

SAN JOSÉ STATE UNIVERSITY

# 2017-2020 SUSTAINABILITY REPORT

OFFICE OF SUSTAINABILITY



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## PRESIDENT'S MESSAGE

Sustainability is one of the big issues of our time. San José State continues to be an innovative leader in this area, particularly in our buildings and facilities, but also in our academic programs and co-curricular initiatives led by our Division of Student Affairs.

One of the major goals in *Transformation 2030*, the university's comprehensive strategic plan, is to position SJSU as a leader in environmental sustainability—to make us one of the “greenest” and most sustainable campuses in the United States. To do this successfully, however, will require an interdisciplinary approach and a great deal of focus and commitment.

Becoming a truly sustainable campus must involve everyone, not just students and faculty members in one department. We want all of our students to graduate with a firm understanding of what it means to be sustainable and to gain an appreciation of how their personal actions and the choices they make can have either a positive or negative impact on the environment. For example, how can economists and business majors be included in the conversation and add to the discussion? How can other disciplines contribute in meaningful ways? And how can our faculty members incorporate sustainability features into their curricula?

Many of the answers to these questions can be found in the 2019 Sustainability Report. This report highlights the strides SJSU has taken in the areas of academics, campus and public engagement, facilities, transportation, waste management, and energy and greenhouse gas emissions.

I am delighted to be leading a campus so dedicated to making this university one of the most environmentally sound in the U.S. We are committed to staying focused, making smart decisions about our natural resources and learning about vital environmental issues as we strive to ensure that everyone who passes through our gates leaves with a commitment to making good personal decisions about the way we treat the Earth.

If we hold true to these values, we know we will be doing our part to enhance the health of our shared planet.

Sincerely,

Mary A. Papazian, PhD

“Sustainability is a key priority at San José State and the creation of the Office of Sustainability has created visibility and integration of sustainability into all aspects of the university.”

—Vice President for Administration and Finance and Chief Financial Officer Charlie Faas

## OFFICE OF SUSTAINABILITY

In October 2018, the Administration and Finance Division announced the official opening of the San José State University Office of Sustainability. The office consists of two staff members, Debbie Andres, '07 Chemical Engineering, and Kristen Wonder, '18 Environmental Studies, one academic counterpart, Environmental Studies Professor Katherine Cushing, and a student internship program. The office serves as a campus resource focusing on sustainable behavior change, waste reduction and diversion, resource conservation and recycling, curriculum development and creating a culture of sustainability among students, faculty, and staff at SJSU. This year, the Office played a pivotal role in connecting over 70 faculty members teaching sustainability courses with each other to share resources in support of a massive Earth Week teach-in.

The goals of the university's upcoming Sustainability Action Plan are two-fold:

1. To further integrate sustainability into the curriculum across academic disciplines and
2. To offer tools to participate in campus sustainability with energy saving measures and waste reduction practices.

These goals align with *Transformation 2030's* focus on rebuilding and renewing San José State. To be a flourishing, modern campus with state-of-the-art infrastructure, campus spaces and technology to support learning, research and community, SJSU needs to be environmentally sustainable.



## SUSTAINABILITY AND TRANSFORMATION 2030

Environmental sustainability is woven into the fabric of *Transformation 2030*, the university's 10-year strategic plan. There are a number of goals the Office of Sustainability directly impacts:

**Engage and Educate:** The office provides opportunities for curriculum-based internships, service-learning projects or research, scholarship and creative activity projects. Office of Sustainability interns have the chance to develop the skill sets referenced in the strategic plan: leadership, communication and empathy. The office hosts events and clubs that encourage students to thrive in campus life activities through participation in student organizations, attendance at campus events, and participation in university activities that support academic, social and career goals.

**Grow and Thrive:** Transportation Solutions provides access to transportation for campus stakeholders. The campus Sustainability Board also provides a monthly forum for all stakeholders to engage in campus conversations on important issues.

**Connect and Contribute:** The office participates in organizations dedicated to educational research, economic development opportunities and enterprise-level solutions such as the Association for the Advancement of Sustainability in Higher Education (AASHE), Sustainable Silicon Valley, the Silicon Valley Leadership Group, the California Higher Education Sustainability Conference (CHESC), the Green Sports Alliance and the International Sustainable Campus Network, as well as working with the city of San José on events such as Move Out Day. By sharing SJSU's progress in sustainability, the office will help gain philanthropic support from alumni and friends of the university.

**Rebuild and Renew:** The office is at the forefront of positioning SJSU as a leader in environmental sustainability.



Diana Victa at the Campus Community Garden. Photo by:

## CULTIVATING A VISION

When Diana Victa, '10 Sociology, became the department manager for San José State's Cesar Chavez Community Action Center (CCCAC), she envisioned transforming the Campus Community Garden (CCG) into a learning space for students, faculty and staff members alike. Founded in 2012 by members of the Student Hunger Committee, the garden is located across from Campus Village and provides fresh, free and accessible food for students—especially critical as the cost of living in the Bay Area skyrockets. Victa and her part-time student staff are committed to making the garden an inviting space to explore big ideas.

“How do we cultivate the space so students are learning and thinking about how food is grown?” Victa asks. “What are the environmental justice ties to our community garden?”

The organic, chemical-free garden is on a quarter acre of land and includes more than 60 plant species from perennial fruit trees and flowers to annual vegetable crops, a composting system and a gray water system. Since its founding, the CCG has addressed food insecurity among college students and has cultivated community learning and critical thinking as it relates to multiculturalism and environmental justice. Conscious of the center's namesake, Victa wanted to honor the legacy of the farmworker movement and remind volunteers of the garden's greater purpose. Established by Associated Students in 2005, the CCCAC connects students with community service opportunities that deepen their educational experiences while promoting the lifelong commitment to activism at the heart of the Cesar Chavez legacy. In summer 2018, Victa

worked with her team to install a fence, on which they painted a mural of activist Dolores Huerta.

“Often if you go into gardens or sustainability spaces outside of San José State, it's rare to have a conversation about your identity—how race, gender, socioeconomic class, status—is integrated with sustainability work,” says Victa. “How do we have the conversation beyond the mainstream idea of ‘being green’? I am very intentional about growing food and keeping the garden alive, but also planning programs in our garden that are centered around social justice, identity and environmental justice.”

As the garden's programs have grown, so has its need for tools and support. Victa was awarded a California State University Basic Needs Initiative Community Garden grant in March 2019 to install a solar panel system that will provide power to the garden. The CCCAC will be partnering with the Office of Sustainability to consult with students, faculty and staff members across campus who can help make this vision a reality.

## ABOUT THE CAMPUS COMMUNITY GARDEN

- Victa has coordinated more than 1,300 volunteers, totaling more than **9,000 volunteer hours** per academic semester.
- Victa and CCG staff helped install the **Dolores Huerta mural** in the garden in summer 2018.
- Operations and social justice assistant Michelle Domocol helped install a **vertical garden** in spring 2019 to increase garden space by 30 percent.
- CCG volunteers and program assistant Miguel Leptoure are helping install a **solar panel system**.
- Victa has developed and coordinated **five to six programs and events per semester** focused on community building and critical thinking related to environmental justice.

## RIDE TO SCHOOL DAY

Ride to School Day (R2SD) is put on multiple times each semester by the Environmental Resource Center in partnership with Associated Students, Transportation Solutions, the Silicon Valley Bicycle Coalition and the Bay Area Air Quality Management District. The Environmental Resource Center was established as the student activist wing of the environmental studies department in 1967 and is now a student-run organization. R2SD promotes sustainable transportation to and from campus and informs students about the transportation options available to them with games, free bike tune-ups from Bicycle Express and free food. It distributes surveys to collect data about transportation.





Top Photo: Nancy Stewart and Christine Wong Mineta at the Spartan Food Pantry. Bottom Photo: SJSU Cares staff member Marko Mohlenhoff works with students every day to address basic needs. Photo: David Schmitz.

## ADDRESSING FOOD INSECURITY

The Spartan Food Pantry is the first full-service, staffed, walk-in pantry at SJSU offering non-perishable goods, fresh produce, and refrigerated goods. The pantry, which opened its doors on March 25, 2019, is open to currently enrolled students who earn a gross annual income of \$33,385 or less (no documentation required). Students must bring their Tower ID and reusable grocery bags, in hopes of reducing single-use bags.

The pantry is set up like a grocery store and eligible students can “shop” through six zones including fresh produce, chilled items, dry goods and toiletries, among others. Once students complete the Spartan Food Pantry intake and agreement form, students can stop in once every seven days for groceries.

Over two in five SJSU students are facing food insecurity, which the university defines as students who have limited or uncertain access to nutritious and safe foods because of a lack of money and other resources. In addition to the food that Second Harvest Food Bank donates to the pantry, food grown in the Campus Community Garden and leftover food from Spartan Eats is donated to the Spartan Food Pantry. This practice keeps food from going to waste. Instead, it goes to students who benefit from it. Sustainability and basic needs are cohesive.

At SJSU’s fall 2018 Inspiration to Innovation Gala, Second Harvest Food Bank of Santa Clara and San Mateo Counties was recognized with the Community Partner Award for its support of students through Just In Time mobile food pantries. In 2017, Second Harvest began providing fresh fruit, vegetables and groceries to SJSU students at monthly mobile food pantry events on campus. During the 2017-2018 school year, the Just in Time program served 4,513 students a total of 156,086 pounds of free food, providing groceries for over 500 Spartans at every event—equivalent to \$430,000 in groceries.

## SUSTAINABLE ENGINEERING

Fred Barez has a personal and professional love for sustainability—from smartphones to hybrid and electric cars. The professor of mechanical and aerospace engineering teaches and offers sustainability projects to address community needs. With the support of a local sponsor, Barez worked with students to build two smart homes. The first was designed to evaluate windows and insulation in homes and the second to evaluate energy efficiency. This is valuable for his engineering students and for the progression of sustainability in green building.

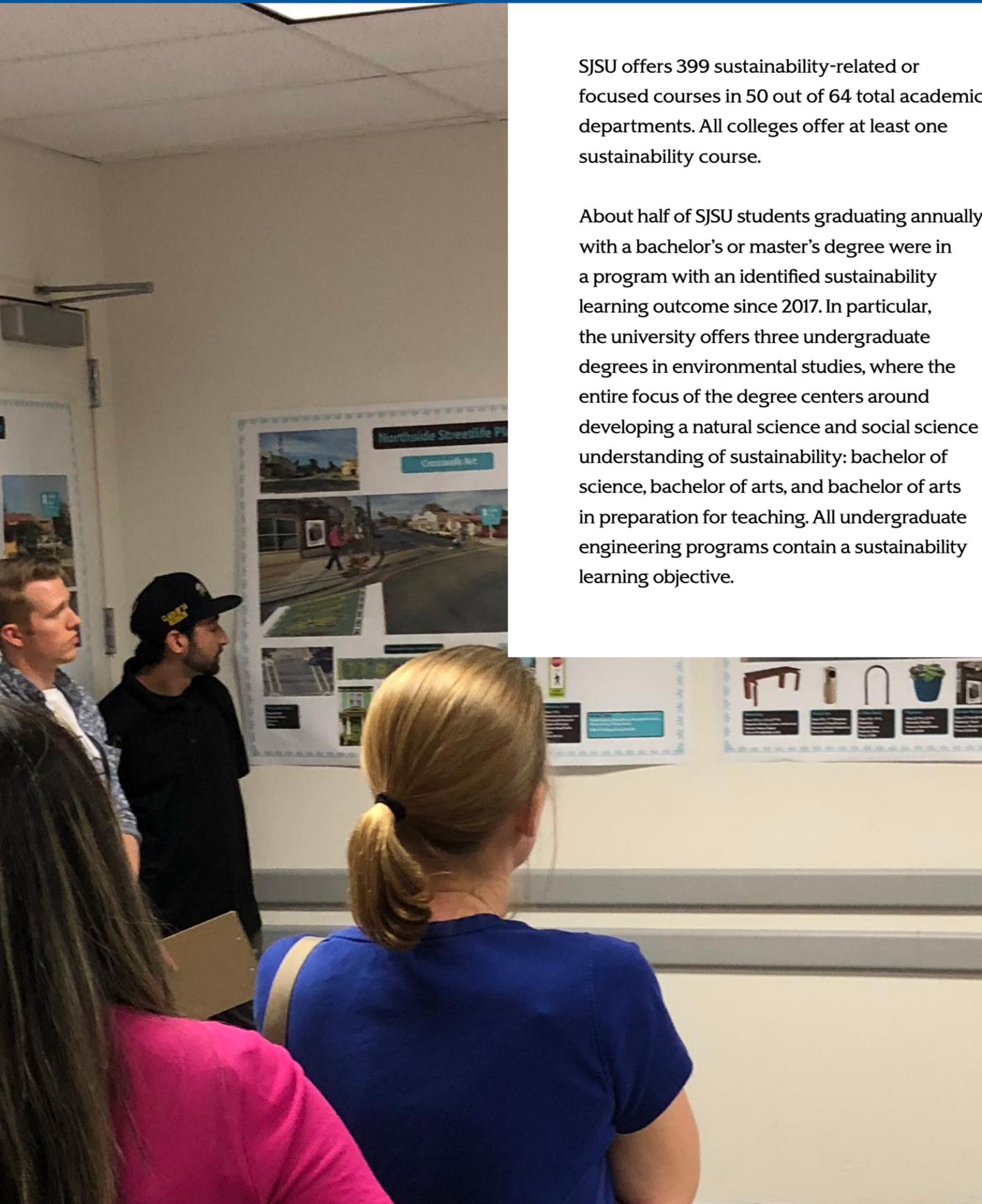
“My interest in sustainability grew as I was involved in teaching Senior Design Projects, as well as assigning projects in my other classes as a way to engage students in hands-on activities,” says Barez. “Teaching students the benefits of developing renewable energy products utilizing solar, wind, fuel cell, mechanical, hydrology and tidal provides our students with the knowledge, innovative approaches and entrepreneurial skills needed to make a difference and to contribute to design of environmentally friendly energy sources.”

Every spring, Barez also teaches a course that explores how electric vehicles work and their cost effectiveness in society. Students study batteries, charging stations, on-board electronics and navigation, and overall vehicle drivetrain performance. After seeing a sustainable energy station at a convention, Barez decided to work with students to build something similar. The station will demonstrate how to generate electricity out of solar panels and wind turbines, giving students hands-on opportunities to see how renewable energy works. Barez loves getting students engaged in sustainability and watching them see the results of their hard work.



Fred Barez works with SJSU student on an electric golf car. Photo: David Schmitz

# ACADEMICS



SJSU offers 399 sustainability-related or focused courses in 50 out of 64 total academic departments. All colleges offer at least one sustainability course.

About half of SJSU students graduating annually with a bachelor's or master's degree were in a program with an identified sustainability learning outcome since 2017. In particular, the university offers three undergraduate degrees in environmental studies, where the entire focus of the degree centers around developing a natural science and social science understanding of sustainability: bachelor of science, bachelor of arts, and bachelor of arts in preparation for teaching. All undergraduate engineering programs contain a sustainability learning objective.

There are eight graduate degrees with sustainability focuses:

- MS in Environmental Studies
- MA in Biological Science
- MS in Engineering with an emphasis on green technology
- MS in Civil Engineering
- MS in Engineering
- MS in Marine Science
- MS in Geology
- MS in Urban Planning

Graduate minors include:

- MS in Biological Sciences with a concentration in ecology and evolution
- MS in Urban Planning with a specialization in environmental planning

SJSU promotes broadening student knowledge in sustainability by providing immersive opportunities in sustainability-focused educational study programs internationally. The university offers a variety of faculty-led programs, study abroad opportunities designed and taught by SJSU professors that last two to four weeks. Three sustainability-related courses offered in 2018 involved historic preservation in Paris, support for rural school children in Guilin, China, and urban planning in Brazil.

Of the 64 academic departments at SJSU, 34 departments included at least one faculty or staff member who is actively pursuing and conducting research, has submitted research proposals, or has been awarded grants related to sustainability since 2017. And of the 576 SJSU faculty or staff members engaged in research, 97 are focused on sustainability. Several SJSU faculty members have received notable achievements in their sustainability research in recent years. Two prime examples include standout faculty researchers Associate Professor of Meteorology and Climate Science and Meteorology Craig Clements and Environmental Studies Department Chair Lynne Trulio.

Clements oversees SJSU's Fire Weather Research Laboratory, whose mission is to uncover the science behind wildfires creating their own weather. A nationally recognized expert on this topic, one of Clements' research projects established a new network of fire weather and fuel moisture monitoring sites in Northern California. The lab supports the work of four undergraduate research assistants and six graduate research assistants.

Trulio is a nationally recognized expert on investigating the human impact on species and habitats in the San Francisco Bay Area, with a particular emphasis on the ecology and recovery of the western burrowing owl (*Athene cunicularia*) in California, the effects of recreation



on wildlife, and tidal salt marsh restoration in the bay. In 2017, she was awarded the Warburton Award by the College of Social Sciences for her research achievements.

Sustainability is also making its way into student research. Advised by Assistant Professor of Chemistry Madalyn Radlauer, Vanshika Gupta, '20 Biochemistry, was selected as a finalist for the university-wide research competitions for her work entitled "Investigating Macromolecular Structures for the Transformation of Greenhouse Gases into Liquid Fuels." Additionally, two of five presentations selected for the 2019 Dean's Spring Research Colloquium for the College of Social Sciences focused on sustainability. Anteneh Ayele, '19 Applied Economics, conducted research on the capitalization of energy-efficient building technology in the U.S housing market. Prabha Venu, '18 Environmental Studies, conducted an assessment of peregrine falcon (*Falco peregrinus anatum*) nesting habitats in the San Francisco Bay Area.

## GOALS

- Integrate sustainability across the curriculum.
- Foster a sense of community among faculty members teaching and conducting research on sustainability.
- Provide financial support for faculty-student sustainability projects.
- Be recognized as a leader in sustainability within the CSU, regionally and nationally.
- Develop an academic strategy for becoming a signatory to the Second Nature Presidents' Climate Leadership Carbon Commitment. Second Nature is the nonprofit behind the Climate Leadership Network, which unites university leadership around commitments to a more sustainable world. By signing the commitment, San José State would join the more than 4,000 university and college leaders who are working hard to find the climate solutions necessary to preserve the Earth.
- Make carbon neutrality a part of SJSU curriculum and other educational experiences for all students.
- Expand research in carbon neutrality.

# CAMPUS AND PUBLIC ENGAGEMENT



The Office of Sustainability strives to create a culture of sustainability on campus, which requires an interdisciplinary approach. To do this successfully, sustainability needs not only to come from the Office of Sustainability but through many different divisions. This section highlights the Environmental Resource Center, Dwight Bentel and Hall Communications, CommUniverCity, Green Ninja, the Green Office Program, Eco Reps and the STARS report.

## ENVIRONMENTAL RESOURCE CENTER

The mission of the Environmental Resource Center (ERC) is to provide services in environmental awareness and education. It is also offered as Environmental Studies 181, a pass/no pass credit class. Although the ERC is an extension of the environmental studies department, students from all majors are welcome to enroll.

Each semester, 15 to 25 students enroll, but at least 50 students are often involved. Students in the ERC receive semester-long training in environmental education and public outreach, gain leadership and project management skills, execute projects or continue work from previous semesters. They also network with contacts, plan events and delegate responsibilities with other students. ERC students support the campus community in sustainability outreach and education.

The ERC receives approximately \$7,000 per academic year to support its activities. A majority of the funds is allocated to Sustainability Week, a series of events that culminate on or around Earth Day (April 22). The ERC regularly organizes a number of other sustainability outreach events throughout the school year.

## DWIGHT BENTEL AND HALL COMMUNICATIONS

SJSU's Marketing Communications 199 course offers credit for students to work in a campus student agency called Dwight Bentel and Hall Communications. The agency has taken on the Office of Sustainability as a client and promotes the sustainability program on campus to students, faculty and staff members. A team of creatives, media and public relations students put together print collateral, social media and videos for campus sustainability. Together, the team has developed and executed a strategic plan over a number of months, overseen by the faculty advisors and approved by the Office of Sustainability. The project was initiated in the fall 2015 semester and is ongoing.



“I’m passionate about promoting solutions to climate change.”

—Climate Science and Meteorology Professor Eugene Cordero

## COMMUNIVERCITY

Established in 2005, CommUniverCity helps build community by engaging residents and students in learning projects that accomplish neighborhood-driven goals.

CommUniverCity’s sustainability-focused projects include:

- An in-class and afterschool garden and nutrition education program with four local schools in underserved communities, supported by the Santa Clara County Open Space Authority.
- Hands-on watershed education lessons to K-12 students in collaboration with Keep Coyote Creek Beautiful and the Santa Clara Valley Water District.
- Assessing and identifying transportation challenges and opportunities at the Diridon Station transit hub.
- Trail cleanups and park activation in low-income central San José neighborhoods.

CommUniverCity received the National Society for Experiential Education 2019 Award of Excellence for a community-based organization and work on the Friends of Five Wounds Trail. Community planning in the Northside neighborhood was also recognized by the San José mayor and City Council. U.S. Congresswoman Zoe Lofgren also recognized CommUniverCity for its longstanding support of community action and for “increasing the vibrancy and health of our communities.”

## GREEN NINJA AND CLIMATE CHANGE EDUCATION

The Green Ninja project, run by Climate Science and Meteorology Professor Eugene Cordero, offers innovative middle school curricula designed to help students understand and tackle problems related to climate change. Its educational materials originated from SJSU research that focused on connecting middle school students to science subjects through personal engagement. Support from the National Science Foundation and NASA helped the program better understand student engagement and the powerful role that motivation plays in learning.

Learn more at [greenninja.org](http://greenninja.org).

## GREEN OFFICE PROGRAM

The Green Office Program is a partnership between the Office of Sustainability and the Environmental Resource Center that offers sustainability education to SJSU’s faculty and staff. Once a month, University Personnel offers a Green Office Workshop that gives an overview of SJSU sustainability initiatives and ways to be sustainable that are easy to implement, cost effective and positively impact the environment. This monthly workshop is being developed into a Green Office certification process available to all campus offices and departments. The certification process had a soft launch in summer 2019 with the official program launch in the fall.

## ECOREP PROGRAM

EcoReps are students who serve as sustainability mentors and educators for their peers. Their mission is to collaborate across campus on sustainability initiatives and outreach events to encourage long-lasting social and environmental stewardship.

## STARS

The Sustainability Tracking, Assessment and Rating System™ (STARS®) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance. STARS is intended to engage and recognize the full spectrum of colleges and universities—from community colleges to research universities, from institutions new to sustainability programs to long-time campus sustainability leaders.

STARS is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the international campus sustainability community.
- Create incentives for continual improvement toward sustainability.
- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community

In 2016, San José State earned the second-highest rating: gold. For more information, please go to <https://stars.aashe.org/institutions/san-josé-state-university-ca/report/2016-08-26/>



## 2019 EARTH WEEK EVENTS

For the first time, SJSU dedicated an entire week to Earth Day, April 15–19, 2019. Events included a Green Career Panel, a film screening, an Engineering Sustainability event and the annual Earth Day Resource Fair on Tower Lawn. Resource Fair activities included yoga on the lawn, a live musical performance and the famous critter corner, including a petting zoo. The resource fair also included dozens of nonprofits and businesses, big and small.

### MONDAY, APRIL 15



#### Engineering Sustainability

9:30 a.m.–3 p.m., Diaz Compean Student Union Conference Room 1A, Participation: 300

The Engineering Sustainability event showcased research projects organized by 100W engineering students, who presented posters that focus on environmental issues and sustainable outcomes.

*“The projects that stuck out to me were the hydroponics project, and the 3D printing waste solutions project. The hydroponics one was about putting a hydroponic system at SJSU, which I thought would be a great thing to be able to have on campus. They showed the ways 3D printing can be used to turn waste into viable materials, such as using coffee grounds to make compostable single use cups, and using sand as a building material.”* —Katelin Johnston, SJSU student

### TUESDAY, APRIL 16

#### Keep Coyote Creek Beautiful Talk and Walk

10–11 a.m., Williams Street Park, Participation: 12  
Participants learned about the local watershed.

#### Open Classroom: Global Climate Change

10:30–11:45 a.m., SCI 142, Participation: 90  
The Global Climate Change class discussed the history of Earth Day, and the role it has played in climate change action policies and the emergence of the March for Science.

#### Transportation Solutions

11 a.m.–1:30 p.m., 7th Street Plaza, Participation: 25  
Transportation Solutions tabled on the plaza to discuss how our transportation choices impact the environment and informing students about the benefits of taking sustainable transportation, including available services.

#### Green Career Panel

Noon–1 p.m., Dr. Martin Luther King, Jr. Library 225, Participation: 90  
This special event offered resources for students interested in finding green careers.



“I love that we put on an entire week of events. My personal favorite, besides Earth Day itself, is the Green Career Panel. I think this is a great way to encourage students from other disciplines to bring sustainability to their fields. You don’t have to be an ENVS major to find a green career.”

—Carlina Rose, '20 Environmental Studies



## WEDNESDAY, APRIL 17

### Plastic China Film Screening

2–4 p.m., Diaz Compean Student Union Meeting Room 1B, Participation: 40

This documentary depicts the lives of two families who make their living recycling plastic waste imported from developed countries. Following the screening, students participated in a panel discussion that covered where our recycling really goes and how to be more sustainable.

*“Earth Week was a great experience. I liked that it was stretched out for an entire week. More people were reached and had more opportunities to learn about environmentalism and sustainability. The Plastic China screening was very timely, since China is now no longer accepting our recyclables. The film showed us how the waste we produce is affecting the environment and individuals across the globe.”*  
—Diana Tran, '19 Environmental Studies

### Legacy of Poetry Day Reading: Water and Fire

4:15–6 p.m., Dr. Martin Luther King, Jr. Library 225, Participation: 40

SJSU and Community Poets hosted a reading on climate change, featuring Santa Clara County Poet Laureate “Mighty” Mike McGee, San Mateo County Poet Laureate Emeritus Lisa Rosenberg and KKUP Radio Host “Poetita” Rachelle Escamilla, '08 English.

*“As an artist and reader of poetry, I was really looking forward to this event. It was incredibly beautiful to see so many poets bring their art together with their love for nature and the environment. Each artist was unique, but they all followed a central theme of fire and water. I was also surprised to see that a friend of mine was sharing his piece as well.”*  
—Shadeh Begian, '19 Environmental Studies



### Legacy of Poetry Keynote Reading: Water and Fire

7 p.m., Dr. Martin Luther King, Jr. Library 225, Participation: 40

Award-winning poets Forrest Gander and Arthur Sze read their poetry and discussed environmental poetics with poets Sally Ashton and Michael Tod Edgerton, hosted by poet SJSU Professor of English and Creative Writing Alan Soldofsky.

## THURSDAY, APRIL 18

### Earth Day San José

10 a.m.–2:30 p.m., Tower Lawn, Participation: >1000

The 52nd Annual Earth Day hosted to dozens of vendors in support of the environment and sustainability, including workshops, speakers, a petting zoo, live music, games, food and a positive learning environment for people of all ages.



### Symposium on Water and Fire: Poetics of a Warming Planet

Noon–1:15 p.m., Engineering 189, Participation: 40

SJSU Global Studies Chair Katherine Cushing and Creative Writing Director Alan Soldofsky hosted a panel featuring Pulitzer Prize-winning poet Forrest Gander, poet Arthur Sze and SJSU faculty members Eugene Cordero and Craig Clements.

*“I attended the poetry slam where basically the theme of the poems being talked about were water and fire. It was enlightening, to say the least. The poems were beautifully written.”* —Briana Fass, SJSU student

### Open Classroom: Sustainable Agriculture

1:30–5:45 p.m., Sustainable Agriculture Garden, Courtyard between Washington Square Hall and the Science Building, Participation: 100

Participants learned about environmentally sustainable methods of food production, including biological diversity, water conservation, air quality, social equity and economic justice.

*“My Earth Week experience was amazing! I never really had a full day to volunteer in past years but this year, I feel like I got to experience fully what Earth Day at SJSU is about. I also loved the career panel. All the panelists offered great advice and I applied for one of their internships after the talk.”*  
—Olivia Trevino, '19 Environmental Studies

## FRIDAY, APRIL 19

### Open Classroom: Landscape Photography

12:30–2:15 p.m., Washington Square 111, Participation: 40

Students watched a film and discussed Ansel Adams, America's foremost nature photographer and environmentalist.

*“I went to the open classroom of landscape photography, led by Professor Gary Klee. Around 40 people attended the event—it was really crowded. The event focused on Ansel Adams' influence on landscape photography. Then, a 10-minute clip of the modern-day Ansel Adams, Clyde Butcher, was shown. Finally, a commercial for a new camera that encapsulates the next generation of landscape photography was shown.”* —Collin Rikkelman

### Legacy of Poetry Slam: Water and Fire

4–7 p.m.: Uchida Hall Auditorium 124, Participation: 55

Santa Clara County Poet Laureate “Mighty Mike” McGee hosted an Earth Day Week and Community Poetry Slam with surprise guests.



“This was my first Earth Week experience at SJSU. I really enjoyed it and thought there was a lot of different events that could be interesting for everyone, whether it was photography, poetry, or baby goats! I thought that actual Earth Day event was AMAZING! There were so many fun things to do, and it wasn't JUST saving the planet.”

—Alyssa Angel, '19 Environmental Studies

# BUILDINGS



## SPARTAN RECREATION AND AQUATIC CENTER

The new Student Recreation and Aquatic Center opened in April 2019 with LEED Gold certification. The new facility consists of three buildings, two swimming pools and 20,000 square feet of cardio and strength equipment. Its energy design is 23.6 percent more efficient than Title 24 requires, amounting to energy savings estimated at \$34,000 annually. The heating and air conditioning units have energy-efficient designs, including energy recovery and evaporative cooling systems. LED lights, sensor and dimming controls and natural lighting reduce electricity usage.

Design features of the facility include a cool roof, recycled building material, the use of low-emitting indoor materials and improved indoor air quality by increasing natural ventilation.

The facility will reduce potable water consumption by 67 percent through the use of low-flow bathroom fixtures and recycled water for all flush fixtures. All irrigation will use recycled water and landscaping will use native and drought-resistant plants.

## CAMPUS VILLAGE 2: BEST PROJECT 2017 COMPETITION WINNER

The Engineering News-Record (ENR) just released their 2017 California's Best Projects competition winners. San José State's Campus Village Phase 2 (CV2) won the Award of Merit, Northern California, in Higher Education/Research. A panel of nine industry judges—architects, engineers, contractors and subcontractors—reviewed and discussed nearly 100 projects located throughout California and Hawaii. They evaluated the project's safety and construction, design quality, and the team's ability to overcome challenges, contribute to the industry and community, safety and construction, and design quality.

## STUDENT WELLNESS CENTER: 2017 CHESC BEST PRACTICE AWARD WINNER

Facilities Development and Operations presented at The California Higher Education Sustainability Conference (CHESC) in Santa Barbara in 2017. CHESC brings together independent and private colleges, California community colleges, the campuses of the California State University, and the University of California to open up the sustainability dialogue across institutions.

Awards were presented and our new Student Wellness Center building won the 2017 Best Practices Award in the Overall Sustainable Design in the New Construction and Major Renovations category.

## INTERDISCIPLINARY SCIENCE BUILDING

On April 25, 2019, San José State broke ground on a state-of-the-art science facility focused on faculty-led student research. The first new academic building in 30 years, the Interdisciplinary Science Building is the first phase of the university's Science Park, part of SJSU's commitment to dynamic research and innovation environment in the heart of Silicon Valley.

The Interdisciplinary Science Building will have eight floors of modern science laboratories and research facilities, as well as collaborative, flexible learning environments. The building will be home to chemistry and biology teaching and research spaces, an interdisciplinary Center for High Performance Computing, data and information science labs, and science administration. Each floor will seamlessly integrate teaching and research. Students who move through these programs will graduate with the theoretical background, hands-on skills and collaboration experience necessary to succeed in industry and advanced studies. The building will be constructed to LEED Gold standards and is scheduled to be completed by December 2021.

## PRIORITIES FOR 2019/2020

- Install South Campus Parking electric vehicle charging stations
- Thirty electric vehicle charging stations are scheduled to be installed in the park and ride lot at South Campus by the end of 2019. This will fulfill the demand from current electric vehicle users and provide future stations for increased usage.

## OBJECTIVES FOR 2030

- Buildings designed after 2025 will be designed net zero, meaning the total amount of energy used yearly by a building is equal to or less than the amount of energy created onsite through the use of innovative technologies and renewable power. By achieving this, SJSU buildings will reduce energy, waste and water consumption to almost zero and minimize the university's carbon footprint, with the intent of putting excess power back on the grid.
- All new buildings going forward will be certified as LEED Gold or higher.



# ENERGY AND GREENHOUSE GAS EMISSIONS

## PHOTOVOLTAIC PANELS FOR SOUTH CAMPUS AND MAIN CAMPUS GARAGES

Photovoltaic solar panels will be installed on 10 campus roofs, along with covered carport solar systems at South Campus, to provide renewable energy to the campus. The panels will save an estimated \$4.6 million through the warranty period and are expected to lower our carbon footprint by 511 metric tons per carbon dioxide equivalent. Design will begin in 2019, with installation to occur over the 2019 - 2020 fiscal year.

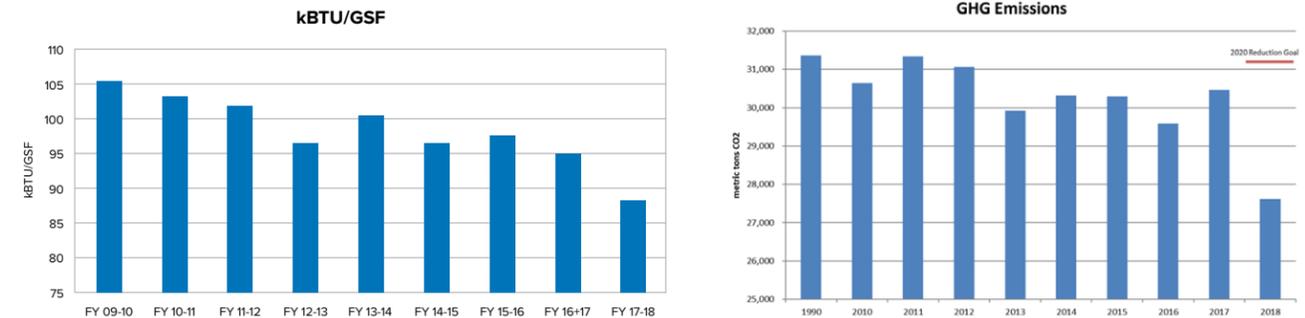
## ELECTRICAL SUBSTATION RELIABILITY PROJECT

The Electrical Substation Reliability project, which was established by the Central Plant to increase electrical reliability on campus, completed a major milestone in late July 2018 with successful factory acceptance testing of the new switchgear doors. While the upgrades will enhance system reliability, the technology will also serve as the backbone for the evolving campus microgrid as new power generation sources, including solar, are deployed. The project was completed in fall 2019.

## GHG REDUCTION

California State University goals align with AB 32, the California Global Warming Solutions Act of 2006, which required a sharp reduction of greenhouse gas emissions, to reduce current emissions to 1990 levels by 2020.

Our energy intensity has steadily decreased (see the kBTU/GSF chart below), as has greenhouse gas emissions (GHG emissions chart below), demonstrating continuous improvement in energy management. We successfully reduced GHG emissions to our 1990 levels in 2013, and in 2018 we reduced our levels to 12 percent below our 1990 levels. The campus energy intensity reduced by 20 percent from the 2009-2010 fiscal year. Despite an increase in square footage at the end of the 2017-2018 fiscal year, we continue to demonstrate our commitment to energy efficiency.



The chart on the left depicts British thermal units (kBTU) per square foot per year, a measurement that shows a facility's energy use relative to its size. As SJSU increases the square footage of its campus, it is also becoming more energy efficient.

## PRIORITIES FOR 2019/2020

- The Office of Sustainability will draft a carbon neutrality plan that reflects the Second Nature Climate Commitment and maps out our greenhouse emission strategy for the next 25 years.
- Reduce energy usage on campus by retrofitting lighting, controls and implementing daylight harvesting, which uses daylight and lighting control systems to offset the amount of electric lighting needed.

## OBJECTIVES FOR 2030

- Procure more renewable energy.
- Cut greenhouse gas emissions by 40 percent.
- Carbon neutrality by 2045: Aim for a net zero carbon footprint, meaning that the campus will achieve net zero carbon dioxide emissions by balancing carbon emissions with carbon removal.

# LANDSCAPING

The SJSU campus is comprised of 167 acres, of which 41 acres are buildings and 126 acres are sustainably managed grounds. The SJSU Sustainable Landscape Management program includes the Integrated Pest management (IPM) plan and addresses campus plant stewardship, soil stewardship, the use of environmentally preferable materials, materials management and waste minimization, and hydrology and water use.

The university practices IPM, in which the least toxic option is always our first choice of deployment, if ineffective, the next least toxic option is used. Insect problems are only treated if there is a lot of damage. If damage is minimal, infestations are tackled only with soapy water spray. SJSU never uses broadcast treatments—rather, insects, diseases and weeds are only spot treated.

In accordance with the campus Sustainable Landscape Management, SJSU practices plant stewardship. If an area is not undergoing re-landscaping, the existing vegetation is protected from construction sites and projects. Facilities Development and Operations (FD&O) also implemented a policy to promote climate-appropriate plants on campus, which means SJSU only accepts native trees as donations. Since 2008, a majority of the trees planted on campus are native. The only exceptions are when the academic mission requests a specific species to be planted or when a specific species is needed to fill the void of a removed tree, such as the iconic arch of mulberry trees lining Tower Lawn.

FD&O finalized the campus Landscape Master Plan in 2014, offering clear guidance to campus administrators,

facilities staff and designers for directions related to species selection and planting composition tailored to the various conditions and contexts around campus. The university practices thematic planting, utilizing six different planting palettes across campus. Each palette uses existing, native, climate-appropriate and drought-resistant plant species. Because SJSU uses recycled water for irrigation, the plants were chosen based on their resilience to recycled water. Each palette is also managed with preventive maintenance and mulch to discourage the growth of invasive species and weeds.

Both main and South Campus grass turfs are mowed weekly with a large riding mower. SJSU practices grasscycling. Grass clippings are left on the lawn to decompose, providing nutrients for the turf. This process reduces the loss of nitrogen and the need for fertilizers because the grass acts as mulch that helps retain water and minimize irrigation needs. Because grass clippings do not need to be bagged and transported to collection bins, grasscycling saves time and money. It also helps SJSU save over 500 tons of greenhouse gas emissions, which would have resulted from the transportation of grass clippings to the composting facility each week.

Grass clipping mulch also helps build organic matter in the soil and acts as weed suppressant. If needed, SJSU uses Organic Materials Review Institute (OMRI)-certified organic fertilizers for all plants and turfs on campus. Our choice in environmentally preferable materials and our

efforts in materials management and waste minimization help SJSU be a more sustainable campus.

Grasscycling not only promotes soil stewardship on campus grounds, but also benefits local hydrology and campus water use. Since SJSU converted campus irrigation to recycled water, our dependence on potable water has significantly decreased. Our irrigation also helps recharge the local underground reservoir.

All other green waste, tree and bush trimmings as well as annual fall leaf litters, are removed by our grounds staff and stored in a 40-yard collection bin on campus. When full, the bin is transported to GreenWaste, our composting disposal vendor.

## BEE PROTECTIVE CAMPAIGN



President Papazian signed the Bee Protective Campaign in fall 2018. The Bee Protective Campaign is an initiative to encourage universities, institutions and local municipalities to resolve to eliminate the use of bee-toxic pesticides on their grounds and to foster a healthier habitat by planting pollinator-friendly plants. The campus recognizes the value of protecting honey bee populations and will not use bee-toxic pesticides and insect growth regulators on campus. SJSU will ensure that we have landscape services that encourage pollinator populations on campus.

# TRANSPORTATION SOLUTIONS



The Associated Students Transportation Solutions (TS) is dedicated to serve the commute needs of students and employees at SJSU. Its regional operation emphasizes alternatives to driving alone, including carpools, public and private transit, buses and shuttles, local and regional rail, and non-motorized travel, including bicycling and walking.

## CORE STRATEGIES

- Develop and implement programs
- Communication, marketing and outreach
- Corridor-mobility mapping and analysis
- Program evaluation and measurement
- Linking transportation demand management to broader initiatives and service improvements
- Funding opportunities and grants

TS received the Bay Area's Best Workplaces for Commuters Award from the National Center for Transit Research, the University of South Florida, in January 2018.

TS submitted a well-received proposal to SJSU's Campus Planning board to install three bike repair stations on campus. The repair stations were installed in spring 2017 with help from FD&O.

## PROGRAM DEVELOPMENT AND OPERATIONS

- Transportation Solutions sold 1,489 Altamont Corridor Express tickets during the 2017-2018 academic year, a 22 percent increase from the previous year.
- 921 Highway 17 Express bus passes sold during the 2017-2018 academic year, an 11 percent increase from the previous year.
- 7,246 VTA SmartPass Clippers picked up during the 2017-2018 academic year. Numbers include students and employees.

## FISCAL MANAGEMENT

- Received \$140,000 in grant funds from Bay Area Air Quality Management District Transportation Fund for Clean Air to fund part of Transportation Solutions' operation.
- Administered the SmartPass contract with Valley Transportation Authority (VTA) valued at \$1.3 million.

## MARKETING AND PUBLIC RELATIONS

- Pledged a five percent reduction for National Get on Board Day on April 25, 2019 and launched campus-wide marketing campaign. Received recognition from Valley Transportation Authority by including SJSU's logo on their vehicles.
- Conducted 53 outreach events in 2018 on campus that reached thousands of students and employees. Events included freshman orientation, transfer and graduate student orientations, Admitted Spartan Day, SJSU Resources Fair, Health and Wellness Festival, Earth Day, Bike To Work Day, ERC's Ride 2 School Days, and outreach activities with VTA, ACE, Regional Rideshare 511, Ford GoBike, Zipcar, and TS presentations to Spartan 101 for new employee orientations.
- 35,112 promotional emails were sent to new students to encourage use of alternative transit options to campus (2018).

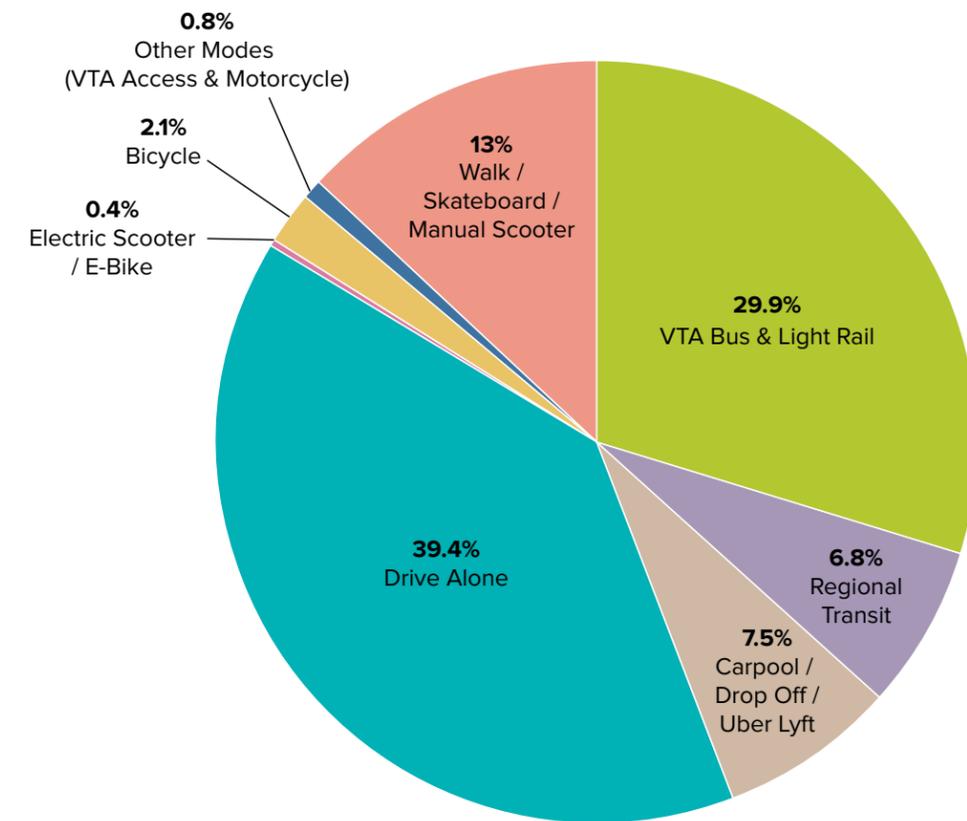
## ANNUAL TRANSPORTATION SURVEY

In November 2018, TS administered its 18th annual survey to all students, including regular enrollment, Open University and special sessions. Based on the results, 47 percent of all students use alternative transportation (VTA, regional transit, carpooling and biking). Solo driving to campus decreased by two percent, from 41 percent in 2017 to 39 percent in 2018. As a result of TS's efforts, the amount of greenhouse gas emissions from vehicles was reduced by more than 28,000 tons.

## OBJECTIVES FOR 2025

- Reduce the number of students, faculty and staff members solo driving to 25 percent.
- Develop a university-wide regional transit discount program.

SJSU Mode Split, Fall 2018



# WASTE MANAGEMENT



The university is committed to reducing waste generated on campus, and as a state agency SJSU follows applicable policies and statutes.

SJSU continues to use GreenWaste Recovery and a single-stream collection process. All yard and food waste generated on campus is either composted at the hauler's facilities or used in a waste-to-energy facility. All other mixed waste is taken to the GreenWaste materials recovery facility, where any recyclable and compostable items are removed from the trash and processed appropriately. The remaining small amount of waste that cannot be diverted is transported to the landfill or to a waste-to-energy facility.

In the past year, SJSU diverted 1,272 tons of materials from solid waste landfill or incinerators, while disposing only 266 tons of materials. Our campus diversion rate for 2018 is 83 percent.

To help reduce residence hall move-out waste, move-out events have been organized at the end of each academic year to encourage waste diversion and to prevent illegal dumping. SJSU provided free waste disposal options and donation services for student residents. Each event had university and city of San José staff hosting tables to provide outreach materials regarding disposal of household garbage and recycling and disposal of large items.

Unused furniture can now be donated to the campus reuse program and be moved for free.

The reuse program is managed by the Procurement Department and supported by the Facilities, Development and Operations (FD&O) Recycling and Moving Services. In addition, FD&O created a Waste Watch web page, providing tips for reducing waste on campus.

All contracted construction and demolition projects at SJSU, as well as all CSU campuses, are required to recycle at least 50 percent of the waste generated during a project. Construction and demolition projects at SJSU recycled, donated, or otherwise recovered 4,809.91 tons in the past year. Only 238.09 tons of materials were landfilled or incinerated.

## CSU SINGLE-USE PLASTICS POLICY

After months of collaboration across the California State University (CSU) system, the CSU Chancellor's Office passed a new policy on single-use plastics that went into effect on December 17, 2018. The policy requires all CSU campuses to eliminate plastic straws, single-use plastic carryout bags, single-use Styrofoam, plastic water bottles, and replace single-use plastic items with materials that are reusable, locally compostable and/or recyclable by 2023.

The campus will be working to achieve these goals and work on behavior change campaigns to educate the community on the importance of reducing single-use plastics. Additionally, the Office of Sustainability will be working in concert with Contracts and Purchasing Services to conduct an audit of current campus purchases with the goal of increasing the sustainability within our supply chain.

## PRIORITIES FOR 2019/2020

- SJSU's waste management strategic plan will be drafted and completed end of the 2019 academic year.

## OBJECTIVES FOR 2030

- Become Zero Waste certified through the U.S. Zero Waste Business Council by achieving 90 percent waste diversion or more.

# WATER



## RECYCLED WATER CONVERSION OF STEAM MAKE UP WATER FROM POTABLE WATER

SJSU has been using recycled water on campus since 1999, first through the conversion of the cooling tower in the Central Plant, then converting irrigation on both the South and main campuses to recycled water. Starting with the Dr. Martin Luther King, Jr. Library, all new buildings have dual plumbing, allowing recycled water to be used in toilet flushing. The latest building to have dual plumbing is Campus Village 2. The amount of potable water used on campus has been reduced by 43 percent since 2013, saving the campus almost \$850,000 annually in water costs and over 100 million gallons of water.

The use of recycled water for boiler feed at the Central Plant eliminates the single remaining largest potable water usage at SJSU. Use of reclaimed water as a source for steam make-up was an ambitious technical challenge due to the high purity required. The project to convert steam make-up water was implemented in two phases. In June 2018, we converted the existing boilers that generate steam from potable water to recycled water using our existing reverse osmosis (RO) equipment, saving approximately 17 million gallons annually in potable water usage. SJSU was awarded the Focus on Efficiency Award for recycled water at the California Higher Education Collaborative Conference at UCLA in October 2019.

## NEW CAMPUS-WIDE WATER METERING SYSTEM

Facilities Development and Operations (FD&O) implemented a new water metering system at the beginning of the fall 2018 semester to monitor water use and to detect leaks in campus buildings and the main water distribution system. Prior to this, FD&O would only learn about leaks from observed puddles, but the meters will alert them of leaks in a timely manner and reduce water waste. Previous water meter projects in other facilities departments have shown that the meters save about five to 30 percent of water.

## NEW CAMPUS WELL

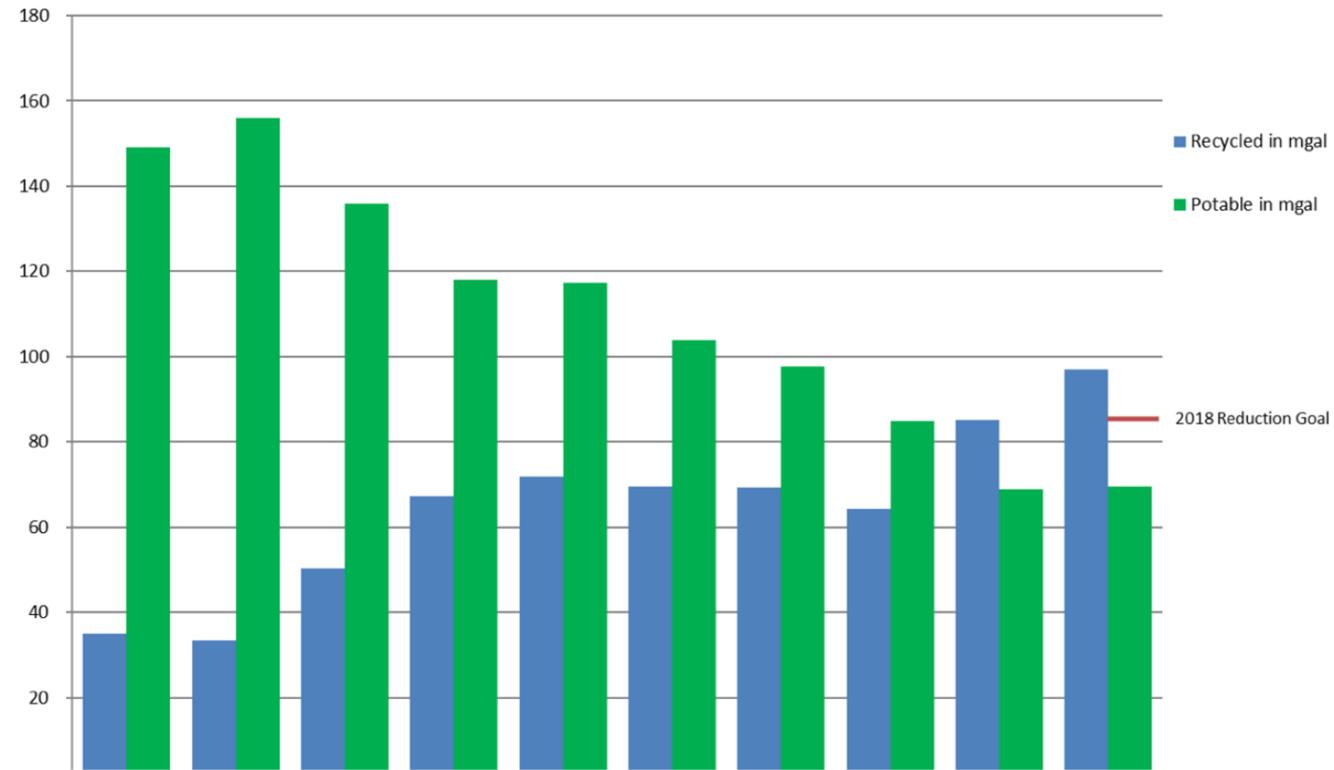
San José State has had source wells on campus since the 1940s, utilizing the natural aquifers beneath campus. However, during the construction of Campus Village Phase 2 (CV2), the well was covered by the new construction and we switched to using San José Water Company. FD&O began construction of a new well in the southwest area of campus with aim of completing the project by the end of 2019. Converting to well water will provide potable water to the main campus.

The benefits of becoming self-reliant on potable water include using the most cost effective solution for the university and helping our campus avoid depending on the aging public water infrastructure, making us more resilient in cases of natural disasters and other emergencies.

## FOUNTAIN CONVERSION TO RECYCLED WATER

Since receiving a Silicon Valley Water Conservation Award in 2011, San José State has continued reducing the work to reduce potable water use on campus. After being inactive for three years, SJSU converted its water fountains to recycled water. One of the first users of recycled water from the South Bay Water Recycling system, SJSU received the 2018 Silicon Valley Water Conservation Award. By using recycled water for our cooling towers and irrigation, adding dual plumbing to all new buildings and switching existing boilers from potable water to recycled water, San José State saves almost 100 million gallons annually.

## TOTAL CAMPUS WATER USAGE



### PRIORITIES FOR 2019/2020

- San José State plans to complete a recycled water pipeline that will enable all new buildings to use recycled water for toilet flushing. This includes the Student Wellness Center, Yoshida Uchida Hall and the Spartan Recreation and Aquatic Center.

### OBJECTIVES FOR 2030

- Increase awareness and influence behavioral changes of water related issues among SJSU's students, faculty and staff.



# SPARTAN EATS

FRIDAY  
FREEBIE

SPARTAN EATS

SPARTAN EATS  
CAMPUS DINING

SPARTAN EATS  
CAMPUS DINING

Spartan Eats' mission is to create positive change in the food system through meaningful experiences that promote well-being for people and the planet. With more than a decade of proven leadership in the sustainability space, we're not slowing down. In 2018, Fast Company recognized Compass Group as the No. 1 Most Innovative Food Company because of our commitments to sustainable menus and food-waste reduction.

Spartan Eats, part of Compass Group U.S.A., sources locally whenever possible. Produce is in season or sourced from reputable growers and purveyors as it continues to purchase up to 25 percent of its produce from within 250 miles and meat and fish from within 500 miles. Spartan Eats' beef is humanely raised and follows the practice of reduced antibiotics and unnecessary growth hormones.

It continues previous campus-wide campaigns, including the "Mug Life" campaign that offers SJSU students, faculty and staff members a discount for using personal mugs. Waste Not is a program that measures and tracks food waste during production in the kitchen. The "Straws Suck" campaign has removed straws from fountain beverage areas and allows patrons to use compostable sip lids. Day-old pastries, bagels and breads are donated daily to the Peer Connections Breakfast Club, as well as the Student Wellness Center's Food for Thought program, and reusable repurposed food is donated to the Spartan Food Pantry.

Visit <https://www.compass-usa.com/our-story-2018-corporate-social-responsibility-report/> to access more information about Compass Group Sustainability programs as a whole.



Spartan Eats practices include, but are not limited to:

- **Comprehensive purchasing programs:** Utilizing local vendors and organic food when possible, we strive for farm-to-fork produce that is grown within 250 miles of our location. We purchase as much of our produce seasonally to ensure we are following the best practices in reducing carbon emissions.
- **The on-site Waste Not Program:** Associates learn the best way to properly handle, measure and produce food efficiently in this culinary-driven program that measures kitchen waste.
- **Imperfectly Delicious Produce (IDP):** Employees use produce that would ordinarily be discarded or not available for prime retail.
- **Food donation programs:** We donate food that would otherwise be discarded to local nonprofits and our own SJSU Food Pantry (see page 6).
- **Composting program:** We compost food scraps at the Cesar Chavez Community Action Center Garden (see page 4).



- Targeted to hit 2.6 million pounds in 2019
- Grown in over 30 states
- Uses seasonal produce as available
- For use in kitchens as well as donations

## OBJECTIVES FOR 2023

- Implement a Comprehensive CSU plan to eliminate all single-use bottled water on campus and to integrate full hydration stations across campus.
- All new projects, food locations and build-outs will be LEED Platinum or Gold Certified.
- Continue using suppliers and vendors who reduce waste, repurpose recycled material and support environmentally friendly practices.
- Implement a sustainable biodiesel program that converts cooking oil to refined fuel to power campus buses and mobile food units.
- Earn the U.S. Zero Waste Business Council certification for all of our facilities.





## KEEPING SJSU GREEN

SJSU's environmental leadership has a long tradition. The founder of Earth Day is Gaylord A. Nelson, '39 Political Science and '60 Honorary Master of Arts. He went on to a distinguished career as U.S. senator and governor of Wisconsin.

The university's ongoing efforts have been recognized by the Association for the Advancement of Sustainability in Higher Education in its 2017 Sustainable Campus Index, with San José State ranking second in the United States and Canada for reducing waste and receiving a Gold ranking based on the association's Sustainability Tracking, Assessment and Rating System.

To maintain SJSU's position as an environmental leader while creating a sustainable culture on campus, the campus must adopt a multidisciplinary approach, involving academics, facilities, student affairs and the participation of every unit across campus. There are several actions students, faculty members and staff can take to

## GET INVOLVED

- Sign up for the Office of Sustainability's monthly newsletter to learn about upcoming events and volunteer opportunities at [sjsu.edu/sustainability](https://sjsu.edu/sustainability).
- Students can join the EcoReps club or take the Environmental Resource Center class for one to three units.
- Donate to green projects across campus at [giving.sjsu.edu/sustainability](https://giving.sjsu.edu/sustainability).