

Bike-share companies are transforming U.S. cities

By Douglas Johnson, The Conversation

Residents of major U.S. cities are becoming used to seeing docks for bike sharing programs nestled into parking spaces or next to subway station entrances. Adorned with stylish branding and corporate sponsors' logos, these facilities are transforming transportation in cities across the country.

The modern concept of bike sharing – offering bikes for short-term public rental from multiple stations in cities – was launched in Copenhagen in 1995, but U.S. cities only started piloting their own systems in the past decade. Washington, D.C., led the way, launching SmartBike DC in 2008 and an expanded network called Capital Bikeshare in 2010. This program now boasts over 480 stations and a daily ridership of 5,700.

Within a few years, bike-share systems launched in Boston, New York, Chicago, San Francisco, Seattle and dozens of other cities. In 2016 there were 55 systems across the country with a total of over 40,000 bikes.

And momentum continues to grow. In 2017 Citi Bike in New York City added 2,000 bikes, increasing its fleet to a total of 12,000. San Francisco is expanding its system from just 700 bikes to 7,000, thanks to a sponsorship deal with Ford.

Going dockless

The newest twist in this rapid expansion is dockless bike sharing, which lets users park bikes anywhere within defined districts and lock and unlock their bikes with smartphone apps. Users don't have to locate docking stations or worry about whether space will be available at their destination.

These systems also are cheaper to set up, so providers can charge lower user fees. Some dockless bike-share companies offer rides for as little as \$1 for the first half hour.

Dockless systems are also helping to address equity issues posed by public dock-based systems, which often are located in more affluent and predominantly white urban neighborhoods. Because dockless systems don't require stations, they can be rapidly deployed in zones that dock-based systems may be slow to reach.

Students at Beijing University developed this approach in 2014 to improve campus mobility. Dockless bike-share companies have flooded Chinese cities with bikes in the past two years, leading to massive piles of discarded bicycles in public spaces.

Seattle turned to dockless companies to fill the gap after a publicly funded dock bike-share system there failed in 2016. The city could soon have one of the largest bike-share systems in the country. Cities around Boston that are outside of the service area of Hubway, the area's public bike-share system, just reached a deal to provide dockless bike-share service, expanding access to hundreds of thousands of people. And in San Francisco, Uber recently purchased Jump Bikes, a dockless electric bike-share startup, and soon will allow users to reserve electric bikes with their Uber app.

If recent examples are any indication, bike sharing in the United States will be a mix of complementary dock-based and dockless systems, run by both public entities and private companies. The humble bicycle, aided by smartphone technology, is resurging as an urban transportation option.

Douglas Johnson is a public involvement specialist and an adjunct professor at Boston University.

13 people train to be on Douglas County SAR team

On April 17, 13 people graduated from a 48-hour academy to become official members of the Douglas County sheriff's search and rescue team.

The focus of the academy was to become certified as a Nevada Wilderness Search and Rescue Technician (NWSRT), which is a nationally recognized credential. It provided knowledge concerning the general responsibilities, skills, abilities and the equipment needed by people who are assigned to field operations during a search and rescue mission. The course content includes topics in three major areas: survival/support, search, and rescue.

The NWSRT course provided classroom and field sessions. Students were required to take a 145 question written test and a field skill evaluation to complete the course.

In December, DCSAR volunteers were involved in four rescue missions, which included hikers in distress, a missing person, a stranded off roader, and the use of the drone for an emergency situation. SAR members were utilized for 210 hours during that month.

There is no charge for the search and rescue mission to the involved community member or visitor to the county.

DCSAR members were utilized for 18 hours during the Stateline underground explosion on April 1 for public safety.

Study: Global warming mixing up nature's dinner time

By Seth Borenstein, AP

Global warming is screwing up nature's intricately timed dinner hour, often making hungry critters and those on the menu show up at much different times, a study shows.

Timing is everything in nature. Bees have to be around and flowers have to bloom at the same time for pollination to work, and hawks need to migrate at the same time as their prey. In many cases, global warming is interfering with that timing, scientists said.

A first-of-its-kind global mega analysis on the biological timing of 88 species that rely on another life form shows that on average species are moving out of sync by about six days a decade, although some pairs are actually moving closer together.

[Read the whole story](#)

U.S. rivers are becoming saltier

By Sujay Kaushal, Gene E. Likens, Michael Pace and Ryan Utz,
The Conversation

The United States has made enormous progress in reducing water pollution since the Clean Water Act was passed nearly 50 years ago. Rivers no longer catch fire when oil slicks on their surfaces ignite. And many harbors that once were fouled with sewage now draw swimmers and boaters.

But as Earth Day approaches, it is important to realize that new, more complex challenges are emerging. In a study published earlier this year, we found that a cocktail of chemicals from many human activities is making U.S. rivers saltier and more alkaline across the nation. Surprisingly, road salt in winter is not the only source: construction, agriculture, and many other activities also play roles across regions.

These changes pose serious threats to drinking water supplies, urban infrastructure and natural ecosystems. Salt pollution is not currently regulated at the federal level, and state and local controls are inconsistent.

Our research shows that when salts from different sources mix, they can have broader impacts than they would individually. It also shows the importance of supporting water quality monitoring nationwide, so that we can detect and address other pollution problems that have yet to be recognized.

Altered waters

Our group has been studying freshwater salinization for over 15 years. In 2005 we published a paper that demonstrated that levels of sodium chloride (common table salt) were rapidly increasing in fresh waters across the northeastern United States.

Until that time, scientists thought that salinization was a serious problem mainly in arid regions where water evaporates rapidly, leaving salts behind. But we found that it was affecting major drinking water supplies, exceeding toxic levels for some aquatic organisms and persisting in the

environment year-round, even in humid regions.

The main cause we found was the spread of paved surfaces, such as roads and parking lots. Communities in cold regions use de-icing salts to clear snow from roads during winter, and the more roads they build, the more treatment is needed. We found that a 1 percent increase in paved surfaces could boost salt concentrations in nearby water bodies to levels more than 10 times higher than pristine forested conditions.

In 2013, we published another study showing that rivers were becoming more alkaline across regions of the eastern United States. At that time acid rain – i.e., too much acid in rainwater, caused by air pollution – had been a well-known environmental issue for several decades. However, alkalization was not recognized in the same way, and its effects are still poorly understood now.

Alkalization is the opposite of acidification: It occurs when water's pH value increases instead of falling. As water becomes more alkaline, certain chemicals dissolved in it can become toxic. For example, ammonium is a nutrient in freshwater ecosystems, but is converted to toxic ammonia gas in significant concentrations in waters with a high pH. Alkaline conditions also enhance release of phosphorus from sediments, which can trigger nuisance blooms of algae and bacteria.

We found that a process we called “human-accelerated weathering” was breaking down rock and releasing minerals into rivers that were making them more alkaline. The process of weathering rocks and minerals that become exported to rivers is typically slow, but we showed that land development and decades of exposure to acid rain were speeding it. We also suggested that widespread use of geologic materials in fertilizers and concrete was a factor.

Identifying freshwater salinization syndrome

Our study on human-accelerated weathering showed that along with sodium chloride, other dissolved salts were increasing in fresh water across large regions of the eastern United States. This made us wonder whether there could be a link to our previous work on salinization in these regions.

We started to recognize that in theory, salt pollution and human-accelerated weathering could be sending increasing quantities of salts that were alkaline into rivers throughout the nation, and that this could increase their pH levels. We knew that ocean water, which is naturally salty, has a higher pH than fresh water because it has accumulated high levels of alkaline salts. After much analysis, we proposed that similar interconnected processes could influence salinity and pH in fresh water.

Many sources release alkaline salts into the environment, including weathering of impervious surfaces, fertilizer and lime use in agriculture, mine drainage, irrigation runoff and winter use of road salt. Initially, parts of these alkaline salts bind to soil. But when they come into contact with sodium – for example, excess road salt – chemical reactions occur that release the alkaline salts, which then wash into freshwater ecosystems.

We called this process freshwater salinization syndrome because it was producing multiple effects on salts, alkalinity and pH, which are fundamental chemical properties of water.

Different causes by region

Figuring out this process was a team project that required knowledge of limnology (the study of inland waters), geochemistry and geography. The causes vary from one location to another, but the outcomes can be similar.

For example, rivers are becoming more saline and alkaline in parts of North Carolina, Florida, Virginia and other states that use little or no road salt. This is likely due to human-

accelerated weathering in locations underlain by limestone (which dissolves when it comes in contact with acid rainwater) and in urbanized areas with lots of concrete infrastructure, as well as urban salt pollution from sewage, water softeners or fertilizers.

Our research was supported by the U.S. National Science Foundation and drew on enormous quantities of monitoring data from ecosystems across the United States collected mainly by the U.S. Geological Survey. We analyzed long-term trends in the chemistry of rivers over five decades and compared these trends across different major river systems and regions.

We also analyzed trends in major estuaries, such as the Hudson River and the Chesapeake Bay, to investigate whether increasingly alkaline inputs from rivers could potentially influence the chemistry of coastal waters. Our results show that changes in salts can alter concentrations of pollutants such as excess phosphorus and nutrients that are bound up in sediments at these sites.

Managing salt pollution

Freshwater salinization syndrome is affecting drinking water supplies in many parts of the United States. In some cases it is altering the taste of water or threatening the health of people with hypertension.

There is growing concern that salts in fresh water can corrode water pipes and release toxic metals such as lead into drinking water. They also can trigger reactions that mobilize other contaminants and pollutants from soils into rivers.

As other scientists have shown, mixtures of salts can be more toxic to aquatic life than just one salt alone. The Environmental Protection Agency does not currently regulate salts as primary contaminants in drinking water, and state and local regulation of salt releases over wide areas from activities such as road treatment are sparse and inconsistent.

We believe there is a serious need for federal regulations and regional plans to reduce salt pollution in fresh water. One strategy would be to reduce use of road salts by calibrating application and adjusting application rates based on temperature. In addition, not all salts are created equal: It may be more efficient to use certain salts as deicers at lower temperatures. Finally, organic de-icing solutions use less salt than conventional versions.

New forms of water pollution are constantly emerging, and it is important to identify how different human activities accelerate geological processes in nature. Fresh water accounts for only about 3 percent of the Earth's total water supply (the rest is in the oceans), and there will always be a need for better understanding and management of this precious resource.

Sujay Kaushal is an associate professor of geology at University of Maryland; Gene E. Likens is a distinguished research professor of ecology and evolutionary biology at University of Connecticut; Michael Pace is a professor of environmental sciences at University of Virginia; and Ryan Utz is an assistant professor of water resources at Chatham University.

3-state online poker pool to debut in May

By Wayne Parry, AP

ATLANTIC CITY, N.J. — Internet poker players in three states will be able to face off against each other starting May 1, in a long-awaited expansion of online gambling.

Two poker brands of Caesars Interactive Entertainment, WSOP.com and 888Poker.com, plan to go live on that date in New Jersey, Nevada and Delaware, the company told The Associated Press on Monday.

It would be the first joint play arrangement linking the three states that currently offer internet gambling.

Read the whole story

Time to worry about mosquitoes

With this being Mosquito Awareness Week, El Dorado County health officials are reminding residents to take steps to protect themselves from mosquitoes as warmer weather approaches.

West Nile virus is primarily a disease of birds that can be transmitted to people and animals by mosquitoes. WNV is a mosquito-borne disease that can result in debilitating cases of meningitis and encephalitis, and death to humans, horses, avian species and other wildlife. In 2017, there were 536 confirmed human cases of WNV in 44 counties throughout California, with no cases in El Dorado County. Statewide there were 43 human deaths.

Pregnant women should be aware about the risks of traveling to Mexico and other countries where the Zika virus can be transmitted through mosquito bite, which can result in harm to the growing fetus.

El Dorado County vector control technicians respond to

resident complaints and provide surveillance and control of mosquito sources in designated areas of the county.

Residents and visitors can reduce their risk of mosquito-borne diseases by taking the following precautions:

- Eliminate or drain all sources of standing water around your property including flower pots, old tires, and buckets. Mosquitoes can lay their eggs in sources of water as small as a bottle cap.
- Avoid activity outside when mosquitoes are most active, especially at dawn and the first two hours after sunset.
- If you are being bitten or see any other activity outside these time frames, contact vector control.
- If you are outdoors when mosquitoes are biting, wear long pants and long-sleeved shirts.
- Apply insect repellent containing EPA-registered active ingredients such as DEET, Picaridin, IR3535, or oil of lemon eucalyptus. Always apply according to label instructions.
- Make sure doors and windows have tight-fitted screens. Repair or replace screens that have tears or holes.
- If planning travel out of the country, check with the Centers for Disease Control for current information and advisories related to Zika, yellow fever, and other travel-related risks.

To report a dead bird, call 877.968.2473. To report a complaint about mosquito activity, contact El Dorado County Vector Control at 530.573.3197 in the Tahoe basin, or 530.621.5300 on the West Slope.

Scheduled burns throughout Tahoe basin

Weather permitting, the Tahoe Fire and Fuels Team, which includes local, state and federal agencies, will continue prescribed fire operations this week around the Tahoe basin.

The North Lake Tahoe and Tahoe Douglas fire protection districts, California State Parks, California Tahoe Conservancy and the U.S. Forest Service will conduct prescribed fire operations in Sugar Pine Point and Burton Creek state parks on the West Shore, Kings Beach and Diamond Peak Ski Resort on the North Shore, Logan Shoals on the East Shore and on Kingsbury Grade, off Ski Run Boulevard and near the Golden Bear subdivision on the South Shore. Smoke may be present.

A map with project locations and details is available for viewing **online**. To receive prescribed fire notifications, send an email to pa_ltbmu@fs.fed.us.

Tour of Carson City bike event set for May

Bike Habitat 's 11th anniversary of the Tour of Carson City Bike Ride and lunch will be May 6.

The ride will start and finish at Fuji Park in Carson. It starts at 9am.

The 30-mile ride is free. It will go around the perimeter of Carson City. It will be moderately paced.

For more info, call Denis at 775.267.5053.

Sierra to end season with appreciation day

Sierra-at-Tahoe will honor guests with Customer Appreciation Day on April 16.

All season passholders may ski or ride for free, with lift tickets available for \$35. All proceeds from lift tickets will benefit youth recreation and education including baseball, soccer, swimming and other youth activities in South Lake Tahoe.

Sierra-at-Tahoe will operate a limited number of lifts from 10am-2pm, including Grandview Express and Easy Rider Express. All guests are invited to join General Manager John Rice and the rest of Sierra's team for the official "last run of the season" from the top of Grandview Express beginning at 2pm. Last call at the Sierra Pub will be 2:45pm, in time for the ending of all winter operations at 3pm.

Minor league park a treat for baseball fans



The River Cats know how to entertain a crowd with baseball and gimmicks in between innings. Photo/Kathryn Reed

By Kathryn Reed

WEST SACRAMENTO – The crack of the bat, the roar of the crowd – those are the same at any ball field. It's the antics between innings and the grass beyond right field that makes this park a little different.

While the game is the same, there is something special about a minor league stadium. It's intimate, much like being at spring training.

The River Cats have been playing at Raley Field in West Sacramento since 2000. In 2015, they became the triple-A affiliate for the San Francisco Giants.



A fan in hopes of catching a foul ball.
Photo/Kathryn Reed

Not a bad seat in the house. It's all field level seating, with the second tier being the suites.

Plus, it's much more affordable than going to a Big League game. It was comical seeing people with armloads of hot dogs. On Tuesdays they are only a buck, with 10 being the max one could buy.

On Wednesdays dogs are welcome in the grass area.

Based on the attire, most people were Giants fans. Still, many were there as fans of the sport – not necessarily the River Cats or visiting Aces from Reno, which is an Arizona Diamondbacks affiliate.



Food goes well beyond the ordinary hot dog. Photo/Kathryn Reed

The quality of ball is sporadic, but then the same could be said of the Giants at this stage of the season.

This is where those who are on the edge of making it to the show are honing their skills, while those whose glory days are in the rearview mirror are hanging on to a fading dream. As a Giants fan, it was great to see Hector Sanchez behind the plate. Mac Williamson, who was called up last season, is back in right field for the River Cats.

Opening night last week was my first time to visit to this ball park. I'll be back.