Neighborhood Water Watch

By Robin Meadows

It feels so wrong when we see it — water shooting out of a broken pipe, spraying all over the sidewalk, or streaming down the gutter — and it feels worse than ever now that California has ordered cities to cut water use collectively by 25 percent. Bay Area water agencies are doing everything they can think of to get us to conserve, including making it easy to report water waste via hotlines, e-mail, and web forms. Some agencies even have smartphone apps.

Reporting businesses and the government is one thing, but reporting your neighbors can be hard. It smacks of tattling. But now that we’re in our fourth dry summer in a row, state officials are starting to warn that our water system is stretched to its limit. And according to a May 2015 poll from the Public Policy Institute of California, 60 percent of us think our neighbors aren’t doing enough to respond to the drought.

Chris Dundon, conservation supervisor at the Contra Costa Water District (CCWD), sees water waste reporting as an education program that helps people do the right thing. When he talks to those who are reported, their water waste usually comes as a surprise. “They say, ‘I had no idea’ and fix the problem,” he said, explaining that many people are at work all day and don’t see what their sprinklers are doing. And because there’s too much ground for his staff to cover on their own, he also sees water waste reporting as crowd-sourced protection of a shared resource. “We don’t want to waste any water,” he said. “We’re deputizing our customers to keep an eye out.”

The more details the better for water district conservation staff. “We need specificity,” Dundon said. “The location helps us identify the property owner, and the time and date help them figure out what to do.” For example, the lawn between a sidewalk and a street belongs to the city, not the property owner. And watering at the wrong time doesn’t always mean water waste — it could be a sprinkler test or a power outage that reset the sprinkler system’s automatic controls.

CCWD doesn’t track water waste reports in great detail, but the Santa Clara Valley Water District (SCVWD) does. And reports there are on the rise. Last year, the district got about 400 water waste reports per month, and reports are up to nearly 700 a month so far this year. “The pace has picked up tremendously,” said SCVWD’s Jerry De La Piedra. Most of the reports are residential at 63 percent; the rest are divided among commercial at 25 percent, government at 9 percent, and educational facilities at 3 percent.

Last year, SCVWD added water waste reporting to its smartphone app and this is now the most popular tool for...
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Neighborhood Water Watch reports, accounting for nearly 40 percent in May 2015. The app, which is called Access Valley Water and is available for Android and Apple, lets you upload photos, tag the location, and describe the water waste.

In May 2015, the top types of water waste reported to SCVWD were broken plumbing; over-irrigation, which results in water running off lawns, into the street, and down the gutter; and irrigating more than two days a week, which is prohibited in many cities under the state’s 2015 emergency water conservation regulation. Other types of water waste include irrigating when it’s raining or within two days of a rainstorm, washing sidewalks and driveways, and washing cars with a hose that lacks a shutoff nozzle.

There’s no way to tell how much water is saved — let alone how much could be saved — by water waste reporting programs. But SCVWD thinks it’s enough to warrant significant manpower. The district already has six water waste inspectors and is hiring a seventh. “We believe our program contributes to conservation awareness in a positive manner,” De La Piedra said. “For the most part, it’s educational, not punitive.”

For all its potential to do good, however, there’s something unsettling about reporting people who are wasting water. “I have mixed feelings,” said Nel Noddings, a Stanford professor emerita who focuses on moral and ethical education. “A decent, ecologically-sensitive, moral person does wrestle with this.”

Noddings sees water waste reporting as disrupting community friendships and peace. “We need to find a way to get at the problem without causing a new problem.”

For long-term impact, she recommends adding a water education program to public schools in California. Children often bring what they learn home, and this can influence their parents’ behavior. For example, an energy education program in UK schools prompted 76 percent of parents to save energy, according to the Centre for Sustainable Energy in Bristol, England. Established in 1999, this program has been taught in 500 UK schools, and California schools could offer a similar program for water by using free drought and water conservation materials from the state Department of Water Resources (see box below).

For immediate impact, Noddings favors neighborhood meetings on water use and ways to conserve. “This can get people thinking about it without condemning them,” she said. People should work together rather than telling on each other and making things worse.”

Mark Lubell, director of the UC Davis Center for Environmental Policy and Behavior, agrees that neighborhood meetings would promote water conservation. “Studies show that getting people to talk together increases cooperation,” he said. But he was quick to add that this approach only goes so far.

Lubell studies collective action problems — situations where groups benefit from individuals who make changes, like using less water — and explains that some people take advantage of other people’s sacrifices. When people conserve water, for example, they bear the cost of conservation even though it benefits everyone. And this frees up water that others can use, prompting some to question why they should conserve. “The capacity to monitor and punish is key to solving this problem,” he said. “Some people only respond to sanctions.”

Likewise, Lubell puts drought shaming — the practice of outing water wasters publicly with, say, apps that post violations on Twitter — into perspective. While allowing that drought shamers can be harsh under the cover of anonymity, he still understands why they do it. “Drought shaming is a social sanction,” he said. “Bringing social pressure to bear is often the first response to a cooperation problem.”

Combining the two approaches — neighborhood meetings and the threat of sanctions — would likely maximize cooperation. But water agencies only have the capacity to do so much, and Lubell sees waste water reporting as a reasonable compromise. “You don’t want to tattle for no reason,” he said. “But if people out there are causing a danger to your community, you ought to have a way to report it.”

Robin Meadows covers water for the Monitor. She recently completed the League of Women Voters of the Bay Area Education Fund’s 2014-15 Water Education Initiative Reporting Fellowship.
Driving Away from Petroleum: Can California Cut Use in Half?

By Leslie Stewart

In an attempt to slow climate change, California officials have proposed reducing petroleum use in cars and trucks by up to 50 percent by 2030. Governor Jerry Brown put forward this goal in his most recent inaugural address, in which he also set the same 15-year horizon on objectives for tapping renewables to fulfill 50 percent of California's total energy needs, and for increasing energy efficiency in buildings by 50 percent. This “50/50/50” strategy has a chance of becoming actual law if the state legislature passes Senate Bill 350 in the coming weeks.

The California Air Resources Board (CARB) would be responsible for meeting the petroleum reduction part, extending the state agency’s work administering 2006's Assembly Bill 32 and other climate change mandates. Regardless of SB 350's passage, though, CARB will continue to focus on diminishing the impact of petroleum on both climate change and air quality.

The agency reports that the production, refinement, and use of petroleum accounts for nearly half of the state's greenhouse gas emissions, 80 percent of smog-forming pollution, and over 95 percent of cancer-causing diesel particulate matter. “Petroleum dependence has a lot of consequences — air quality and climate change are two key drivers to move away from those,” said CARB Science and Technology Policy Advisor Ryan McCarthy in leading off a workshop at the Silicon Valley Leadership Group's Energy and Sustainability Summit 2015 on June 25.

McCarthy explained that current state policies would reduce vehicle petroleum use by approximately 20 percent by 2030. To achieve the proposed 50 percent reduction, existing CARB proposals would need to be accelerated, significantly reducing car travel with land use plans, “ratcheting down” vehicle greenhouse gas standards and extending them to 2030, increasing on-road fuel efficiency of cars to 35 miles per gallon and of heavy-duty vehicles to between 7 and 8 miles per gallon by 2030, and doubling the use of alternative fuels.

The land use planning aspect is covered under Senate Bill 375, California's landmark climate change legislation from 2008. In compliance with this law, each of the state's 18 regions has already completed a sustainability plan to meet greenhouse gas reduction targets set by CARB. Updated every four years, the plans rely heavily on reducing vehicle miles traveled.

This needn't change the number of miles people travel, however, and it also doesn't mean just expanding transit systems, according to Gil Friend, chief sustainability officer for the City of Palo Alto. At the summit workshop, he said that the basic goal should be to “make it more convenient for people to not drive alone, or not drive at all.” He pointed out, for example, that many large employers aren't near transit, but can adopt a program which imposes parking fees on previously free parking, thereby funding shuttle buses to replace personal vehicles. This kind of program has saved Stanford University more than $100 million in infrastructure costs for parking.

Because some people will drive no matter what, reducing traffic congestion — another component of some regional and local climate action plans — is necessary to reduce petroleum use and attendant air pollution. For example, Santa Clara County has employed so-called “intelligent transportation systems” techniques to increase the efficiency of regional arterials through a traffic monitoring and control program. Intelligent transportation systems also include self-driving cars — and the vehicle-to-vehicle communication needed to make them work — which would reduce congestion by accident avoidance and smoother traffic flow.

“Autonomous cars may increase vehicle use,” Friend conceded, “but they will probably be electric because the entire fleet will be EV by 2030.” While such a rapid and continued on page 4
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A comprehensive switch to electric vehicles seems unrealistic, the percentage of them on the road is certain to rise due to state and regional policies, including incentives. Bay Area regional agencies and stakeholders obtained planning grants a few years ago to scale up plug-in electric vehicle use. Now the Bay Area Air Quality Management District has approved allocation of $14 million in Transportation Fund for Clean Air grant funds for electric vehicle-related programs, including a grant program that aims to accelerate the deployment of publicly available charging stations and a rebate program to help public agencies purchase or lease new plug-in vehicles at a reduced cost.

The increased availability and variety of electric vehicles gives proponents further reason to expect a continued market shift. As workshop presenter Daniel Witt of Tesla Motors explained, “Everyone may want EV, maybe just not a subcompact car.” He declared that Tesla’s new SUV will win new converts, because “it will tow!”

Beyond personal auto use, cleaner heavy-duty vehicles will be critical both to reaching the 50 percent petroleum reduction goal and to meeting federal air quality standards. Federal rules require heavy-duty vehicles sold between 2014 and 2018 to reduce fuel use and carbon emissions up to 23 percent over 2010 use; the Environmental Protection Agency is now circulating a draft rule that would add up to 24 percent reductions by 2027. State requirements are even stricter. “We have to reduce formation of smog-forming chemicals by 90 percent in the next few years, especially in trucks,” McCarthy announced.

“It will be a real reach to make the goals,” responded fellow presenter John Boesel, president and CEO of CALSTART, a transportation technologies consortium. “There are a million heavy duty vehicles — trucks that are bigger than pickups, and buses — in California.” Trucks and buses are more specialized than cars, reducing the potential for economies of scale when improvements are developed and marketed, and they stay on the road longer before being replaced.

McCarthy said that agencies can do more to support the changes needed to make heavy-duty vehicles cleaner. “We need policies that cut conventional pollution and we need them fairly soon to get technology on the market.” CARB is preparing to meet the standards, conducting workshops and modeling leading up to a new State Implementation Plan in 2016.

The public sector has already been leading the way through innovations in transit buses powered by natural gas, hydrogen fuel cells, biodiesel, or renewable diesel technology — and these technologies can be adapted to trucks. The Air District is currently preparing solicitations scheduled to open later this fiscal year that will offer grants to operators of public and private sector fleets in the Bay Area in order to incentivize the adoption of zero- and partial-zero-emissions vehicles, including light-, medium-, and heavy-duty vehicles, as well as urban buses. Boesel observed that funds from the state’s cap-and-trade program are now financing cleaner delivery trucks.

The program revenue to pay for those trucks, as well as many other greenhouse gas reduction measures, is coming in part from refineries, translating into higher gasoline costs for drivers. In a follow-up interview with the Monitor after the summit, McCarthy suggested that “cap-and-trade might be an incentive to car buyers to buy cleaner cars as the fuel price is increased by regulations.” This would reduce petroleum use, but also create a new market for refiners who can produce cleaner fuels.

However, the switch won’t be simple. For example, in a presentation to a recent CARB petroleum reduction forum, Corinne Drennan from the U.S. Department of Energy’s Pacific Northwest National Laboratory cautioned that using “renewable feedstocks” will take significant capital investment. Rather than leveraging existing facilities, refiners might need to build smaller modular ones. Easy or not, this strategy is on the table with all of the others being considered to meet the challenging 2030 target, and to improve air quality overall.

Leslie Stewart covers air quality and energy for the Monitor.
Pilot Projects and Policy Analysis: A Search for Better Parking

By Cecily O'Connor

There's nothing more exasperating than circling — and re-circling — the block in pursuit of parking on a congested street.

Yet a regional parking database from the Metropolitan Transportation Commission (MTC), expected by September's end, could emerge as a new avenue to improve Bay Area parking conditions. The database breaks down timely information about supply and demand, pricing tactics, and policy analysis to help local agencies better control the ebb and flow of local parking conditions.

"We see people double parking along a main street with the highest demand for retail, and then find parking structures a block or two away that are underutilized," said Valerie Knepper, an MTC transportation planner, about a common parking conundrum.

The database is part of MTC's Value Pricing Pilot (VPP) Parking Pricing Regional Analysis Project, a two-year initiative made possible by $560,000 in federal funding. It supports development of local and regional parking policies aimed at smart growth via affordable housing and reduced greenhouse gas emissions.

The effort comes at a time when several Bay Area cities and transportation groups are contributing parking data and solutions. That's due, in part, to greater emphasis on public transit, biking, and car-sharing in communities striving to be multi-modal and access oriented. There's even a bill (AB 744) moving through Sacramento that would lower parking requirements to ease affordable housing development.

"I think we are seeing change happen more quickly now," Knepper said. "A lot of cities across the country are enacting new [parking] policies."

Palo Alto city officials took steps early this summer to enforce a permit program setting time limits for cars parked on downtown residential streets. Meanwhile, the National Park Service recently announced it's rolling out a car reservation system to fix traffic problems caused by the 1 million annual visitors that descend upon the Muir Woods National Monument in Marin County.

San Francisco and Berkeley each have parking management systems that began as pilot projects in 2010 and 2012, respectively, and adjust meter rates and times based on demand. These efforts have captured the interest of municipalities across the region; as goBerkeley Project Manager Willa Ng revealed, "About 20 percent of my time is talking to other cities in the Bay Area, explaining what we did and how much work it took."

Pricing reform takes a lot of organization, including technical support, outreach, and coordination between residents and local business. Examples of this type of work will be included in MTC's database by way of best practices and applications, as well as a forum for adding information.

"It's really important for cities and counties to share information on parking technology," said Mark Evanoff, redevelopment manager in Union City, where officials implemented fees several years ago to deter drivers from parking on city streets after BART started charging customers for parking in its lot.

Parking problems not only affect drivers, but have a ripple effect on business owners, transportation agencies, and city budgets. Donald Shoup, author of "The High Cost of Free Parking," explained the extent to which various stakeholders subsidize parking in a 2013 Freakonomics Radio podcast, observing that "if you don't pay for parking your car, somebody else has to pay for it. And that somebody is everybody. We pay for free parking in the prices of the goods we buy at places where the parking is free. And we pay for parking as residents when we get free parking with our housing. We pay for it as taxpayers. Increasingly, I think we're paying for it in terms of the environmental harm that it causes."

Shoup has estimated that as much as 30 percent of traffic in central business districts is caused by people cruising for parking. Easing some of this parking tension helps to alleviate environmental concerns by way of reduced fuel consumption and greenhouse gas emissions.

To help planners put all these factors into perspective, continued on page 6
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MTC’s database draws upon data from Priority Development Areas (PDAs), high-density transit corridors, and commercial business districts. This includes supply, utilization, policies, pricing, and use restrictions for 25 parking sites — the Sausalito waterfront, the Dublin BART station, and the Burlingame Caltrain station area, among others.

Tackling key parking issues and best practices is a big component of MTC’s project. For example, policy analysis and recommendations delve into issues such as parking requirements in new developments and the potential for “unbundling,” the practice of charging for parking separate from rent.

Additionally, tools like “heat maps” will show city officials on-street parking occupancy at a particular point in time, Knepper said. This will enable planners to see how prices can be modified, with high-demand locations made more expensive than those with less demand to achieve an 85 percent occupancy rate per block. The database also will serve as a framework for future parking data collection efforts.

“If we have a developer looking to build a garage, we’d know based on the [MTC] database how much demand we are really expecting,” goBerkeley’s Ng said.

That’s important because parking construction is not cheap, according to data about multi-family housing developments from TransForm, an Oakland-based advocacy group. Its GreenTRIP database, a complementary effort to MTC’s VPP, focuses on off-street parking usage at 68 multi-family residential sites around the Bay Area, said Jennifer West, GreenTRIP policy analyst at TransForm.

It found that an average 31 percent of spaces go unused at the 68 sites, covering 867,900 square feet of space that cost an estimated $139 million to build. GreenTRIP is funded, in part, by MTC’s Regional Prosperity Plan.

“Our purpose was to reach developers looking for data to support the ‘right-size’ parking, city staff looking to update codes or requirements, and community members who may be interested in a new development and want to be informed,” West said.

When MTC’s database is up and running, the agency plans to hold workshops to train local jurisdictions about the information and tools.

Cecily O’Connor covers transportation for the Monitor.

Public Payback: Restoration in the Wake of the Cosco Busan Oil Spill

By Elizabeth Devitt

It’s been almost eight years since the Cosco Busan tanker clipped the Bay Bridge on a foggy November morning and dumped more than 53,000 gallons of oil into the San Francisco Bay. Four years after the spill, the government reached a $44.4 million settlement with the ship’s owners and operators; almost three-quarters of that amount was earmarked to restore damages to natural resources, with the remainder going toward response costs and penalties. After all this time, some of those restoration projects are just getting underway, while others are still in development. With such a long lag time between the spill and reparations, even the most devoted conservationist can lose interest in the outcome. But with so much money at stake, it pays for everyone to keep paying attention.

Of the $32.3 million in settlement funds allocated for restoration, $18.8 million was set aside to compensate for human losses of natural resources. The rest targeted birds ($5 million), fish and eelgrass ($2.5 million), and shoreline habitat ($4 million), with $2 million tabbed for administrative and project oversight costs.

“It’s an unfortunate irony,” said Carol Bach, who monitors a settlement-funded project at Heron’s Head Park as part of her job as an environmental manager for the Port of San Francisco. “You would never wish for an oil spill to happen, and nothing that we can do after the fact truly makes up for the damage that was done. But on the flip side, these settlements give us the opportunity to do environmental work that probably wouldn’t get funded otherwise.”

The painstaking process of assessing damage from the oil spill — habitat destruction, the death of more than 6,000 birds, and losses to other marine life — were detailed in a report filed by six federal and state agencies authorized to act on behalf of the public. Representatives from these agencies comprise a Trustee Council charged with
managing and administering restoration funds.

Using established formulas, the agencies translated damages into dollar amounts. Among those accounts, the natural resource losses for people were tallied: What was the value of missed fishing trips, surfing sessions, or dog walks on a favorite beach? (A few answers from the report: $78 per trip for most boat trips, $52 per trip for dragon boating, $50 per trip for boat-based fishing, and $38 for shore-based fishing.)

When it came time to divvy up the money, the spill demographics were factored in: 45 percent of the oil damage hit San Mateo County, 26 percent was in the East Bay, 17 percent in Marin County, 11 percent in San Francisco County, and 1 percent elsewhere. The funds were further portioned out between lands managed by the National Park Service (NPS) and lands managed by other jurisdictions.

“Early on, it was clear that we needed to know not only the dollar amount of the damages, but also the distribution of those impacts. So, we did our best to calculate and match the location of the harm to distribution of the settlement funds,” said Matt Zafonte, a California Department of Fish and Game economist and an alternate representative for the Trustee Council.

Ultimately, the compensation for human recreation losses went four main ways: $9.746 million to NPS, $7.26 million to Bay Area counties outside of San Francisco, $1.125 to non-NPS lands in the City and County of San Francisco, and $669,000 to the City of Richmond. Collectively, this money has helped complete more than 40 open space and recreation projects, with more still to come.

With almost $10 million available to redress recreation losses in San Francisco and Marin counties, NPS plunked down $2 million for improvements at Muir Beach. They also crossed a lot of smaller projects off their to-do list, including a set of new stairs at Rodeo Beach, animal-proof trash bins for some areas, and seawall repairs at Ocean Beach. But there’s still a little over $2 million to spend, said Kristen Ward, a wetland ecologist for NPS and a Trustee Council alternate representative. Next, the focus is on San Francisco Maritime National Historical Park, where “a huge number of visitors every year” have taken their toll on walkways. Just down the shoreline at Crissy Field, the rest of the oil spill money might also be used to improve the Golden Gate Promenade or Torpedo Wharf.

“There’s lots of deserving projects, and lots of ways these funds could have been spent,” said Ward. “We looked at providing a range of recreation benefits, and being able to benefit the public sooner rather than later, with a high likelihood of success.”

The City and County of San Francisco plans to use about half of their $1.125 million award to stabilize the eroding shoreline at Heron’s Head Park. Although oil never contaminated that southern waterfront, the intertidal ponds are prime roosting habitat for birds. The $665,000 set aside for this project, slated to start in August, should cover feasibility, design development, and permitting — enough to get the shoreline “shovel ready” for the construction phase. If possible, a “living shoreline” using materials such as wood and gravel could create a more natural boundary between the land and water.

“It’s not a sexy project,” Bach said about the shoreline plans. “But it is a valuable contribution toward an important open space and habitat preservation project.”

The rest of that award will go toward improvements at the India Basin Small Boating Complex.

A competitive grant process was put in place to allocate
settlement money for the Bay Area counties. In many instances, these awards were a chance for communities to leverage other monies and address projects languishing for lack of funds.

The City of Richmond, for example, used almost a half million dollars of their $669,000 settlement to close two gaps in the San Francisco Bay Trail, one at the historic Kaiser Shipyard 3 site at Point Potrero and the other near the Richmond Plunge swimming pool. The remaining money was spent on the Marina Bay Trail ($65,000), and improvements at Point Molate Beach Park ($115,000).

“InClearly the goal isn’t to get money from oil spills to do these projects,” said Robert Doyle, EBRPD general manager. “But if it does happen again, it’s important to have a way to clean up the natural resources side and give the public, whose parks and beaches have been impacted, an opportunity to be made whole, too.”

Elizabeth Devitt covers open space for the Monitor.