest at the top and bottom of the Bay: San Pablo Bay in Sonoma and Napa counties, Suisun Bay in Solano County, and the South Bay in Alameda, Santa Clara, and San Mateo counties. Most vulnerable are 200 square miles of low-elevation land near shorelines. Some spots are even as much as 13 feet below sea level. These low-lying lands house infrastructure — including regional systems for water, power, communications, and transportation — valued at more than $50 billion.

Atmospheric rivers cause more than half of the major floods in the Bay Area altogether, and more than 70 percent of those in the North Bay. Predicting when and where flood waters will rise is difficult, though. While National Weather Service (NWS) radar tracks storms regionally, the system was designed with Midwest thunderstorms in mind and often misses rain in the coastal hills of northern California.

The closest NWS radar is on Mount Umunhum, a 3,500-foot peak near Los Gatos. "It’s up too high to see rain falling on the ground in the Bay Area," explained Rob Cifelli, a hydrometerologist currently detailed with the National Oceanic and Atmospheric Administration’s (NOAA) Office of Water Prediction.

The new system will boost coverage from Santa Rosa to San Jose, where the first of five radars is already in place. Ultimately, four of the new radars will monitor flood-prone urban areas, while a fifth on the Sonoma coast will track incoming storms. "All flood control agencies in the Bay Area will get information from the project," the Bay Area Flood Protection Agencies Association’s Morrison said.

Coordinated by NOAA, the project is funded by a $19.8 million grant through Proposition 84 (the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006). The Sonoma County Water Agency is administering the grant for the project, which is formally called...
Will Prop 64 Clip Trespass Grows?

By Aleta George

In November 2016, California voters gave a thumbs-up to Proposition 64, a measure to regulate and tax the cultivation, transportation, and sale of marijuana. As a result, marijuana will be more visible in our daily lives, and taxation revenue will help fill the state coffers. Although projections are highly uncertain, analysts estimate that the state could garner up to $1 billion in taxes. What isn't known is if the new law will help slow illegal trespass grows in wilderness areas, and if the revenue will be sufficient to fix the damage the grows have already caused.

The language of Proposition 64 states that a portion of the revenue will go to programs that prevent, reduce, or reclaim environmental damage from trespass grows, the illegal growing and harvesting of marijuana on remote public or private lands. These grows are not restricted to the Emerald Triangle of Trinity, Humboldt, and Mendocino counties. They occur in abundance right here in the San Francisco Bay Area, and they are pervasive, ecologically damaging, and a threat to public safety.

In 2017, the Sonoma County Agricultural Preservation and Open Space District hired a consultant to head into the backcountry of the proposed Mark West Regional Park and Open Space Preserve to check on ecological conditions. While ecologists (and hikers) continue to be aware of mountain lion and bear trails in remote areas, they must also be on the lookout for irrigation piping, fencing, and signs of encampments. In this case, the consultant came upon a partially cleared, mixed-hardwood forest with a thousand marijuana plants hanging upside down to dry. For his own safety, he turned and left. Trespass grows are often run by drug-trafficking organizations, and the growers can be armed.

It's not just in Sonoma. This summer, according to The

continued on page 8
Will Prop 64 Clip Trespass Grows? (from page 7)

*Mercury News*, the San Mateo County Narcotics Task Force found 11,400 plants on Midpeninsular Regional Open Space District property, including the Skyline Ridge Open Space Preserve. In Santa Clara County, the Sheriff’s Office Marijuana Eradication Team arrested 126 people, seized nearly 339,000 marijuana plants and 27 firearms, and removed 18.5 tons of grow operation trash from public and private lands over a four-year period ending in 2016. “Trespass grows are pretty much everywhere — canyons, parklands, public parks, and Bureau of Land Management land — areas where people can hide and grow,” said Joseph Deviney, agricultural commissioner for Santa Clara County.

Brian Malone, land and facilities manager for the Midpeninsula Regional Open Space District, said his organization discovers several sites a year with 1,000 to 10,000 plants, along with scenes of environmental destruction. At a trespass site, growers clear native vegetation, dam creeks and divert waterways, leave behind trash, and use fertilizer, pesticides, and rodenticides. The results of an illegal grow can be long-lasting: poisoned water leaches into the soil and water table, raptors hunt chemically treated rats and small mammals, and birds eat scattered fertilizer pellets.

The grows also impact the organizations that care for the land. “Dealing with trespass grows takes up a larger percentage of staff time than it used to,” said Sheri Emerson, stewardship program manager at Sonoma Ag and Open Space, which had three big grow sites on its properties this year. Land managers must also coordinate clean-up with law enforcement agencies, because even abandoned sites are considered active crime scenes.

When Sonoma Ag and Open Space staff returned to the Mark West site this summer, they found a camp with abandoned gear and three fortified water basins, the largest of which was 9 feet deep and 15 to 20 feet long. Funded by a CalRecycle grant, a clean-up crew shoveled dirt and vegetation into the water basins, bagged the garbage, and scattered brush around the scarred, one-and-a-half acre grow site.

It seems unlikely that Proposition 64 will stop these grows. As Sergeant Richard Glennon with the Santa Clara County Sheriff’s Office wrote in an email to the *Monitor*, “We predict this practice of trespass marijuana cultivation to increase dramatically with the public's changing attitudes towards marijuana, the expanding California cannabis market, and the fact that this remains an ideal geographical/climate for growing operations.”

Malone is also skeptical. “I think we’ll continue to have a problem with grow sites on public land because of the black market. We have to prepare for that possibility,” he said.

Proposition 64 will, however, contribute to remediating damage, though that is low on the list of funding priorities. Matt Clifford, staff attorney for the fish preservation nonprofit Trout Unlimited, explained that annual tax revenue needs to reach $25 million before any funds can go toward the environment. The language in Proposition 64 states that tax funds must first go to administration costs, research studies, protocols for driving safety, and social services support. After those monies are allocated, any remaining funds will go to youth education (60 percent), law enforcement (20 percent), and environmental restoration and protection (20 percent). These funds will be distributed through the California Department of Fish and Wildlife (CDFW) and the California Department of Parks and Recreation. CDFW is preparing for funds that might come their way to mitigate damage to fish and wildlife habitats.

“Marijuana cultivation is a huge issue for us because the areas of heavy cultivation overlay almost exactly with California’s most important salmon and steelhead habitat,” said Clifford. Trout Unlimited is looking to Proposition 64 to regulate operations that follow the law, and provide resources to control those that don’t.

Trespass grows are the dark side of cannabis cultivation. Hezekiah Allen, executive director of the California Growers Association, a membership group representing the interests of cannabis cultivators, said that bringing the crop into the light and working with legitimate growers (many of whom grow indoors) will help get rid of bad actors. “There are 55,000 growers in California, and only 3,000 to 5,000 of those are thugs. Trespass grows by no means reflect the industry,” said Allen. He noted that for years, people in the industry have pushed for regulations (although the California Growers Association did not support Proposition 64 for a variety of reasons), and have
Joint Effort: Advocates Urge New Look at Transit Integration

By Cecily O’Connor

Is regionalization the salve that would ease the Bay Area’s transportation woes?

It’s a question that’s been debated for half a century. Transportation advocates are taking it up again now because they believe progress needs to be made to manage traffic, reduce public transit crowding, and address the disconnect between where people live and work.

The region’s strong and vibrant economy has resulted in traffic congestion and a tight housing market that’s hurting residents’ quality of life. People feel frustrated about navigating a network with over two dozen transit operators. They want affordable, reliable transit service with seamless fares and connections.

“We hear it all the time: ‘Why can’t this just feel like one system? Why can’t I just pay one [fare]?’” said Ratna Amin, transportation policy director for SPUR, a civic planning nonprofit.

The Bay Area’s economy has flourished in recent years, but the rise in commuters is straining public transit and freeways. Local governments and transit agencies wrestle with competition for funding sources to help meet transit demands and pay for infrastructure maintenance. BART and Muni are both experiencing record crowding and overdue service improvements. Meanwhile, for people who live far from transit hubs and opt to drive, traffic congestion is up 80 percent from 2010, according to Metropolitan Transportation Commission (MTC) data.

That’s why transportation advocates like Amin are asking transit operators, cities, and regional agencies to develop new ways of working together, and to prioritize housing, land use, air quality, and the environment when planning for transportation.

Recent staff consolidation of the region’s land use and transportation planning agencies — respectively, the Association of Bay Area Governments (ABAG) and MTC — is an opportunity for broader thinking and action about

continued on page 10

Peter Dovak’s “City Transit” project illustrates transit networks of North America. He told CityLab that the project "highlights the need for places like the Bay Area to unify their operators, or at least make it easier to pay/transfer between systems.”
Advocates Urge New Look at Transit Integration (from page 9)

solutions to problems the Bay Area faces, said Egon Terplan, regional planning director at SPUR.

“It’s the beginning of a conversation on the role and function and working of the agency,” Terplan said.

The MTC/ABAG partnership brings together 290 staff (including an integrated planning department) to discuss common challenges like access to jobs, highway congestion, and housing affordability.

“You’re getting quite a bit of change on these first steps, a coherent staff interaction with two boards that are often covering the same subject — and that’s a good thing,” said Randy Rentschler, MTC's director of legislation and public affairs.

“These two boards and their full identities continue to exist, they are just being served by consolidated staff,” Rentschler said. “That will be the extent of it in the near term.”

The pair has until July 1, 2018 to direct and jointly fund the consolidated staff to begin gathering information on governance structures of regional planning agencies, according to a statement of mutual understanding. Meanwhile, MTC and ABAG have until July 1, 2019 to begin discussions about whether to restructure the governing boards, which could affect future work of the integrated staff.

Data show Bay Area residents’ growing unrest. They are ready for coordinated measures across the nine counties, and show willingness to fork over money for transportation improvements. According to a 2017 Bay Area Council poll, 83 percent of voters surveyed said they “want traffic treated ‘like an emergency’” and “want Bay Area leaders to ‘work together’ on solutions to be implanted in the next few years,” as opposed to “a county or city-by-city approach.” Seventy percent said the Bay Area needs a major regional investment in transportation, even if it means raising taxes to fund it.

Some funding decisions could be made on ballots as early as next June, when voters might be asked to consider Regional Measure 3. It would raise bridge tolls as much as $3 to generate up to $4.5 billion for traffic relief and transportation projects.

All these recent developments follow several failed attempts at restructuring regional governance. An MTC staff memo from 16 years ago offers some perspective.

“The notion of merging some or all of the Bay Area’s regional agencies has been debated since the creation of ABAG and MTC in the 1960s and 1970s,” wrote Steve Heminger, MTC’s executive director, in a 2001 memo. “The most recent effort (Bay Vision 2020) involved a proposed merger of MTC, ABAG, and the Air District and culminated in the failure of state enabling legislation in the early 1990s.”

The push-pull path toward eventual staff consolidation even includes 2015’s Assembly Bill X1-24 (Levine) to rename MTC and turn the agency into an elected board. The bill, however, died.

Despite the history, collaboration isn’t entirely new for MTC and ABAG. They jointly produce Plan Bay Area, the region’s housing and transportation roadmap. The latest iteration shed light on the shared priority of housing affordability. MTC’s emphasis has been on making transportation investments that incentivize housing production. But Plan Bay Area 2040 lacked tools to address the housing problem, so MTC and ABAG helped convene the Committee to House the Bay Area (CASA) at the request of local organizations.

CASA represents a collaboration of its own, made up of 50 people from advocacy groups and businesses. The focus is on identifying steps to leverage transit dollars to finance development and build housing near stations, said Leslye Corsiglia, CASA co-chair and executive director of the South Bay nonprofit SV@Home.

This approach has become increasingly common, and can be observed in regional multi-modal projects like San Francisco’s Transbay Transit Center. When it commences bus operations this spring, it’s expected to further public transit effectiveness due to close proximity to housing, some of which will be subsidized and priced at below-market rates. And eventually, the center will link up with California’s high-speed rail system, whose presence along the Peninsula will
require all the more coordination between Bay Area transit operators.

In the meantime, transportation advocates are keen to see how MTC and ABAG’s integrated planning efforts evolve. SPUR wants to see a clear, regional transit vision that defines how the systems fit together, as well as strategies for tying in local policy work.

Whether the staff partnership triggers more consolidation among the region’s operators is uncertain. One challenge is how to coordinate with more than 100 cities spread across the geography of nine Bay Area counties. Other factors are the willingness of each agency to integrate, whether the move makes financial sense, and how to unite without compromising existing local service.

“The Bay Area is so vast, and different operators have specific local needs, so it would almost be counterproductive if you brought every transit operator together,” said Ron Downing, planning director at Golden Gate Transit.

There are even cases when transit operations have fragmented. More than 40 years ago, the Western Contra Costa Transit Authority (WestCAT) split from AC Transit to better focus on meeting the local transportation needs of riders in Hercules, Pinole, and Contra Costa County, said Charlie Anderson, WestCAT’s general manager.

However, even with a local emphasis, it provides services that offer regional benefits, like congestion relief on the Interstate 80 Corridor and the Bay Bridge. One route between Hercules and San Francisco has experienced double-digit ridership growth annually since being introduced 12 years ago. WestCAT also is planning to offer new bus service to Hercules’ recently developed Waterfront neighborhood.

Regardless of each agency’s structure, getting people on public transit and out of cars is a common and critical goal. It could be a conversation starter when stakeholders are ready to redefine transit integration. Integration could take different forms, too, with the potential to think about fare policy and other supportive policies for investments or infrastructure.

Said SPUR’s Amin: “If it were easy, it would have been done by now, because it’s not for lack of interest.”

Cecily O’Connor covers transportation for the Monitor.
Save the Date: Bay Area League Day 2018

Saturday, February 3

Oakland, CA