



2016 Taubman
Sustainability Report

Overview

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About Taubman

Who We Are

We own, manage and/or lease regional, super-regional and outlet shopping centers across the United States. Since our founding in 1950, we've earned a reputation for creating extraordinary retail environments for shoppers, retailers, communities and investors.

We're headquartered in Bloomfield Hills, Michigan, and our portfolio of properties, located in major markets from coast to coast, is the most productive in the publicly held U.S. regional mall industry. Average sales per square foot in our centers were \$792 in 2016. Shares of Taubman Centers, Inc. (NYSE: TCO), a Real Estate Investment Trust, have been trading on the New York Stock Exchange since 1992.

Our Governance

We recognize that strong governance improves corporate decision making and strengthens our company. The Board of Directors of Taubman Centers, Inc. has adopted certain corporate governance principles establishing a common set of expectations to assist the Board and its committees in performing their duties in compliance with applicable requirements.

Our Values and Code of Conduct

In everything we do we are guided by the following values:

- **We Take the High Road**
- **We Play For the Team**
- **We Respect Everyone**
- **We Push the Envelope**
- **We Pursue Excellence**
- **We Honor Tomorrow Today**
- **We Are Accountable For Our Results**
- **We Love What We Do**

Our Code of Business Conduct and Ethics sets out basic principles to guide the actions and decisions of all employees, officers and directors of Taubman Centers, Inc. and its affiliates.

For more information about our Governance and Code of Business Conduct and Ethics, visit the Investors section of our website at www.taubman.com.

To Our Employees, Investors, Tenants and Communities:



This is the second year we've published a formal report on our progress toward meeting the sustainability goals we've set for Taubman Centers. We're on or ahead of schedule in most areas, and are continually identifying new ways to lessen our impact on the environment and strengthen the long-term health and prosperity of the communities in which we do business.

In 2016, thanks to the efforts of dedicated people in our Bloomfield Hills headquarters and at our retail properties across the United States, we continued to reduce greenhouse gas emissions, increase the percentage of waste diversion and reduce overall energy use. I'm pleased to report that between 2008 and 2016, we reduced our controllable electrical consumption by 32 percent.

Taubman has Reduced Controllable Electrical Consumption by 32 Percent since 2008

From 2008 to 2016, reduced consumption by:

2016

I want to congratulate all my Taubman Centers associates for earning a Green Star recognition and the GRESB Five Star ranking in this year's Global Real Estate Sustainability Benchmark (GRESB), the most respected measure of sustainability performance for real estate portfolios world-wide. Such comparative recognition demonstrates our commitment, validates our progress, and inspires us to do even better.

Thank you for your interest in Taubman.

Robert S. Taubman
Chairman, President & CEO

32%



Buy-In at Every Level of the Organization



No sustainability program can be successful without enthusiastic buy-in at every level of the organization. That's why it's so great to see the innovative efforts under way at every Taubman center to meet the ambitious goals we've set for ourselves. In this report, in addition to the statistical analysis of our progress, we share a few of the stories that illustrate the commitment and focus of our people.

You'll read about the efficient new LED lighting we've installed at Stamford Town Center. By 2018 we expect 75 percent of the interior and exterior space at our properties to be fitted with energy-saving LED lights. We're very excited about the electric car charging stations installed in a number of our centers. International Plaza in Tampa, Florida, is seeing strong demand for this increasingly popular customer amenity. And we are very proud of our LEED (Leadership in Energy and Environmental Design) certification at City Creek Center in Salt Lake City, where our retractable skylight roofing system is proving to be a big hit with shoppers and a major energy-saver for the center.

At Great Lakes Crossing Outlets in Auburn Hills, Michigan, the property's storm water retention system is winning praise from state environmental agencies as well as a couple of very content nesting egrets and sandhill cranes. Our properties are contributing to sustainable communities across the United States. Free wellness seminars are held each week at The Mall at University Town Center in Sarasota, and the revenues at International Market Place in Waikiki support the Queen's Medical Center, Hawaii's largest private non-profit hospital.

Everyday, Taubman people are making an important difference at our centers and in the communities we serve, giving both time and resources. Seeing all that creative energy being expended to improve our environmental performance is a very satisfying part of my job. Thanks for checking out our report.

A handwritten signature in black ink, appearing to read "Steven D. Moore II". The signature is fluid and cursive, with a long horizontal stroke at the end.

Steven D. Moore II

Director, Energy Management

Sustainability Mission Statement

Consistent with our history and core values, we are committed to sustainable business practices that respect people, lessen our environmental impact and benefit the communities we serve.

Sustainability Task Force

A Sustainability Task Force representing a majority of the functions in the company guides our sustainability efforts and helps set our improvement goals. Thanks in large part to the Sustainability Task Force, Taubman employees working at headquarters and in our properties are enthusiastically engaged in our sustainability programs and initiatives.

Our Affiliations

Taubman is an active participant in sustainability programs in our industry and our communities.



People

Our Corporate Family

Taubman is a great place to work. Everyone’s talents and contributions are respected. Our employee programs and benefits support our associates’ physical, emotional, financial and social well-being. Our excellent healthcare plans and wellness programs are just two of the reasons Taubman received the following distinctions in 2016: Crain’s Cool Places to Work, Detroit’s 101 Best and Brightest Companies to Work For, Detroit Free Press’ Top 100 Workplaces and Best and Brightest Companies to Work For in the Nation.



Community Engagement

Taubman people contribute to the health and success of the communities they serve. Community outreach programs in Greater Detroit and in the markets where Taubman centers operate help charities, schools and civic organizations fulfill their important missions. We understand the importance of healthy communities to the ongoing success of our properties, which serve as vibrant employment centers and are drivers of much-needed municipal revenue. The activity and commerce at Taubman centers help fund schools, police forces, fire departments and public works across the nation.

Taubman strives to make a positive difference by supporting vital nonprofits that transform our communities, respect our planet, develop tomorrow’s leaders and strengthen our industry.

For example, in 2016 nearly 200 Taubman employees teamed up to beautify a neighborhood in Detroit near Denby High School, boarding up homes and clearing tons of trash and over-grown brush to create safer pathways for the students.

Following are two more examples of Taubman’s community commitment at work.

Perpetuating a Humanitarian Legacy at International Market Place



Jeff Boes
Director Planning & Design

Hawaii's International Market Place, which opened in 2016, has a story to tell and a mission to fulfill. Located on six acres owned by the Queen Emma Land Co. in the heart of Waikiki, the center through its revenues directly supports the Queen's Medical Center, the state's largest private non-profit hospital. In addition to enjoying great shopping and dining, visitors to International Market Place learn about the area's rich cultural traditions and the lasting legacy of the beloved woman known to Hawaiians and history as Queen Emma.

In 1856, Emma Kalanikaumaka`amano Na`ea Rooke married Alexander 'Iolani Liholiho, who a year earlier had assumed the throne as Kamehameha IV. The mid-19th century was a time of dramatic social and economic change for Hawaiians. There was a critical need for improved healthcare to help the native population struggling with deadly European diseases to which they had little or no resistance. With the public treasury already stretched thin, the King and Queen went door-to-door, walking the streets of Honolulu raising funds to establish a hospital there. In honor of Queen Emma's tireless efforts, the King and his cabinet named the new hospital The Queen's Hospital, which opened with 18 beds in 1859.

"When we designed this center, we were guided by three objectives. We wanted to honor the legacy of Queen Emma, continuing her mission to improve the health and well-being of the Hawaiian people; celebrate the history and culture of Waikiki; and revitalize this iconic commercial district. I think we're succeeding on all three fronts."

– Jeff Boes



Today's Queen's Medical Center and The Queen's Health Systems are supported through revenues generated by the lands, including the International Market Place site, bequeathed by Queen Emma when she passed away in 1885. "When we designed this center, we were guided by three objectives," said Director Planning & Design Jeff Boes. "We wanted to honor the legacy of Queen Emma, continuing her mission to improve the health and well-being of the Hawaiian people; celebrate the history and culture of Waikiki; and revitalize this iconic commercial district. I think we're succeeding on all three fronts."

Visitors to International Market Place are able to take a cultural journey, assisted by a family of interpretive signs, plaques and graphics presenting the natural history of the area and the inspiring story of Queen Emma. Cultural programming and hula dancing on the Queen's Court performance stage pay tribute to Waikiki's unique traditions. And plantings throughout the center feature species Queen Emma incorporated into the landscaping at her residences.

"We're proud of the role we play in this community," said Boes. "The special character of Waikiki is woven into the architecture of the center, and it's great to know that our efforts support such an important public need here in Hawaii. I hope that Queen Emma would be pleased."

Contributing to Sustainable Communities at The Mall at University Town Center



Lauren Clark
Marketing & Sponsorship
Director

The Mall at University Town Center in Sarasota, Florida, opened in 2014 as one of the most technologically advanced shopping centers ever built. A state-of-the-art fiber-optic infrastructure assures efficient operation of the center's energy, life-safety, lighting and HVAC systems. Adjustable louvers filter sunlight flowing through skylights fitted with heat-deflecting high-performance glass. Car-charging stations are available for electric vehicles.

But when Marketing & Sponsorship Director Lauren Clark discusses the center's impressive sustainability commitment, she looks beyond technology. "Connecting with our communities on a human level is as important as conserving energy and being good stewards of the environment," said Clark. "Taking advantage of our central location and the important commercial role we play within the Sarasota-Manatee region, we've created a range of programs for young and young-at-heart focused on health, fitness, education and fun."

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– Lauren Clark



In partnership with Lakewood Ranch Medical Center, the mall hosts "Walk and Talk" wellness seminars each week, a "Healthy Walkers" mall-walker program, and a health-themed children's play area. Every Sunday morning, The Mall at University Town Center teams with its athletic-wear merchants to offer "Fab & Fit" yoga classes. Thursday mornings during the summer months, "Summer Fun Club" events feature such activities as cookie decorating, music singalongs and face painting for kids.

"We're fortunate to be a part of the multi-use, master-planned University Town Center development," said Clark. "When you think about sustainability, it's great to have retail, residential, commercial and recreational opportunities all within walking distance. Walking is a highly energy-efficient mode of transportation, and the close proximity of all these uses strengthens each component. It also allows us to share resources." Adjacent to the mall is Nathan Benderson Park and its world-class rowing facility, which is hosting the 2017 World Rowing Championships. "They'll be sharing our parking facilities during the event, and I'm sure there will be plenty of shoppers among the visitors from the 67 countries represented in the competition."

Beginning in the fall of 2017, The Mall at University Town Center will be hosting art shows twice each year in conjunction with the Ringling College of Art and Design. "Sarasota is recognized around the world for its vibrant art offerings," said Clark. "Connecting with our market's active cultural community is another way we can help our region continue to thrive."

Properties

Properties Built with a Long View

Since our founding in 1950, Taubman properties have been developed to thrive in their markets for generations and create long-term value for investors. This long view requires a commitment to responsible stewardship of the environment and the communities we serve. Our goal has always been to build with the best materials, operate with responsible business practices and conduct ourselves as good neighbors. This approach has contributed to our portfolio's long-standing position as the most productive in the publicly held U.S. regional mall industry.

Recycling, Solar Power and Smart Irrigation

Our shopping centers efficiently recycle everything from soda cans to cardboard boxes. In 2016 we diverted 13,987 tons of materials from going to a landfill, equivalent to taking more than 9,300 cars off of the road for a year. We are on track to surpass that in 2017.

Currently, our El Paseo center in Palm Desert, California, is the only Taubman property with solar power. However, we are studying the feasibility of installing solar energy systems at several centers in the portfolio. And we are exploring the use of battery storage systems to purchase energy at lower costs at night to be used during peak hours.

Since 2012 we have introduced smart irrigation at sixteen centers, using native plants and drip irrigation systems to reduce the amount of water we use. These irrigation techniques will help us meet our goal of achieving a 10 percent reduction of water use in our centers by 2025.

Smart Buildings

Over the last several years we have intensified our use of technology to improve the energy efficiency of our properties. Our Taubman Smart Buildings initiative has given us the ability to reduce consumption and cost, while improving the shopper experience. We've installed state-of-the-art fiber-optic infrastructures in all our centers, facilitating the efficient monitoring and operation of energy, life-safety, lighting and HVAC systems. We are also continuing to install energy-efficient LED lights in the common areas of all our centers. And our shoppers are responding enthusiastically to such technology-enabled offerings as free Wi-Fi, interactive touchscreen directories, a feature-filled mobile app for their smart phones, and free electric car charging stations at nine of our centers.

Following are four stories about the sustainability commitment of the dedicated people at Taubman's shopping centers.

Focusing on Light, Air and Water at Great Lakes Crossing Outlets



David Boes
Senior Facilities Director

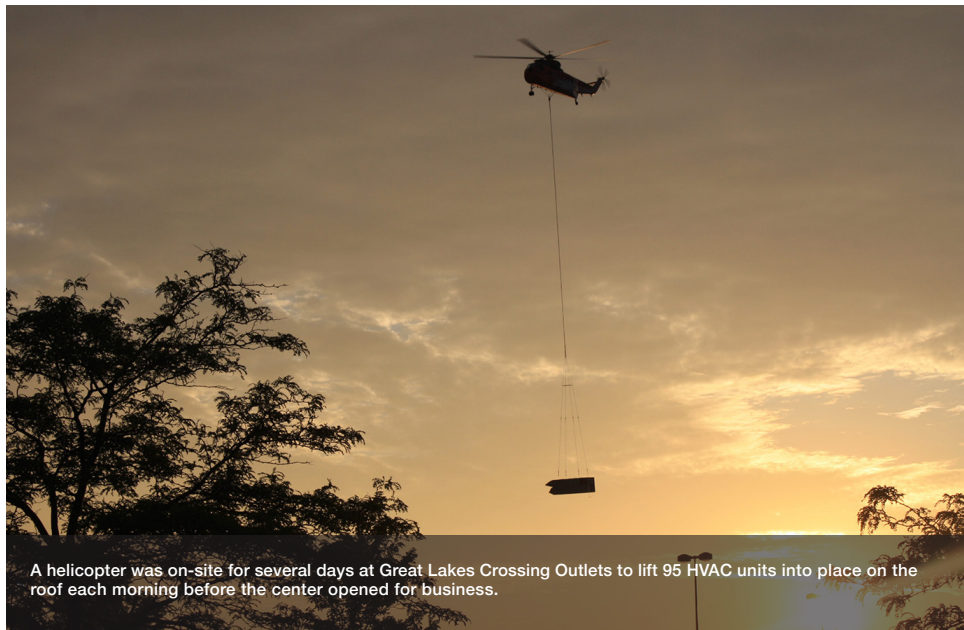
The stores at Great Lakes Crossing Outlets in Auburn Hills, Michigan, are presented in nine themed districts, each with its own architectural character. So, when Senior Facilities Director David Boes began planning for the upgrading of the center's interior lighting to LED, he knew the project would require a lot more than just flipping a switch.

"There are so many important advantages to replacing the florescent fixtures with LED lighting," said Boes. "With the more efficient, longer-lasting lights we're seeing a 40 percent reduction in energy consumption and we're able to redeploy staff members who used to be constantly changing burned-out bulbs. You were lucky if a florescent light lasted two years. We're expecting eight to 10 years with the LED fixtures, which are fully recyclable. But beyond efficiency and savings, we wanted to make sure we achieved the correct color rendition to capture the true colors and maintain the unique retail environment of our center."

Testing was completed and replacement work started in early 2017. Boes expects all interior common areas to be 100 percent LED by the end of 2018. "The center never looked better, and we're now addressing the exterior, including entrances and parking areas. Again, we're doing our homework, analyzing the ideal height of our light poles to achieve the best result for our visitors with the new LEDs."

"We don't expect shoppers to notice all that we're doing to reduce the center's impact on the environment. They can concentrate on shopping and having a great time. But we know they respect the efforts of businesses committed to sustainability, and we're proud of our programs and progress."

– David Boes



In addition to new lighting, all 95 air conditioning units on the center's roof are being replaced over the summer. "We've been operating with the original equipment installed when the center opened in 1998," said Boes. "So, you can imagine how much more efficient these new custom units will be. They're also far more environmentally friendly, using chlorine-free R-410A refrigerant." A helicopter was onsite for several days to lift the units into place on the roof each morning before the center opened for business.

The Great Lakes Crossing Outlets property is 184 acres, of which 47.6 acres is a mitigated wetland area where the center's storm water runoff is retained onsite in a series of settling ponds. "The system works as designed, with no water burdening any sewers," said Boes. "In fact, our runoff is the lifeblood for a developing wetlands meadow, which we've seeded with natural marsh grass. We're proud of the fact that it's earned votes of approval from the Michigan Department of Environmental Quality, as well as a few sandhill cranes and two nesting egrets."

Boes points out that, "More than 21 million visitors come to Great Lakes Crossing Outlets each year, and we're one of the state's top tourist destinations. We don't expect shoppers to notice all that we're doing to reduce the center's impact on the environment. They can concentrate on shopping and having a great time. But we know they respect the efforts of businesses committed to sustainability, and we're proud of our programs and progress."

Seeing the Light at Stamford Town Center



Dan Stolzenbach
General Manager

The Stamford 2030 District has set ambitious goals for businesses operating in this Connecticut city's bustling downtown. Formed in 2014 by the Connecticut Fund for the Environment and the Business Council of Fairfield County, the public/private initiative has challenged companies and property owners to reduce their energy use, water consumption and transportation emissions by 50 percent by the year 2030. Stamford Town Center is doing its part.

The mall received a Change Maker Award at the District's 2016 awards dinner for upgrading all of the lighting in the adjacent multi-level parking garage. New LED lights – 3,100 fixtures in all – have reduced energy costs by 56 percent, saving one million kilowatt hours annually; enough to power 100 midsize homes.

"The Stamford corporate community has a long history of shared commitment and cooperation," said Stamford Town Center General Manager Dan Stolzenbach. "We play an important role in the economic health and vitality of the city, and it's nice to receive this recognition."

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– Dan Stolzenbach



In 2017, the mall will undergo yet another lighting upgrade, this time in the common area of the center. And, by partnering with Eversource, the electrical utility provider, they have identified even more energy savings with a mechanical upgrade to the cooling systems. This project will not only brighten the center, it will also provide better cooling, all while saving more than 600,000 kilowatt hours annually. Stamford Town Center is quickly moving towards the 2030 District's ultimate goal. "New technology and improved systems are allowing us to control our energy use like never before," said Stolzenbach. "That's a big part of what makes the Stamford 2030 District goals achievable."

Stolzenbach is also proud of the positive impact Stamford Town Center is having on its community through such sponsored outreach programs as: Read With Me, a program sponsored by Eversource, where corporate executives read to children in the center each Tuesday morning throughout the summer; Summer Stage, a concert series featuring local talent run by the center's media partner FM radio station Star 99.9; Meet the Neighbors, in partnership with RFR Realty, UCONN, and nearby residential buildings that bring local office workers, students, and residents together for VIP events at the center; and Holidays in Harmony, where local schools perform approximately 20 times throughout the holidays in the center's Grand Court. In addition, the center has several health and wellness events throughout the year. These include sponsored events with Excel Urgent Health Care, weekly yoga sessions during cooler months, and Fit4Mom workout sessions before mall hours.

"Vibrant marketplaces have been at the heart of sustainable cities for centuries," said Stolzenbach. "Stamford Town Center is embracing that role at every level. The year 2030 is right around the corner."

Plugging In and Powering Up at International Plaza



Gary Malfroid
General Manager

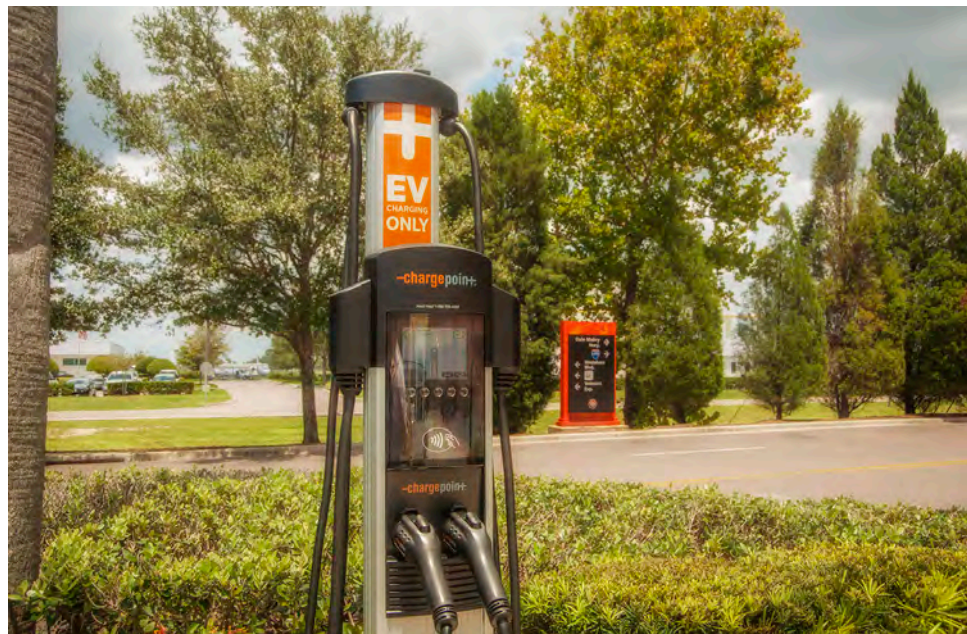
Tampa's International Plaza draws customers from communities up and down the west coast of Florida. Shoppers living beyond the primary trade area have been driving considerable distances to experience the center's distinctive shops and restaurants since the property's grand opening in 2001. A few years ago, the International Plaza management office began receiving phone calls from out-of-market customers asking an interesting new question: "Do you have a place for me to plug in my car?"

"I've seen projections that by the year 2020 more than 10 percent of the cars in our parking lots will be electric vehicles," said International Plaza General Manager Gary Malfroid. "That's a trend we want to embrace, so in 2015 we installed four charging stations to test the demand. The response has been outstanding."

Charging your electric car at International Plaza while you shop or dine is free. The average plug-in session is two hours and 13 minutes. Over a recent 190-day period, usage was at 100 percent of capacity approximately 40 percent of the time. "In 2016, we logged 1,624 charging sessions, and in just the first six months of 2017 we hit 1,500," said Malfroid. "Knowing our shoppers, we expect the demand to accelerate. This is a very 'techie' shopping center. Apple, Microsoft and Tesla are three of our most popular tenants. We're in the process now of reviewing plans for additional units."

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More than being just a popular customer amenity, the car charging stations play an important role in International Plaza's sustainability commitment. "We estimate that in the 18 months after we installed our first four units, 10,714 kilograms of greenhouse gas emissions were avoided," said Malfroid. "That's equivalent to planting 407 trees and letting them grow for 10 years."

Additional sustainability initiatives under way at the center include the upgrading of lighting to LED in interior common areas as well as the parking decks. "We recognize that there are opportunities to lessen our impact on the environment in big and small ways," said Malfroid. "For example, we offer convenient water bottle refilling stations for shoppers to reduce the use of soda cans and bottles. And we save great volumes of water with our property's retention ponds that capture rainwater runoff and reuse it to keep our landscaping looking good with our efficient drip-water irrigation system."

Malfroid points out that, "Tampa is a very energy-conscious community. All solid waste from our center is used by our public electric utility, Tampa Electric Company, to fuel a power-generating incinerator. And that energy flows back through our charging stations to recharge the batteries in our customers' cars. I think that's recycling at its best!"

Strengthening the Urban Fabric at City Creek Center



Jack Romaine
Senior Facilities Director

“Shoppers and tenants love the way the space functions like a convertible retail street. We can open or close the skylights in less than 5 minutes.”
– Jack Romaine

In bold letters, the inscription on a prominently displayed plaque at City Creek Center reads: **“LEED Certified.”** LEED stands for Leadership in Energy and Environmental Design. The certification is a source of pride for everyone associated with the 20-acre mixed-use development in downtown Salt Lake City. “This is a very special project,” said Senior Facilities Director Jack Romaine, “and earning that prestigious designation from the U.S. Green Building Council is an important validation of our commitment to sustainability.”

City Creek Center’s retractable skylight roofing system has attracted the attention of architects and engineers from around the world. Open to Utah’s clean mountain air when weather permits, this innovative architectural feature is also a significant energy saver. HVAC costs are 50 percent lower than would be required to heat and cool the same areas with permanent roofs. “Shoppers and tenants love the way the space functions like a convertible retail street,” said Romaine. “We can open or close the skylights in less than 5 minutes.”



Romaine joined the City Creek Center management team in 2011, a year before the shopping center’s grand opening. “Sustainability and revitalization were priorities well before we opened our doors,” said Romaine. “For example, 80 percent of the steel recovered from the buildings demolished to make way for City Creek Center was reused in the new structures throughout the City Creek master-planned, mixed use development. And it would be an understatement to say there were high expectations for this center. Retail, office, hotel and residential uses were brought together here to strengthen the heart of Salt Lake City. Looking back over the last five years, that’s exactly what has happened.”

The shopping center, a joint venture between Taubman and City Creek Reserve, Inc., (CCRI) a real estate arm of the LDS Church, has created 2,000 permanent jobs and stimulated downtown residential and commercial development. A new 2,500-seat performing arts center has opened nearby, and property values within a one-mile radius of City Creek Center have increased 80 percent in the last five years. Residents living in the project’s 440 condominium and rental units, owned and operated by CCRI, are contributing to the city’s 24-hour vitality.

Spend some time at City Creek Center and you’ll experience the property’s unique place within the fabric of the city. People are coming and going by many modes of transportation. There’s a stop onsite for the city’s TRAX light rail system, three GREENbike bike sharing stations along with several bike racks (with 200 spaces), and inviting street-level entrances that welcome a steady flow of pedestrians living and working in the residences and office buildings, also owned and operated by CCRI, within and surrounding the development.

“City Creek Center is a beautiful shopping and dining destination for this community,” said Romaine. “We are working every day to make it as sustainable as possible as well.”

Planet

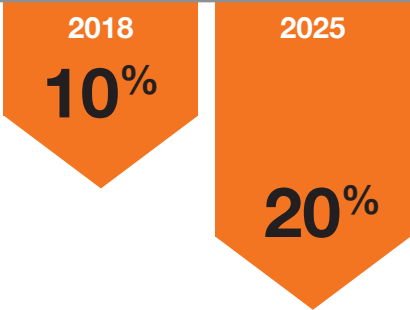
Protecting the Planet

We are committed to reducing the impact our properties have on the planet in every way we can. The material impacts our shopping centers have on the environment fall in to four primary categories: Energy use, water consumption, greenhouse gas emissions and waste handling. Between 2008 and 2016 we reduced energy consumption across our portfolio by 32 percent. We continue that progress, and have set longer-term goals to reduce our use of energy and water, reduce greenhouse gas emissions and increase our recycling efforts.

Our Goals

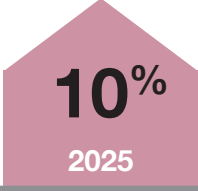
Reduction in Energy Consumption Goals

From a 2013 baseline, reduce consumption by:



Renewable Energy Goal

Achieve a level of use from renewable energy sources of:



Reduction in Water Consumption Goal

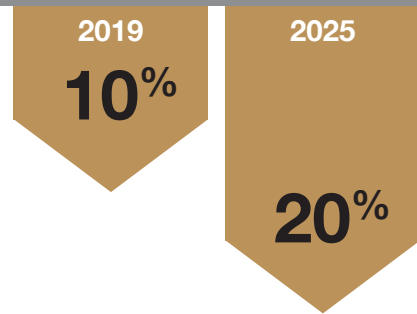
From a 2015 baseline, reduce consumption by:



Our Goals

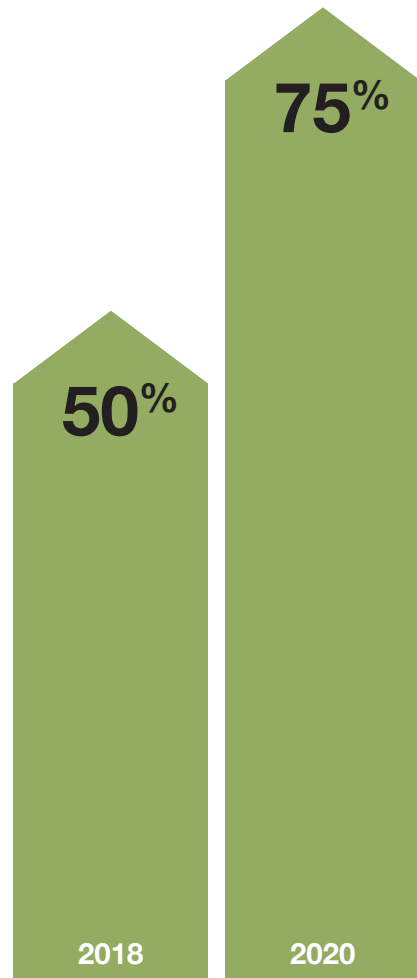
Reduction in Greenhouse Gas Goals

From a 2014 baseline, reduce controllable Scope 1 and Scope 2 greenhouse gas emissions by:



Waste Diversion Goals

We have set diversion targets of:



Our Progress

Taubman has Reduced Controllable Electrical Consumption by 32 Percent since 2008

From 2008 to 2016, reduced consumption by:



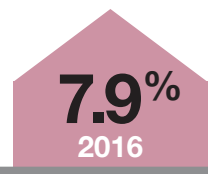
Reduction in Energy Consumption

From a 2013 baseline, reduced consumption by:



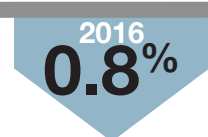
Renewable Energy

Achieved use from renewable energy sources of:



Reduction in Water Consumption

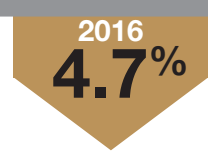
From a 2015 baseline, reduced consumption by:



Our Progress

Reduction in Greenhouse Gas

From a 2014 base, achieved a reduction in controllable Scope 1 and Scope 2 greenhouse gas emissions of:



Waste Diversion

Reached diversion level of:



Global Real Estate Sustainability Benchmark Performance

Taubman participated in the 2017 Global Real Estate Sustainability Benchmark (GRESB) and achieved a Green Star recognition and the GRESB Five Star ranking. GRESB is the most respected measure of sustainability performance for real estate portfolios world-wide. The comprehensive survey assesses a company's performance against environmental, social and governance benchmarks.



Cventure Verification Statements

Cventure Verification Statement GHG Emissions and Water/Waste Inventories



**Taubman
Final Verification Statement**

**Cventure LLC
June 9, 2017**

Reporting Entity:	The Taubman Company (Taubman)	Contact: Steven Moore
Lead Verifier:	Kevin L. Johnson, Cventure LLC	<i>Kevin L. Johnson</i>
GHG Emissions and Water/Waste Inventories:		
<p>Corporate-wide 2016 (January 1, 2016 – December 31, 2016) energy and GHG emissions inventory: Scope 1 direct emissions from fuel combustion, and Scope 2 emissions from purchased electricity. Verification scope boundaries include: Scope 1 & 2 emissions, and underlying energy consumption, from those owned/leased facilities over which Taubman exhibits operational control; waste management; and water usage. CO₂, CH₄, and N₂O direct combustion and electricity consumption emissions were calculated. Taubman has no measurements for HFC emissions; also, they have no SF₆ or PFC emissions sources within their boundaries.</p>		
Verification Approach:		
<p>Tier II of the ERT Standard: “Corporate GHG Verification Guideline” by ERT, a CDP-approved verification standard. A Tier II-level verification is appropriate for basic reporting, and voluntary efforts for which there are no imminent requirements for compliance obligations, as is the case for Taubman: direct GHG emissions from each of their facilities are well below any GHG regulatory requirements. This verification effort covered Taubman’s 2016 GHG emissions inventory. Cventure was not involved in any GHG emissions- or water-/waste-related data collection and/or management, nor the development of any associated emissions or usage estimates, nor any subsequent assertions made by Taubman. Also, Cventure has not provided any services to Taubman which could compromise Cventure’s independence as the 3rd party verifier on this project. Cventure disclaims any liability for any decision made by third parties based on this Verification Statement. Cventure’s verification opinion statement is conditioned on the following findings as described below.</p> <p>This Tier II review was designed to provide a limited level of assurance that the GHG emissions and water usage/waste management assertions are materially correct. All Taubman North American facilities and associated GHG emissions Scope types, within the operational and verification scope boundaries, were subject to the verification process, as part of this Taubman corporate verification program. Select sampling of electricity and natural gas billing invoices’ raw data and other monthly/annual data cross-checks were compared against activity data in Taubman’s inventory report spreadsheets. Error checking tests were performed on those subsets of the candidate facilities to assess the information collected, including missing data, duplicate records, limits/reasonableness, units of measure (UOM), and re-computation cross-checks. Several minor, immaterial discrepancies between root data documentation and the inventory report were identified by Cventure during the verification; all of these were corrected by Taubman at that time. Boundary checks included a review of Taubman’s 2016 Annual Report and SEC 10-K report. Select CO₂ emission factors and associated GHG emissions calculations were also checked. The waste vendor’s annual data were reviewed, along with a sampling of detailed monthly water usage reports, and select water utility invoices. Emissions aggregation calculation checks were also made, and compared against inventory reported data. No material errors or misstatements were found in any of those types of checks. We believe our work provides a reasonable basis for our opinion.</p>		
Opinion:		
<p>Based on our review of Taubman’s energy and GHG inventory, Cventure has verified the information provided by Taubman. Cventure found that the 2016 GHG inventory emissions estimates conform to generally accepted GHG accounting standards.</p> <p>This verification effort included sampling and testing of Taubman’s GHG and underlying energy data and information, resulting in a limited level of assurance that there is no evidence that Taubman’s GHG assertion is not presented fairly and accurately. Cventure has verified that the information provided by Taubman and the associated emissions estimates were calculated in a consistent, transparent manner, and found to be a fair and accurate representation of Taubman’s actual emissions, and were free from material misstatements or omissions. Cventure verified the following CO₂ equivalent emissions: 2,350 metric tonnes CO₂e Scope 1 (based on 13,000 MWh total natural gas consumption), and 145,000 metric tonnes CO₂e Scope 2 (based on 289,000 MWh total electricity consumption); 32,300 metric tonnes total of non-hazardous waste managed; and 2.25 Million cubic meters of water consumed; all with a limited level of assurance.</p>		

FVS.Taubman (6-9-2017)

Cventure Verification Statement

Controllable Electricity Consumption Reduction 2008 – 2015



Taubman **Cventure LLC**
Final Verification Statement **June 27, 2017**

Reporting Entity:	The Taubman Company (Taubman)	Contact: Steven Moore
Lead Verifier:	Kevin L. Johnson, Cventure LLC	<i>Kevin L. Johnson</i>
<u>Controllable Electricity Consumption Reduction: 2008 – 2015:</u>		
<p>Verification scope boundaries included eleven (11) facilities which were owned and operated by Taubman, each continuously over the entire time period from the beginning of 2008 through the end of 2015. Reporting basis was the controllable electricity consumption (i.e., for shopping center common areas and HVAC [heating, ventilation, and air conditioning] systems), as monitored via electricity sub-metering systems installed and managed by Taubman.</p>		
<u>Verification Approach:</u>		
<p>Tier II of the ERT Standard: “Corporate GHG Verification Guideline” by ERT, a CDP-approved verification standard. A Tier II-level verification is appropriate for basic reporting, and voluntary efforts for which there are no existing compliance obligations, nor any associated target commitments. This verification effort covered Taubman’s 2015 and 2008 controllable electricity consumption, for eleven (11) select Taubman facilities, focusing on a high level review of procedures and systems in use, and their associated facility electricity consumption tracking spreadsheets.</p> <p>Cventure was not involved in any Taubman GHG emissions- or energy-related data collection and/or management, nor the development of any associated consumption estimates, nor any subsequent assertions made by Taubman. Also, Cventure has not provided any services to Taubman which could compromise Cventure’s independence as the 3rd party verifier on this project. Cventure disclaims any liability for any decision made by third parties based on this Verification Statement. Cventure’s verification opinion statement is conditioned on the following findings as described below.</p> <p>This Tier II review was designed to provide a limited level of assurance that the controllable electricity consumption reduction assertion was materially correct, with a materiality threshold of 10% (i.e., a relative percentage, including overall uncertainties and sub-metering measurements’ relative accuracy). Monthly/annual data cross-checks were compared against activity data as reported in Taubman’s 2015 and 2008 internal data tracking spreadsheets. Error checking tests were performed on those datasets from the eleven (11) select facilities to assess the information collected, including missing data, duplicate records, and re-computation cross-checks. Electricity consumption aggregation calculation checks were also made, and compared against internal Taubman reports. No material errors were found in any of those checks.</p>		
<u>Opinion:</u>		
<p>This verification effort included reviews of Taubman’s underlying energy data and information, resulting in a limited level of assurance that there is no evidence that Taubman’s controllable electricity consumption reduction assertion was not presented fairly. Cventure has verified that the information provided by Taubman and the associated controllable electricity consumption estimates were calculated in a consistent, transparent manner, and found to be a fair representation of Taubman’s actual usage, and were free from material misstatements or omissions. Cventure verified Taubman’s assertion that their controllable electricity consumption, over the 2008-2015 time period, was reduced by approximately thirty (30) percent, with a limited level of assurance.</p>		

FVS.Taubman (6-27-2017)



Taubman

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