

CITY OF COSTA MESA



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ANNUAL
SUSTAINABILITY
REPORT

About this Report

The City of Costa Mesa is committed to environmental stewardship, community well-being and economic prosperity. In July 2019, the City Council approved the creation of Energy and Sustainability Office under Public Services Department and in early 2020, the City hired its first Energy and Sustainability Services Manager.

Energy and Sustainability Division is responsible for identifying, developing and implementing innovative, forward-looking and ambitious citywide programs and initiatives that reduce Costa Mesa's carbon footprint, increase resource efficiency, minimize waste generation, and enhance the natural and built environment. The sustainability team works with various City Departments, community-based organizations, regional and state agencies, and the business community to build a stronger, more sustainable, resilient, smart and inclusive city together.

Using LEED for Cities and Communities as the basis, this annual sustainability report provides an update on completed and ongoing citywide sustainability initiatives and projects in 2020. This report is the first of its kind that showcases the progress the City has made in sustainability in a transparent way, inviting our residents and community to join the journey to build a brighter and cleaner future for all.

Executive Summary

Globally, Cities are responsible for two thirds of the energy use as well as for significant indirect consumption of energy that is embodied in materials, products and other goods. Due largely to this energy use, cities account for an estimated 75% of global carbon dioxide (CO₂) emissions. As substantial resources consumers and among the top contributors to carbon dioxide emission worldwide, cities can and must drive significant change, encouraging their residents and other citizens to support the transition to low carbon economy.

The City Costa Mesa is committed to enhancing and expanding its sustainability efforts to meet the State of California's ambitious climate and energy goals, while simultaneously achieving local objectives such as reducing air pollution to improve public health, support the local economy and build resilient infrastructure.

Costa Mesa is also vulnerable to the impacts of climate change such as fires, spikes in energy use due to extreme temperatures, and the increased frequency of extreme weather events such as droughts and floods – highlighting the need for integrated disaster reduction and reliability measures citywide.

Sustainability presents a great opportunity for the City to make critical progress at a local level that will improve the lives, health and economic opportunities of residents and visitors alike. Sustainability is not an end goal, but an approach that recognizes the interplay between natural, economic, and social interests. It requires an understanding of the interconnectedness of our natural and built systems and continuously seeking ways that humans and nature can thrive together. For example, energy and climate strategies and initiatives benefit the fiscal health of the City through cost saving measures, but also reduce local greenhouse gases (GHG) emission, support the natural environment, promote social equity while enhancing community safety and health.

Human and planetary health are highly interlinked. The year 2020 has tested us in every way – from COVID-19 pandemic and global economic recession, to nationwide civil unrest and extreme weather conditions worsened by climate change. Despite these challenges, the COVID-19 crisis response offers an unexpected opportunity to alter the course with careful recalibrating of stimulus packages and recovery measures. The sustainability team is working collaboratively to promote responsible economic recovery that leads to a more inclusive low-carbon economy that also lends resilience to future economic and environmental shocks.



Sustainability Focus Areas



ENERGY | Energy Efficiency, Renewables, Community Choice Energy, Energy Storage & Demand Response Programs



MOBILITY | Electric Vehicle Charging Stations, Zero Emission Fleet, Alternative Fuel Stations and Low Carbon Mobility Options



WASTE | Expand Recycling, Organic Waste Management, Community Education & Outreach



WATER | Water Use Reduction & Conservation, Drought Resistant Landscape and Green Infrastructure



OPEN SPACES & ECOSYSTEMS | Tree Canopy, Urban Food Systems, Access to Parks & Open Spaces and Education on Environmental Protection



ECONOMY & WORKFORCE | Promote Local/Small Businesses, Workforce Development, Green Jobs and Green Business Initiatives

Projects Completed in 2020

The Energy and Sustainability Division works on various projects and initiatives that mitigate climate change, advance sustainable development, reduce air, water and soil pollution, improve citizens' health and wellbeing, stimulate economic development, reduce municipal energy costs and improve energy access and security.

Despite limited funding for sustainability and energy projects and initiatives in FY20, the City was able to successfully complete multiple projects and citywide initiatives that are zero cost to the City. This was possible through local, state, business community grants, and incentives.



U.S. Green Building Council (USGBC)'s LEED for Cities and Communities helps local leaders create responsible, sustainable and specific plans for natural systems, energy, water, waste, transportation and many other factors that contribute to quality of life. The certification programs give local governments a framework for implementing strategies to address energy, water, waste, pollution and carbon, and takes into account social and economic indicators, including health, equity, education and prosperity. Through LEED, local leaders hone metrics around initiatives, benchmark performance relative to peers and communicate to and educate stakeholders on progress. More than 100 cities and communities around the world have already achieved LEED certification.

In early 2020, Costa Mesa was selected as one of 20 local governments in the nation to receive technical support as it pursued LEED for Cities certification. The support and resources throughout the certification process were made possible by Bank of America.



LEED Cities: Existing-v4.1

Certification Overview

The city of Costa Mesa achieved LEED Cities Gold certification by earning 60 points out of the possible 110 points available across nine credit categories as illustrated. Some of the most significant strategies that contributed to the certification include the city's focused approach towards promoting reduced vehicles miles travelled, managing their greenhouse gas emissions; ecosystem services; enhancing resiliency, and promoting environmental equity for improved quality of life for all its residents.



Performance Score | Key Metrics

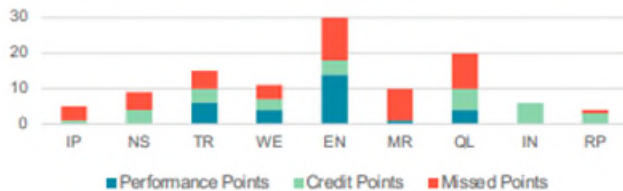
100/100 | Transportation Performance

77/100 | Water Performance

98/100 | Energy and Emissions Performance

41/100 | Waste Performance

71/100 | Quality of Life Performance



Category	Points Achieved/ Points Available
INTEGRATIVE PROCESS (IP)	1/5
NATURAL SYSTEMS AND ECOLOGY (NS)	4/9
TRANSPORTATION AND LAND USE (TR)	10/15
WATER EFFICIENCY (WE)	7/11
ENERGY AND GREENHOUSE GAS EMISSIONS (EN)	18/30
MATERIALS AND RESOURCES (MR)	1/10
QUALITY OF LIFE (QL)	10/20
INNOVATION (IN)	6/6
REGIONAL PRIORITY (RP)	3/4
TOTAL POINTS ACHIEVED	60/110

U.S. Green Building Council

USGBC cited Costa Mesa for its integrative planning and leadership processes, green spaces, transportation performance and policies, water efficiency, energy and greenhouse gas emission management, quality of life and innovation. These practical and measurable strategies and solutions are aimed at improving human and environmental health.

Due to the comprehensive nature of LEED for Cities certification process, a wide range of internal and external stakeholders were involved. This inter-departmental and external collaboration with many other agencies and entities has led to strengthening existing relationships and created new opportunities for collaboration.

Costa Mesa is the first City in California and one of only four cities in the nation to have received LEED Gold certification using the latest LEED standard, LEED version 4.1. The City is now serving as a trend maker and mentor to other cities in California.

ENERGY

Energy efficiency is the first priority when trying to mitigate climate change, as it is relatively easy to address in comparison to other options and technologies. City staff is working collaboratively with our local utility, Southern California Edison (SCE) to take advantage of all available incentives for local government – such as rebates, On-Bill Financing (OBF), Option E Program, Saving by Design among others to successfully complete various energy efficiency projects at City facilities. Replacing high pressure sodium (HPS) fixtures with light-emitting diodes (LED) lighting is an important step in energy conservation. Energy retrofit projects reduce municipal energy cost and at the same time enhance visibility and safety at City facilities while promoting more livable urban areas that improves quality of life for residents.

A. CITYWIDE STREETLIGHTS RETROFIT PROJECT

In Costa Mesa, streetlights account for 57% of the City's electricity budget. To reduce costs, the City has implemented an energy-efficient street lighting program – as a cost effective and reliable option. Replacing the HPS streetlights with LEDs provided an energy efficient system that reduces the City's monthly electricity bills and reduces maintenance and operational costs. Additionally, LED fixtures have longer lifespan and provide improved visibility.

In partnership with SCE through their Option E Program, the City replaced 6,150 streetlights throughout Costa Mesa from HPS light fixtures to LEDs to achieve energy savings and efficiency. Under the Option E program, SCE fronts the 100% of the capital cost using an incentive program offered by the California Public Utilities Commission (CPUC). The program incorporates an Energy Efficiency Premium (EPP) rate through which SCE's investment capital for LEDs is recovered over a 20-year term.

The initial savings to the City resulting from LED conversion is \$81,460 in energy bills from year 1 to year 20, which translates to \$1,630,000 savings in 20 years. After 20 years, SCE's calculations indicate that the City will realize a total savings of approximately \$204,443 per year.





B. LIGHTING FIXTURES UPGRADE AT TEWINKLE, WAKEHAM, HELLER AND BARK PARKS

One of the best ways to achieve cost savings at City owned buildings and facilities is lighting retrofit projects, consisting of upgrading exterior lighting fixtures at Tewinkle Park (970 Arlington Dr.), Wakeham Park (3400 Smalley Street), Heller Park (257 E. 16th Street), and Bark Park (890 Arlington Dr.) from High Pressure Sodium (HPS) to Light Emitting Diode (LED) fixtures, which also have capability to be dimmable.

City staff worked with Southern California Regional Energy Network (SoCalREN) to identify opportunities for energy efficiency improvements at various Parks and found a low-cost project financing option that maximizes utility grants and incentives to the fullest.

This project brought \$5,694 per year in energy cost savings to the City. It already has increased the safety, security and visibility at Tewinkle Park, Wakeham Park, Heller Park and Bark Park, while significantly reducing labor and hours needed to maintain the exterior lights.



BEFORE

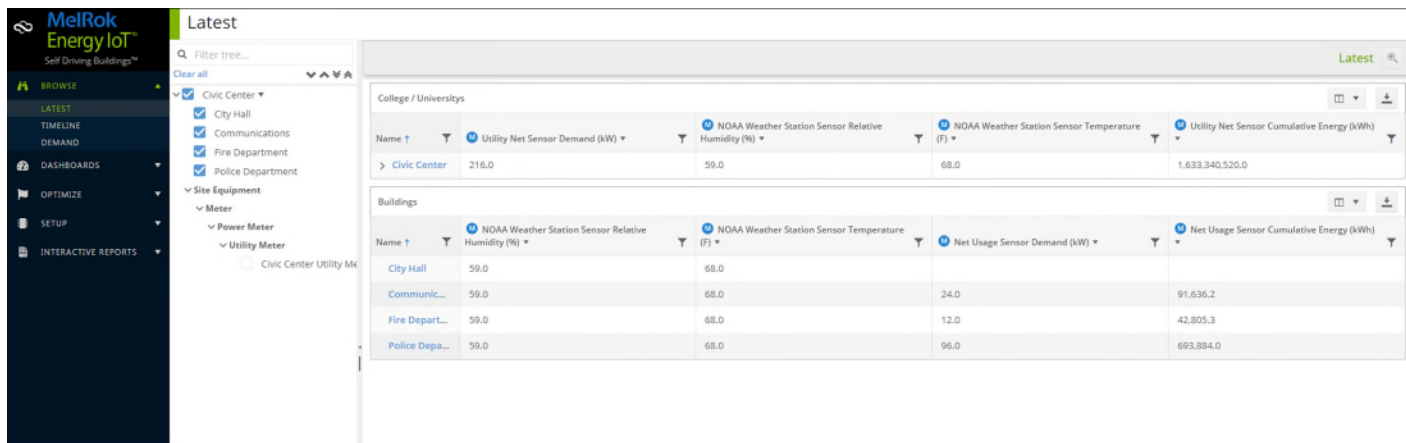


AFTER

C. MELROK - ENERGY SAVING CONTROLS FOR MONITORING CITY HALL HVAC USAGE

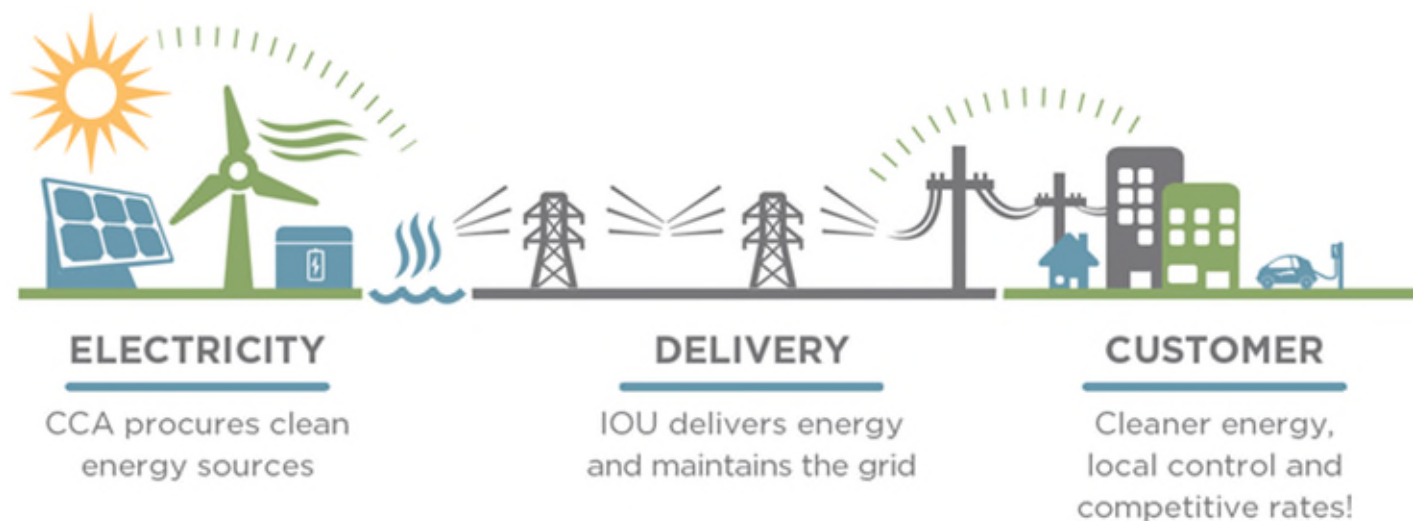
The City Hall HVAC system is very old and is deemed inefficient. As a first step to understand the current performance and usage of the Heating, Ventilation and air Conditioning (HVAC) system, the Sustainability team in collaboration with the City's Building Maintenance team, Southern California Regional Energy Network (SoCalREN), TRC and Southern California Edison (SCE), installed a MelRok system that does real-time monitoring of the performance of the HVAC.

This tool provides critical energy and equipment information that will be highly informative for the next phase which is to retrofit the HVAC system at the Civic Center starting with the City Hall. City staff along with SoCalREN team is currently exploring all innovative project financing options for City Hall HVAC Retrofit project including SCE rebates, On Bill Financing (OBF), Revolving Loan Fund (RLF) and California Energy Commission (CEC) 1% loan to cover the cost of the project. Once completed, the City Hall HVAC retrofit project has the potential to reduce the City energy usage costs.



D. EXPLORE COMMUNITY CHOICE ENERGY FOR COSTA MESA

Community Choice Energy, also known as CCE, is a program that allows local governments to procure energy on behalf of their residents and businesses. In 2020, the Sustainability team worked with various City Departments, neighboring cities and community groups to explore Community Choice Energy for Costa Mesa. Through these engagement processes, the City made progress in increasing awareness on the benefits and challenges of forming or joining a CCE program.



TRANSPORTATION

The State of California has taken bold action to reduce carbon emissions from the transportation sector, and in March 2012, Governor Edmund G. Brown Jr. issued an Executive Order to help accelerate the adoption of zero-emission vehicles (ZEVs) in the State and set a long-term goal of reaching 1.5 million zero emission vehicles on California's roadways by 2025. In addition, Senate Bill (SB) 100 sets the State of California on the path to be 100% carbon-neutral by 2045.

The State goals, combined with the need to improve local air quality, are driving the trends towards electrification of transportation. Expanding the use of electricity in transportation saves money, reduces greenhouse emissions (GHG), improves local air quality and public health, and enhances residents' well-being. Electric vehicles eliminate fuel cost completely and reduce maintenance costs drastically due to the high efficiency of electric-drive components.

The costs of electric vehicles (EVs) and charging stations continue to decline, and grants, rebates and other direct incentives have played an important role in accelerating the adoption of EV.

Costa Mesa has embraced broader efforts towards sustainable transportation and mobility options. The sustainability team is currently working on various initiatives and programs in EVs, Green City Fleet and expanding EV charging infrastructure. These projects maximize additional grant funding opportunities to advance clean mobility options that are good for residents, local economy and the environment.

A. ELECTRIC VEHICLE CHARGING STATIONS AT THE CITY HALL

This project aims to advance sustainability in Costa Mesa by increasing the availability of public electric vehicle charging stations in the City while improving local air quality and reducing greenhouse gases (GHG) emissions. The City Hall Electric Vehicle (EV) Charging Stations project includes installation of five (5) EV charging stations at City Hall that provides a total of nine (9) EV charging ports. The design includes two (2) dual port Level II charging stations at the back of City Hall to serve four (4) EV Parking Spaces; and two (2) dual port Level II charging stations plus one (1) DC fast Level III charging station to serve a total of five (5) EV Parking Stalls in front of City Hall.



The availability of EV charging stations at City Hall highlights the City's commitment to environmentally friendly programs, initiatives and technologies that build resilient communities and infrastructure. All Costa Mesa residents, City employees, and commuters from the neighboring cities will be able to benefit from this publically available EV charging infrastructure that is convenient and accessible 24/7.

The City successfully secured \$148,210 in grant funding from the Mobile Source Air Pollution Reduction Committee (MSRC) Local Government Partnership Program, of which \$122,540 was allocated for the construction of EV electric charging stations at City Hall. City staff also secured a \$70,000 rebate for the DC fast Level III charging station from California Electric Vehicle Infrastructure Project (CALeVIP).

City staff conducted a fee study to ensure that the EV charging stations don't bring financial burden to the City. City Council approved \$0.28/kWh for Level 2 stations for the first 4 hours, and \$0.38/kWh for the Level 3 station for the first 2 hours, with the charges escalating to \$5.00 per hour after the initial time limit specified is reached.

Currently, the sustainability team administers the City's ChargePoint dashboard and reports to the Finance Department monthly on revenue generated so that it can be used to cover operational and maintenance costs. This ensures that these charging stations are cost neutral to the City.



B. ZERO EMISSION CITY FLEET

In contrast to conventional internal combustion vehicles, Zero Emission Vehicles (ZEVs) produce zero tailpipe emissions, thereby preventing harmful greenhouse gas and criteria pollutants from being released into the environment. They also save money, improve local air quality and build resilience. ZEVs eliminate fuel cost completely and reduce maintenance costs drastically due to the high efficiency of electric-drive components. Moreover, the communities most burdened by air pollution are often the ones along major transportation corridors and a switch to ZEVs will help alleviate that burden.

As the City fleet, comprised primarily of gas powered vehicles ages, it is the goal of the sustainability team to evaluate gradual replacements to electric powered vehicles, wherever technically feasible, to reduce costs and carbon footprint. One way to accomplish that is by leveraging local, state and federal grants to slowly electrify and modernize City fleet.

a. Three New Chevy Bolts at the City Hall

The City was able to secure \$25,670 grant from Mobile Source Air Pollution Reduction Review Committee (MSRC) that partially funded the purchase of three new fully electric Chevy Bolts. These EVs are able to fully benefit from the recently completed EV infrastructure at the City Hall and are mostly used by City staff as pool vehicles.



b. New E-shuttle Bus for the Senior Center

To expand ZEVs in the City's medium and heavy-duty vehicles, the sustainability team, in collaboration with Fleet Services, pursued California Volkswagen (VW) Environmental Mitigation Trust fund grant through San Joaquin Valley Unified Air Pollution Control District, and was awarded \$180,000. City staff is currently working to purchase a zero emission shuttle bus and strategically place it at the senior center to benefit Costa Mesa residents and visitors.

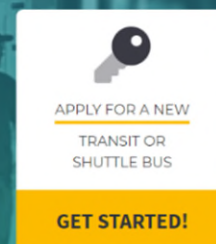


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[Track Funding Awarded](#)

Interested in funding for clean buses?

The VW Mitigation Trust has \$130 million in funds to replace older, high-polluting transit, school, and shuttle buses with new battery-electric or fuel-cell buses. Replacing an older bus with a zero-emission bus eliminates particulate matter and other pollutants that impact children and residents riding the buses, as well as residents throughout California communities. During the project's 10-year period, approximately 425 vehicles will be replaced with an incentive amount of up to \$400,000 per vehicle.



SOLID WASTE AND RECYCLING

Sustainability team also oversees all commercial waste collection and recycling services in Costa Mesa. Through a non-exclusive franchise system, City Staff manages trash and recycling service to multi-family (5 or more units) and business properties, as well as any for-hire hauling of temporary waste collection containers from construction and deconstruction projects. The team monitors and provides oversight on the implementation of programs required to comply with State solid waste and recycling mandates. See City [Waste Collection and Recycling](#) website for details.

Although most of the work on solid waste collection and recycling is driven by regulatory requirements, City staff is working on increasing awareness and education on how to manage waste properly. As a first step to providing educational information and resources to residents, City staff recorded a presentation on Senate Bill 1383, Organic Waste Reduction Requirements. This new State mandate will affect every resident, every business and every property owner-in Costa Mesa and the video is available on the [City's YouTube channel](#).



SB 1383 Organic Waste Reduction Presentation

COMMUNITY ENGAGEMENT, OUTREACH AND EDUCATION

With increasing frequency and intensity of disasters throughout California, it is paramount that Costa Mesa addresses its vulnerability to climate change while also equitably transitioning to a carbon neutral economy. More than ever, collaboration and coordination between cities, utility companies, first responders and residents is key to resiliency especially during disasters such as wildfires, earthquakes and extreme heat.

Costa Mesa also works to address equity in its responses to community needs. The sustainability team is consistently looking for ways to identify system-wide vulnerabilities and explicitly include and consult frontline communities that are disproportionately vulnerable to climate impacts. The team puts equity at the center and strives to identify strategies that foster community resilience while protecting individuals from the environmental and economic impacts of climate change through proactive engagement and consultation with community stakeholders.

Due to public health safety protocols and limitations on gatherings related to the COVID-19 pandemic, the sustainability team was not able to host in person community events in 2020. During this past year, the sustainability team has acted as a facilitator and enabler of dialogues virtually, creating opportunities for internal and external stakeholders to provide input and to help shape current and future sustainability initiatives and projects.

A. SUSTAINABILITY WEBSITE

In collaboration with the City's Public Information Office, the sustainability team launched a dedicated sustainability page on the City's website to increase Community Engagement and Outreach. The new [sustainability page](#) is designed to provide information on various innovative sustainability projects and initiatives City staff is working on that enhance the natural and built environment, while making it easier for Costa Mesa residents to engage and connect on all things sustainable. The page is user friendly, easy to navigate and includes a dedicated City sustainability email - sustainability@costamesa.gov and social media hashtag #greencostamesa



Working together for a sustainable future.

AWARDS | LEED GOLD CITY & TREE CITY USA

Costa Mesa Sustainability

The City of Costa Mesa is committed to environmental stewardship, community wellbeing and economic prosperity.

Sustainability means accounting for environmental, social and fiscal considerations in decision-making and operations, while prioritizing equity and community resilience.

The Division of Energy and Sustainability, under Public Services Department is responsible for developing and implementing citywide programs and initiatives that reduce Costa Mesa's carbon footprint, increase resource efficiency, minimize waste generation, and enhance the natural and built environment. The sustainability team works with various City departments, community-based organizations, regional and state agencies, and the business community to build a stronger, more sustainable and equitable city together.

The Energy and Sustainability Division focuses on the following areas that support local climate action, build resilience, improve public health, advance inclusion and equity citywide, while promoting sustainable and smart city principles citywide.



ENERGY

Energy Efficiency, Renewables, Community Choice Energy, Energy Storage & Demand Response Programs



MOBILITY

Electric Vehicle Charging Stations, Zero Emission Fleet, Alternative Fuel Stations and Low Carbon Mobility Options



WASTE

Expand Recycling, Organic Waste Management, Community Education and Outreach



WATER

Water Use Reduction and Conservation, Drought Resistant Landscape and Green Infrastructure



OPEN SPACES AND ECOSYSTEMS

Tree Canopy, Urban Food Systems, Access to Parks & Open Spaces and Education on Environmental Protection



ECONOMY AND WORKFORCE

Promote Local/Small Businesses, Workforce Development, Green Jobs and Green Business Initiatives

B. INTERNAL SUSTAINABILITY WORKSHOPS

Prior to COVID-19 pandemic and stay at home orders in early 2020, the sustainability team held two internal workshops to identify opportunities and challenges to advance sustainability in Costa Mesa. Attendees include senior engineers and managers from different divisions within the Public Services Department representing administration, engineering, transportation and maintenance. The workshops consisted of visioning exercises, identifying focus areas and achievable goals.



C. INTERNAL AND EXTERNAL EVENTS

In early 2020, the sustainability team was also able to organize and attend internal and external events that promote sustainability, inclusion and equity.

► OCC SUSTAINABILITY FAIR

City of Costa Mesa hosted a Sustainability + Active Transportation booth at the Orange Coast College (OCC) Sustainability Fair. The Fair is part of OCC Flex Day, an annual event where faculty and staff at Orange Coast College attend and participate in a day of professional development. 2020's Flex Day theme was sustainability and it focused on the sharing of best practices and lessons learned from the people on the front lines of implementing sustainability efforts in Costa Mesa.

Public Services staff attended the event and shared projects in sustainability and active transportation. Some of the projects featured in a poster presentation included Merrimac Way Active Transportation Improvement Project, Adams Avenue at Pinecreek Pedestrian and Bicycle Intersection Improvements, Paularino Channel Trail Project, and Fairview Road Safety Improvements Project.



City staff discussed the importance of addressing various aspects of sustainability at an individual and local level, and provided reusable bottles to attendees that answered trivia questions on energy and water conservation, clean mobility options, climate action and open spaces. Active Transportation handouts that were provided to participants include the Costa Mesa Bicycle Map and Safety Guide and Summary of the City's Active Transportation Plan.

► INTERNATIONAL WOMEN DAY

For international Women's day 2020 (March 8th), Public Services team participated in a celebration of outstanding women within the Department that are making a difference everyday through their valuable contribution and leadership on various engineering, transportation and construction projects in Costa Mesa.

Some of the most efficient and exemplary responses for COVID-19 were led by women, highlighting the importance of equality and diversity in a workplace.

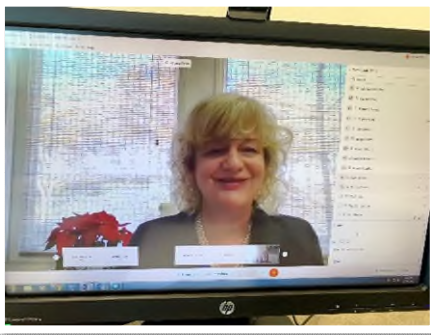


AWARDS AND RECOGNITIONS

In the first year since its creation, the sustainability team was able to work with various City Departments, local, state and federal agencies, community groups and academia to successfully complete multiple projects that are zero cost to the City. The following awards were received as a result.

► U.S. Green Building Council (USGBC) LEED for Cities Gold Certification

In a national virtual USGBC award ceremony, Former Mayor Katrina Foley accepted the award on behalf of the City. *"I'm so proud of our staff for receiving this LEED certification,"* Foley said. *"This achievement demonstrates Costa Mesa's commitment to sustainability, human health and economic prosperity, and that's why we remain a place where people want to live, work and play."*



► ASCE-OC OUTSTANDING ENERGY PROJECT AWARD

City of Costa Mesa also received the Outstanding Energy Project Award for the City Hall EV Charging Stations Project. This prestigious industry award from American Society of Engineers (ASCE) was received by Raja Sethuraman, Public Services Director who indicated *"It was a proud moment for Public Services staff to receive such recognition from their peers on these high quality projects."*



CONCLUSION

The City of Costa Mesa has made great progress in its objectives related to sustainability. The City Council's leadership and support has led to tangible results in several key areas outlined within this annual report. Sustainability is a journey rather than a destination, therefore, there will always be opportunities to expand our efforts. As new technology and innovations emerge, our teams will remain apprised and bring forth new opportunities for our City Council to lead the way, well into the future.

The Sustainability team will continue to work on forward looking, innovative and inclusive initiatives and projects that bring cost savings to City operations, promote efficient use of finite natural resources, enhance public health & well-being, and pursue all grant funding and partnership opportunities to implement programs and projects.

The City of Costa Mesa cannot transition to sustainable, low-carbon economy in isolation. It is paramount that Costa Mesa residents, businesses, and community leaders work together to preserve our natural environment while promoting economic opportunity and resilience for current and future generations. The sustainability team is proactively partnering with other public agencies, academia, the private sector, and community organizations to establish a broad set of integrated approaches, and policy measures that align the short-term recovery from COVID-19 impacts with longer-term climate, energy, transportation and sustainable development objectives.



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