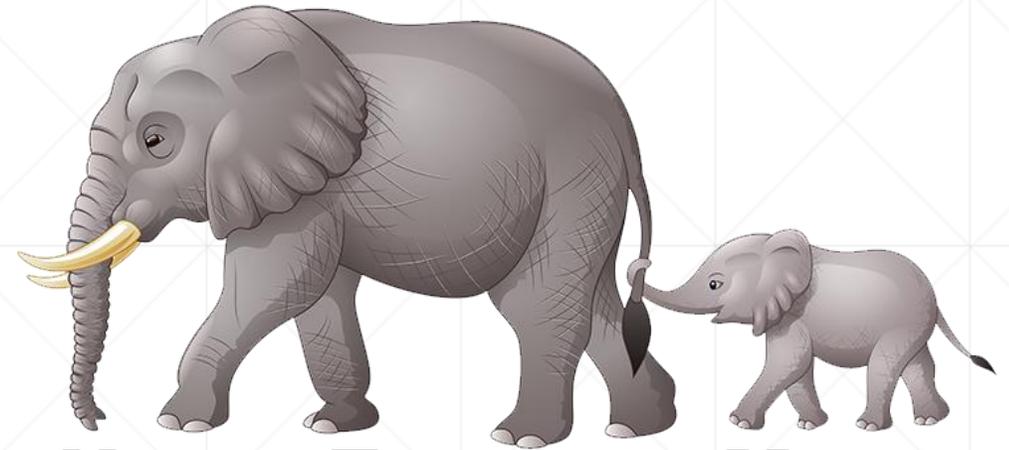


Thursday, November 18, 2021



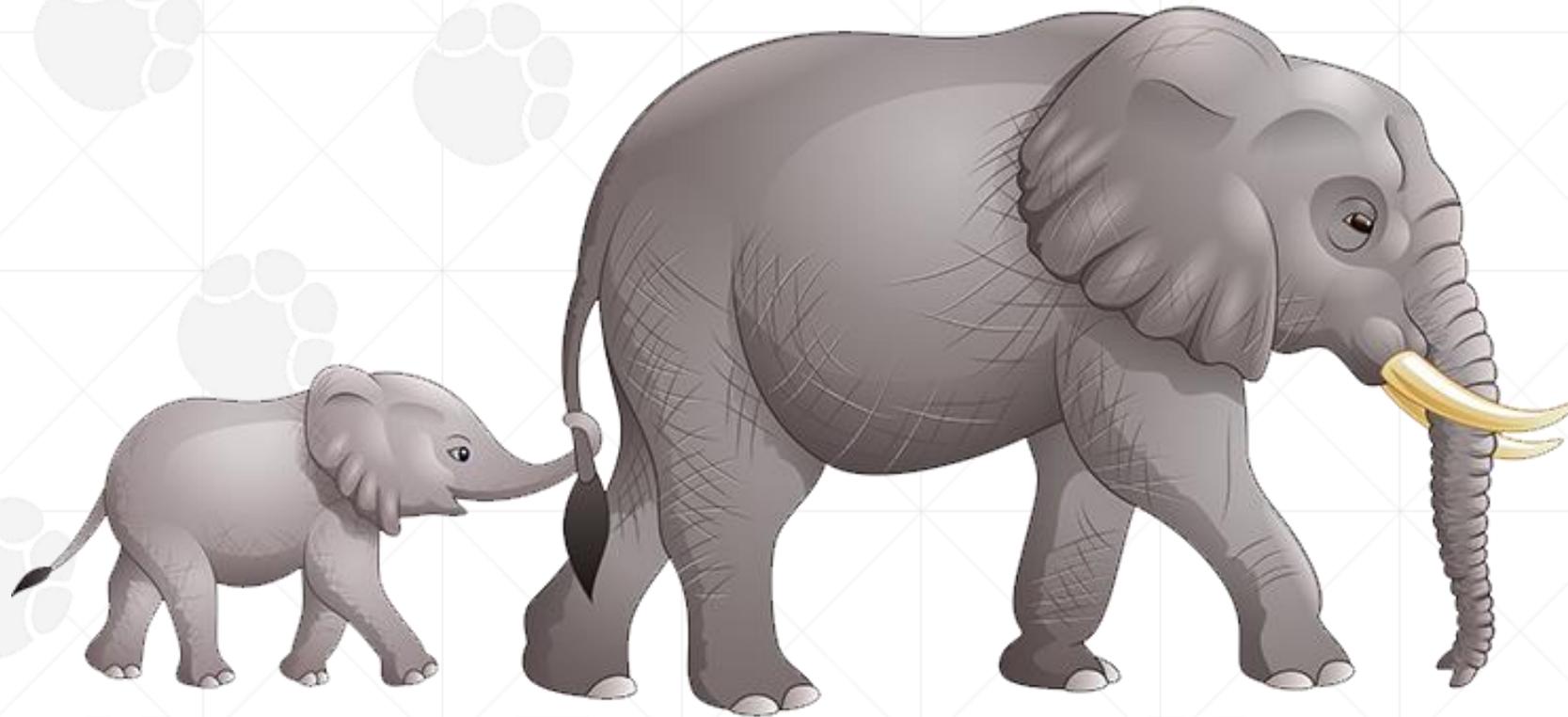
URBAN ELEPHANT MEDIA

~ PRESENTS ~

There's more value in your design than you might know!

Featuring Jill Kurtz, Ewa Rajchert-Linowski and Riley McKillop

Sponsored by Autocase



URBAN ELEPHANT MEDIA

PEER-TO-PEER LEARNING MADE EASY

Sustainability Training for Urban Designers and Policymakers

Randy Rodgers, Director of Big Ideas
Randy@UrbanElephantMedia.com
563-562-2925

UrbanElephantMedia.com

Our Sponsor

The Autocase logo features the word "Autocase" in a white, sans-serif font. The letter "A" is stylized with a white arrow pointing upwards and to the right, integrated into its top-left corner. The background of the logo is a low-angle photograph of a modern glass skyscraper against a clear blue sky.

Autocase

Cost-justify smarter building and site designs

Efficiently create business cases to optimize capital investments and construction

www.autocase.com

info@autocase.com

1-800-440-1592

Our Presenters



Jill Kurtz
AIA, LEED AP
Director, Building Sciences
Page/



**Ewa Rajchert-
Linowski**
Hon. BA, MSc, LEED AP BD+C
Sen. Project Manager
Ecovert



Riley McKillop
Economist
Autocase

Welcome

There's more value in your design
than you might know!
And learn how to get up to 2
LEED credits instantly!



Riley McKillop,
MA Economics,
Economist & Account
Manager



Jill Kurtz,
AIA, LEED AP,
Principal/Director of
Building Sciences



Ewa Rajchert-Linowski,
Hon. BA, MSc,
LEED AP BD+C
Senior Project Manager

Autocase

Page/

 ECOVERT

Agenda

- Two 'Informing Design' LEED pilot credits
- Autocase automates the credit submission
- Successful pilot credit project examples
- Live Demo
- Q&A Session

Informing design with triple bottom line



Informing Design Using Triple Bottom Line Analysis

Pilot credits

INpc113 | Possible 1 Points



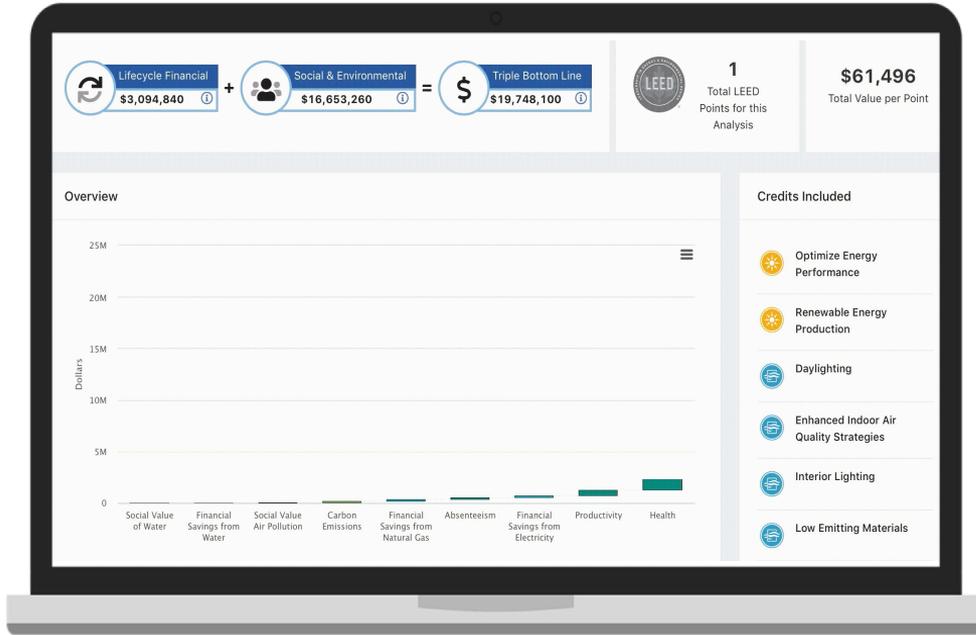
Informing Design by Major Credit Category Using Triple Bottom Line Analysis

Pilot credits

INpc122 | Possible 1 Points

Intent: To demonstrate the economic, social, and environmental value of LEED design strategies using empirical evidence to inform the design process.

Autocase automates achieving 2 LEED credits



Quantifies & monetizes the financial business case + social & environmental co-benefits

Choose your LEED categories and credits

The screenshot displays a web application interface for managing a LEED project. On the left is a vertical navigation menu with icons for home, dashboard, settings, and other functions. The main content area is titled "My Project" and includes a "Project Settings" and "Run Results" button in the top right. A large blue banner at the top reads "Welcome To Your Project!" and provides instructions on toggling design components. Below this is a "Watch Some Tutorials" button. The dashboard is divided into several sections: an "Overview" table, a "Project Description" section, and a "LEED Category Selection" area. The "Overview" table lists project details: Name (Your Project), Location (Tucson, AZ), and Floor Space (125,000 ft²). The "Project Description" section has an "Add project description" field. The "LEED Category Selection" area features three toggleable categories: "Energy & Atmosphere" (orange), "Water Efficiency" (green), and "Indoor Environmental Quality" (blue). Each category is currently turned "ON" and lists specific credit areas.

Overview [Edit Project](#)

Name	Location	Floor Space
Your Project	Tucson, AZ	125,000 ft ²

Project Description [Edit](#)

Add project description

LEED Category Selection

- Energy & Atmosphere** ON
Optimize Energy Performance | Renewable Energy Production | Green Power & Carbon Offsets
- Water Efficiency** ON
Indoor Water Use | Outdoor Water Use
- Indoor Environmental Quality** ON
Interior Lighting | Daylighting | Thermal Comfort | Enhanced Indoor Air Quality Strategies | Low Emitting Materials | Quality Views

Releasing Soon:

- Sustainable Sites
- Location & Transportation

Enter information from your LEED submission

Your Project

Optimize Energy Performance Inputs

Project Settings Run Results >

Optimize Energy Performance Energy and Atmosphere

How many LEED points did you achieve with this credit?

Energy Input Type

What is your baseline annual electricity consumption? ⓘ kWh

What is the percent reduction in electricity consumption (excluding renewable energy) in your proposed design? ⓘ Percent

What is your baseline annual natural gas consumption? ⓘ MMBtu

What is the percent reduction in natural gas consumption in your proposed design? ⓘ Percent

LEED Credit	Initial Capital Costs	Recurring O&M
Optimize Energy Performance	\$ 0.00	\$ 0.00 Edit

< 1 >

LEED Progress Report

8/6 Credits Analyzed

3/3 Required Credits

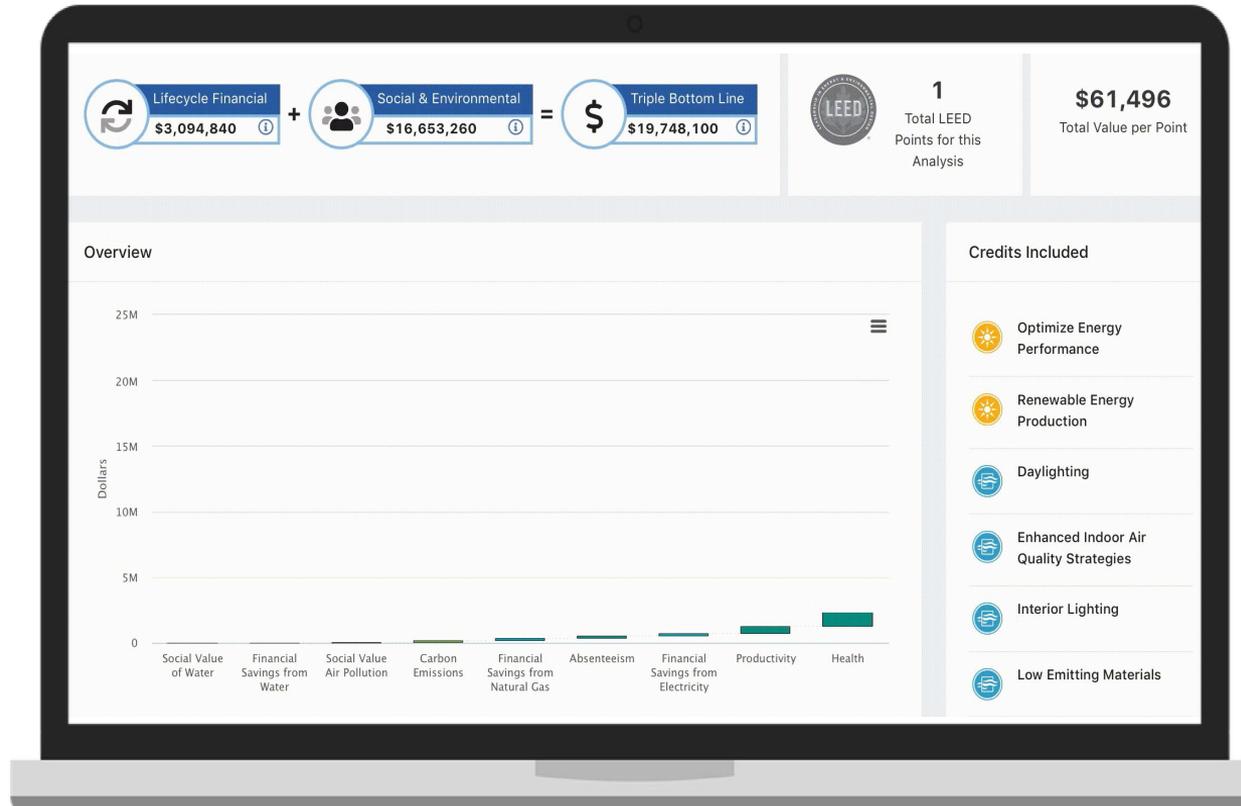
3/2 Categories with 2 Credits

Overall Project Metrics:

26,252 Tonnes of Carbon

228.28 Cars off the road

See the triple bottom line value your design decisions have created



Location
Specific
Results

Collaborate, export and share easily

LEED TBL-CBA Analysis
Nov 17, 2021

Autocase

Your Project



Summary

This project is a mixed-use office type building located in Tucson, AZ, CA and has an occupied floor space of 125,000 R². A triple-bottom line cost-benefit analysis (TBL-CBA) has been performed to assess the financial, social and environmental outcomes associated with 8 of the LEED points achieved. This analysis looks at the costs and benefits, over an 28 year study period, of these points in the following LEED credits: Optimize Energy Performance, Renewable Energy Production, Indoor Water Use Reduction, Outdoor Water Use Reduction, Low Emitting Materials, Enhanced Indoor Air Quality Strategies, Interior Lighting and Daylighting. The net present value (NPV), summing the total of the costs and benefits through the study period, is \$20,472,000 with \$3,094,840 attributed to financial outcomes and \$17,377,160 attributed to social and environmental ones.

Total LEED Points

26

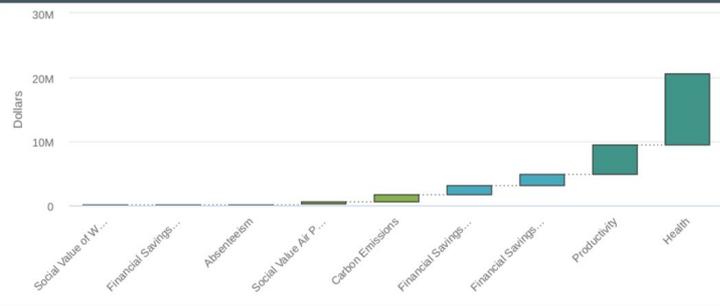
Total Value per Point

\$787,385

Total Carbon Reduction

26,252 MtCO_{2e}

Value by Impact



TBL-NPV Breakdown

Cost or Benefit Category	Lifetime Present Value
Financial	
💰 Financial Savings from Electricity	\$1,672,100
💰 Financial Savings from Natural Gas	\$1,408,000
💰 Financial Savings from Water	\$14,740
Social	
👤 Health	\$11,174,000
👤 Productivity	\$4,609,400
👤 Absenteeism	\$57,500
Environmental	
👤 Carbon Emissions	\$1,178,120
👤 Social Value Air Pollution	\$354,660
👤 Social Value of Water	\$3,480
TBL Category Totals	
Financial	\$3,094,840
Social	\$15,840,900
Environmental	\$1,536,260
Triple Bottom Line Value	\$20,472,000

Submit seamlessly to USGBC and CaGBC



Your Project
LEED Pilot Credit Documentation



Application Towards

Informing Design Using Triple Bottom
Line Analysis
(INpc113)

and

Informing Design by Major Credit
Category Using Triple Bottom Line
Analysis
(INpc122)



Are you a USGBC member?



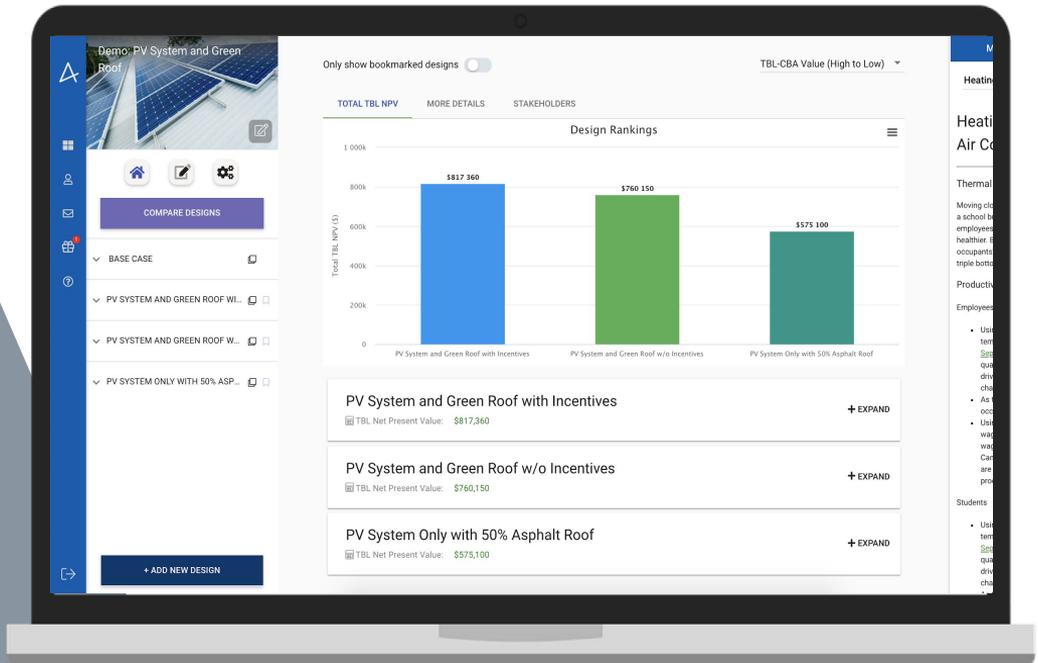
Take advantage of a USGBC membership discount of 50% off on your basic Autocase subscription for any Silver, Gold or Platinum USGBC Membership.

**Contact us at info@autocase.com
to get started**

Autocase

Find out more at
autocase.com/leed

Case Studies



Sustainability Consultants use Autocase to achieve pilot credit for LEED Certification

Pilot Credit: Informing Design Using Triple Bottom Line Analysis

Use a Triple Bottom Line (financial, social, and environmental), benefit-cost analysis on at least six LEED credits.

This includes analyzing financial/economic, environmental, and social costs and benefits associated with the selected credits.

Project Descriptions

Worked with corporate clients with highly ambitious sustainability goals for their entire building portfolio that wanted to showcase the triple bottom line impacts of warehouse and distribution projects.



Overview

Client: Global Transport & Logistics

Rating System: BD+C: Warehouse

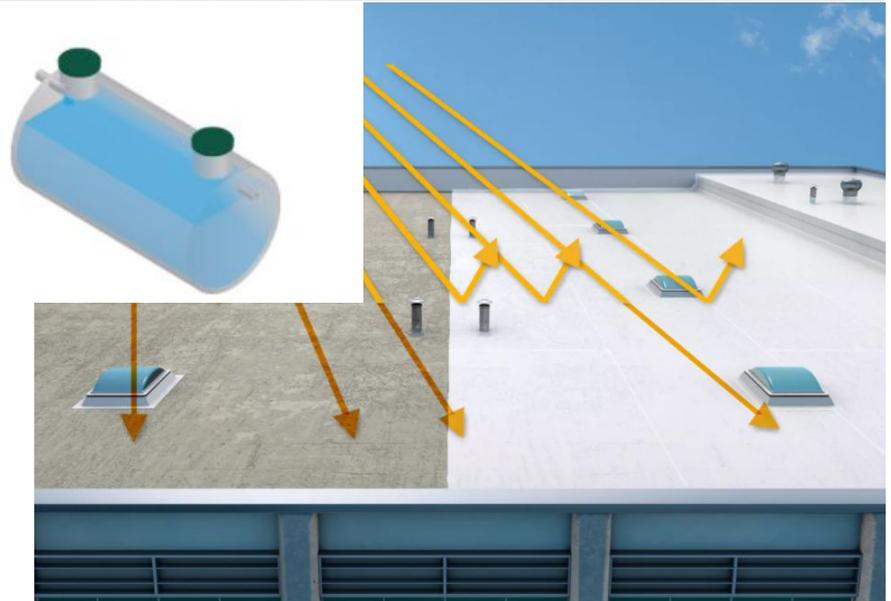
Size: 1.1 million sq ft

Building type: Warehouse / Distribution Center

Location: Ontario, Canada

Key Features:

- 50% Loading docks with electric chargers
- Rainwater flushing for main office washroom
- White TPO roof and concrete truck aprons



Overview

Client: Food Manufacturer

Rating System: BD+C: New Construction

Size: 450,000 sq ft

Building type: Warehouse / Distribution Center

Location: Ontario, Canada

Key Features:

- Reduced parking footprint, and EV charging stations plus rough-in for future addition
- Ultra low-flow/flush washrooms
- Interior Lighting – Quality
- Innovation for Sustainable Building Policies.



How Autocase was used

The Ecovert team inserted late-stage design information on the project's energy and water efficiency targets, along with the indoor environmental quality strategies into Autocase.

LEED Credits Assessed



Green Power and Carbon Offsets



Interior Lighting



Optimize Energy Performance



Indoor Water Use Reduction



Construction Indoor Air Quality Management Plan



Outdoor Water Use Reduction



Outcome

The first project was project under the Warehouse and Distribution Centers path was awarded **LEED-BD+C Silver**; the other New Construction was awarded **LEED-BD+C Certified**.

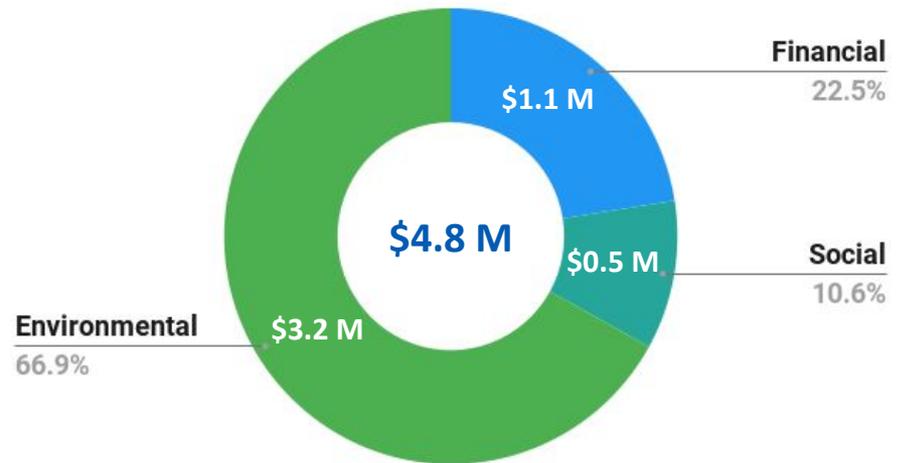
These projects achieved **one (1) LEED pilot credit** for Informing Design Using Triple Bottom Line Analysis by using the Autocase software to assess 6 LEED credits targeted in the design.

Challenge

For this building type and location, it is challenging to target two (2) LEED points under the pilot credit.

Autocase is working to add new credits to the Triple Bottom Line Analysis.

Triple Bottom Line Benefits





Page/

Indeed Tower:

Pursing rigor to measure impact

AUTOCASE WEBINAR

November 18, 2021

Jill Kurtz, AIA, LEED AP, SEED AP

**CLIENT**

Trammel Crow Companies (Developer)
Principal Real Estate (Investor)
Kilroy Properties (Owner)

LOCATION

Austin, Texas

RATING SYSTEM

LEEDv4 Core & Shell

SIZE

730,000 sq ft

BUILDING TYPE

Mixed-Use Office Tower & Historic Building

KEY FEATURES

46% Of Site is Open Space

100% of Non-Potable Outdoor Water

85% Of Rainwater Management Onsite

14% Energy Savings by Cost Offset 100% by
Offsite Renewables

Intention requires rigor...

...**rigor** measures impact.

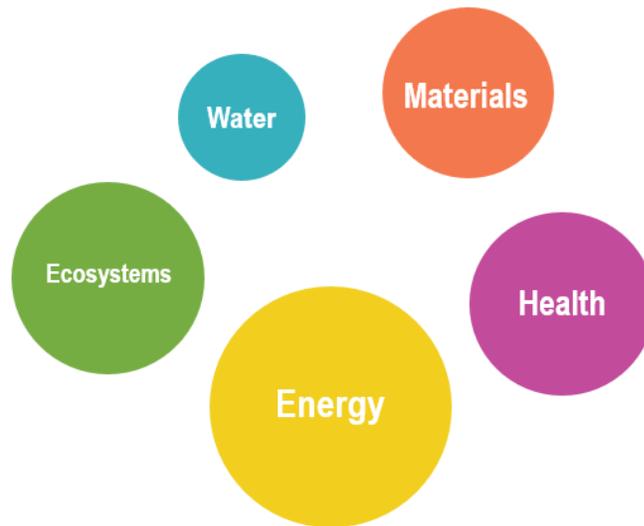
Intention...

Page/

Block 71
Sustainability Goal Setting +
LEED/AEGB scorecard review
August 15, 2017



Sustainability Goals/



- Outdoor multi-functional / dynamic open space amphitheater
- Strategic, urban location with excellent multi-modal access.
- Rooftop vegetation for tenant access and amenity space
- Capture and treatment of stormwater for onsite use
- High performance glazing & vertical fins
- Efficient MEP
- Preservation & celebration of Claudia Taylor Johnson Hall.
- Texas sourced materials where available
- Expansive and open building lobby that integrates with CTJH
- Proportioned floorplate for material efficiency and daylight penetration



Intention
requires
rigor...



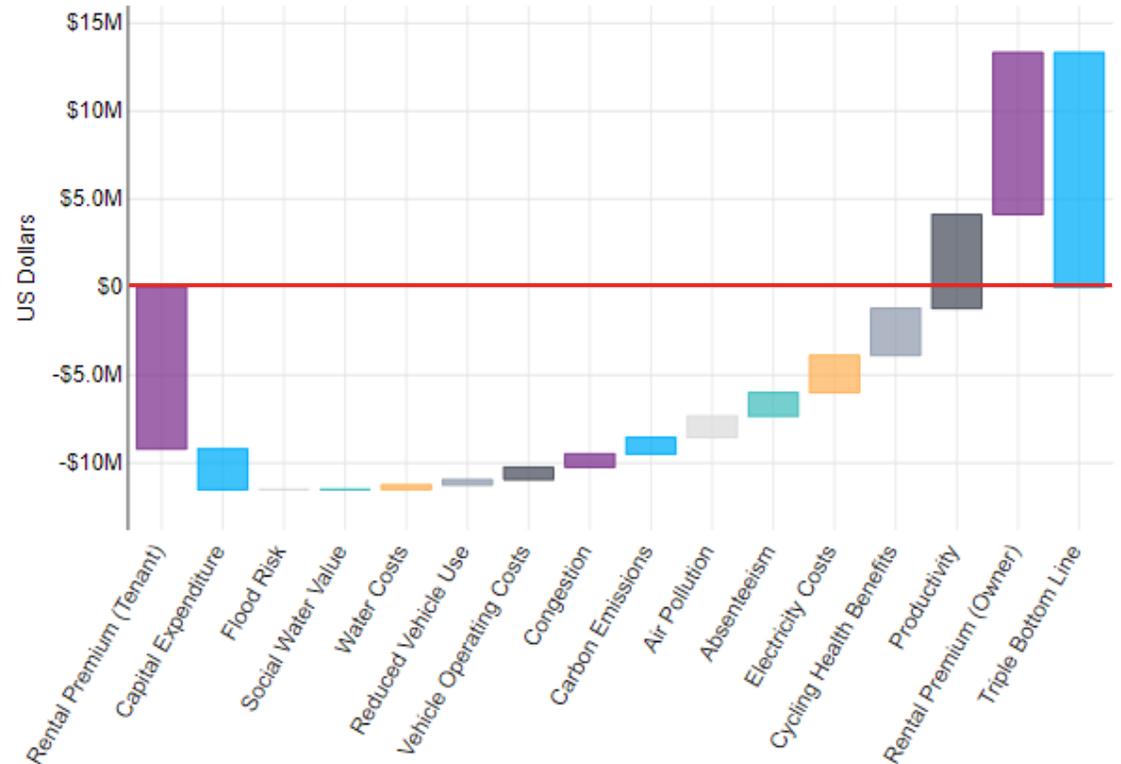
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Sustainability Goals/

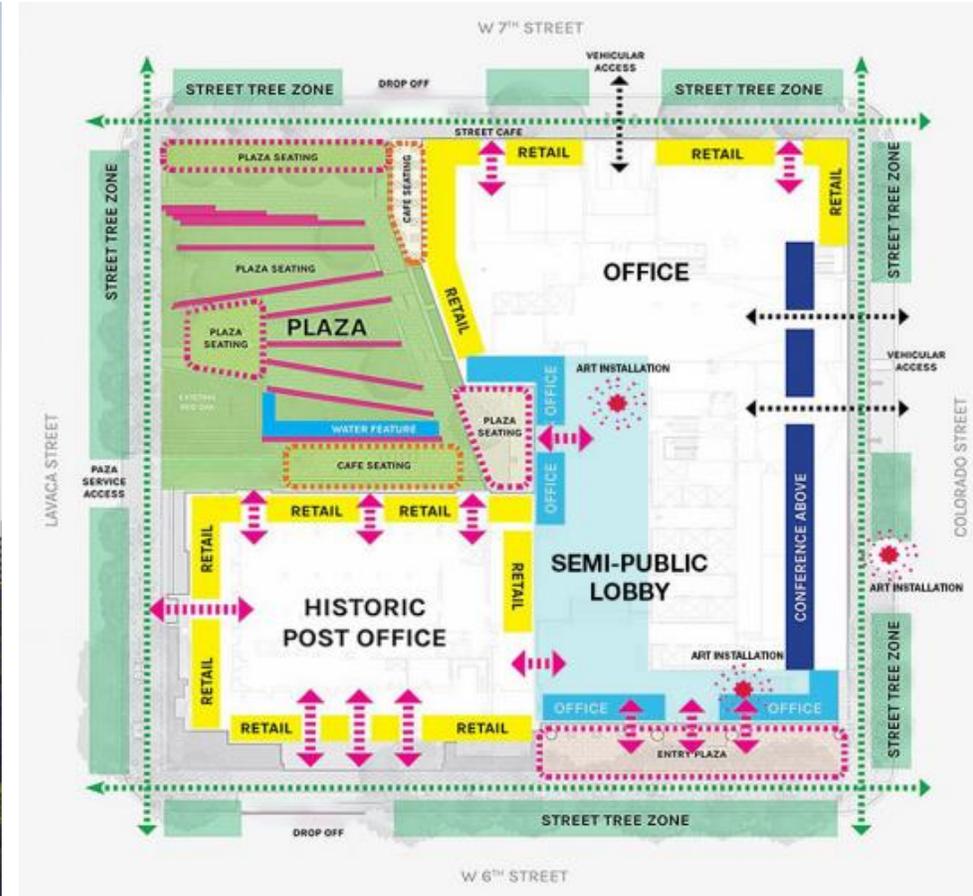
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Value by Impact



Intention Strategic, urban location with excellent multi-model access.

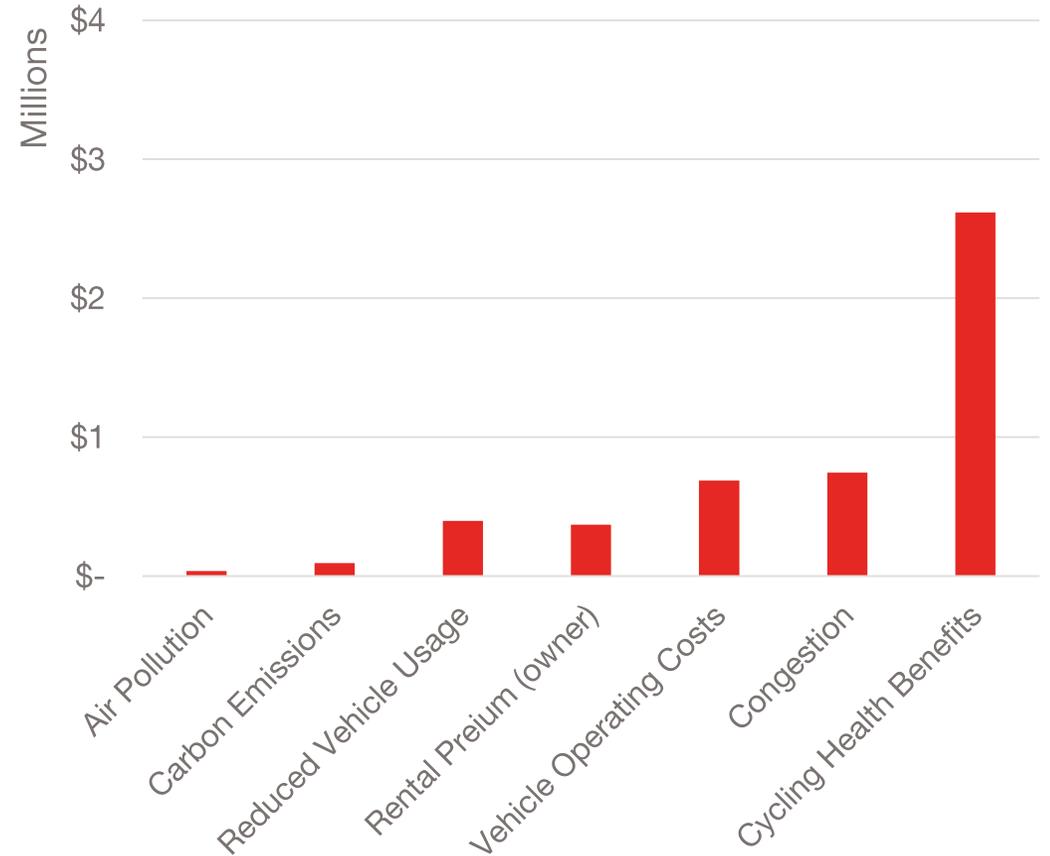


Intention Strategic, urban location with excellent multi-model access

Rigor

Y	N	LOCATION + TRANSPORTATION	
18	2	LTc1 LEED For Neighborhood Development	Project not located on a LEED ND site.
2		LTc2 Sensitive Land Protection	On a previously developed site and not considered to be located on sensitive land.
2	1	LTc3 High Priority Site	In the historic district of Sixth Street (formerly Pecan Street) in downtown Austin.
6		LTc4 Surrounding Density + Diverse Uses	In an area that is 6 times more dense than is required by the credit. It is also located near a variety of diverse uses.
6		LTc5 Access to Quality Transit	Exceeds requirements for public transit by 25%. Variety of options are provided to occupants both during the weekdays and weekend at high frequency.
	1	LTc6 Bicycle Facilities	Bike infrastructure surrounds the site and 235 bicycle spaces have been provided along with showers available to tenants. However, numbers provided did not meet LEED criteria.
1		LTc7 Reduced Parking Footprint	Reduce recommended parking provided (per LEED) by 47%, exceeding the 30% reduction target.
1		LTc8 Green Vehicles	Of the total parking provided of 1492, 45 are EV spaces (only 29 EV are required), providing 3% of total parking dedicated to EV Charging.

Impact



Intention

Expansive and open building lobby that integrates with CTJ.

Proportioned floorplate for material efficiency, daylight penetration, views.



Intention

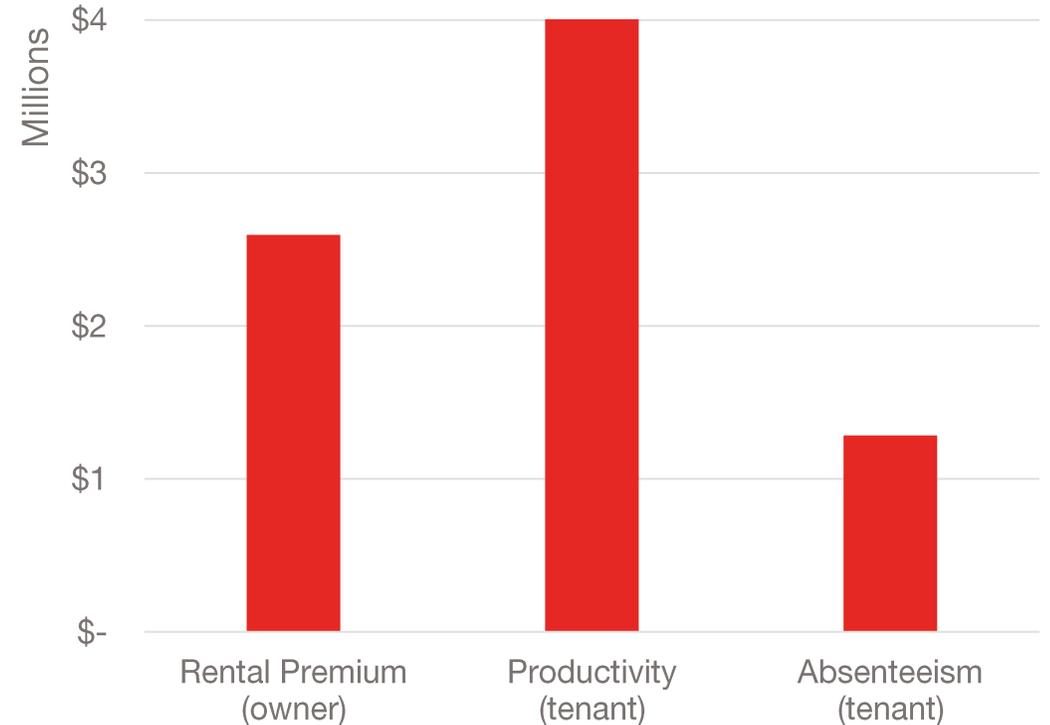
Expansive and open building lobby that integrates with CTJ.

Proportioned floorplate for material efficiency, daylight penetration, views.

Rigor

Y	N		
Required		IEOp1 Minimum Indoor Air Quality Performance	Requirements for ventilation were met and exceeded to comply with standard.
Required		IEOp2 Environmental Tobacco Smoke (ETS) Control	No smoking is allowed in or near the building.
2		IEQc1 Enhanced IAQ Strategies	Implemented entryway systems, interior cross contamination prevention, and improved filtration to minimize toxins entering or moving in the facility. Project also implemented CO2 monitoring in densely occupied spaces.
3		IEQc2 Low-Emitting Materials	Low emitting materials were prioritized and tracked for all categories and documented for Paints/Coatings, Adhesives/Sealants, Flooring, Wall Panels, Ceilings, and Insulation.
1		IEQc3 Construction IAQ Management Plan	Credit has been documented by contractor and shows compliance with construction IAQ management.
2	1	IEQc7 Daylight	Project shows project meets 70% daylight and shading is provided within the core and shell package.
1		IEQc8 Quality Views	Project has 76.46% of project has views in regularly occupied space.

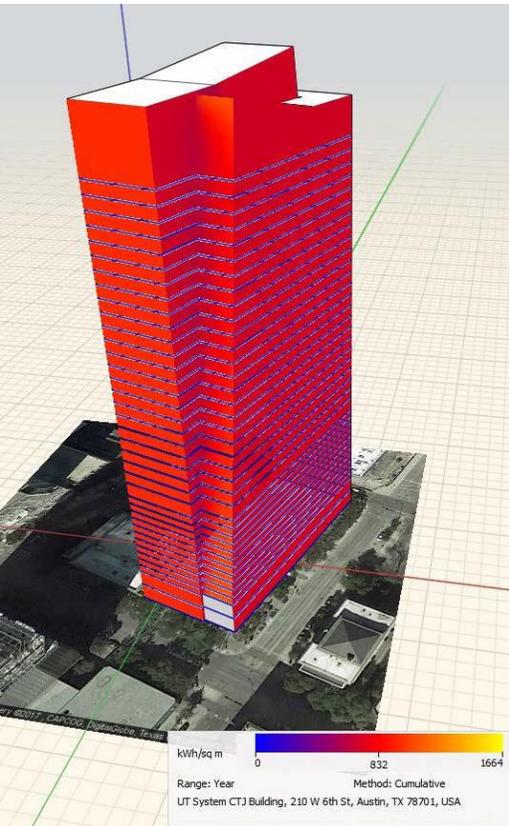
Impact



Intention

Expansive and open building lobby that integrates with CTJ.

Proportioned floorplate for material efficiency, daylight penetration, views.



Intention High performance glazing & vertical fins to reduce peak heat gain.
Efficient mechanical, electrical, plumbing.

Rigor

Y	N		
Required		EAp1 Fundamental Commissioning of Building Energy Systems	Fundamental Commissioning was implemented per requirements for all MEP and building envelope systems.
Required		EAp2 Minimum Energy Performance	14% energy cost savings was achieved and peak load energy was reduced by 21.6% through reduction of vision glazing, increased glazing performance, and high performance equipment.
Required		EAp3 Building-Level Energy Metering	Building is metered and ownership commits to sharing energy and water data on building's actual performance.
Required		EAp4 Fundamental Refrigerant Management	Project does not have CFCs
6		EAc1 Enhanced Commissioning	Enhanced and Monitoring commissioning was implemented along with Enhanced Envelope Commissioning to ensure the building as designed was constructed.
5	13	EAc2 Optimize Energy Performance	See EAp2
	1	EAc3 Advanced Energy Metering	Energy meters were provided at each level. LEED required a flow meter for chilled water to be provided at each floor which was not provided in the project.
2		EAc4 Demand Response	Owner engaged in an agreement with Austin Energy and developed a plan to reduce energy load of the building if asked at times of peak loading.
2	1	EAc5 Renewable Energy	Owner purchased Tier 4 power for 600% of core and shell power with a contract length of 1 year. This offsets 100% of 6 years of energy for the core and shell portion of the project.
1		EAc6 Enhanced Refrigerant Management	Refrigerants used (primarily R410A) showed no ozone depletion potential and helped contributed towards compliance.
1	1	EAc7 Green Power + Carbon Offsets	Submitted this credit along with EAc5 under v4.1 and were able to pick up 3 total point for purchased offsets for core and shell power usage.

Impact

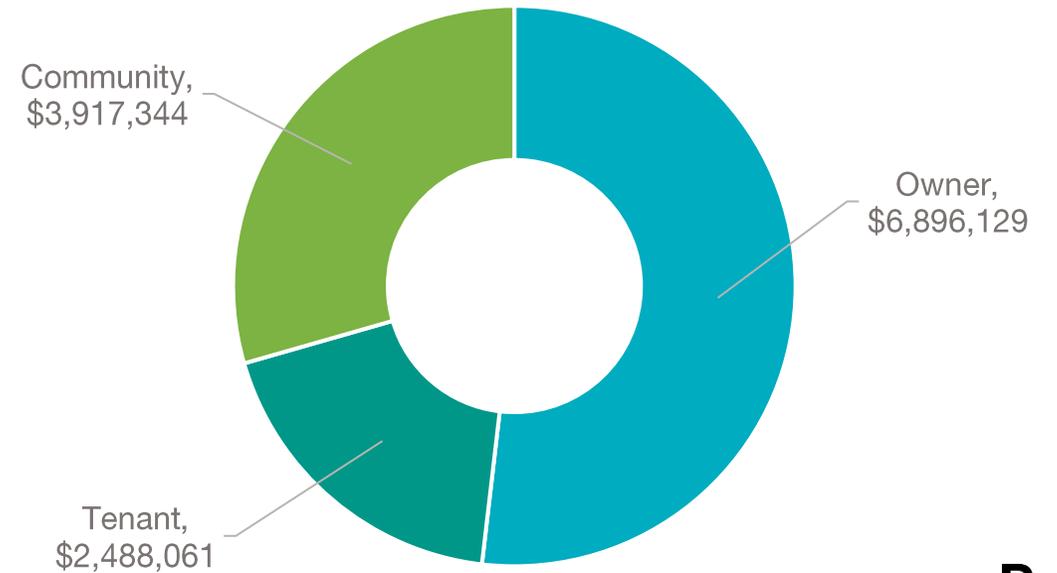




- Green Power and Carbon Offsets
- Optimize Energy Performance
- Indoor Water Use Reduction
- Outdoor Water Use Reduction
- Construction Indoor Air Quality Management Plan
- Daylighting
- Low Emitting Materials
- Quality Views
- Bicycle Facilities
- Heat Island Reduction
- Open Space
- Rainwater Management

Autocase

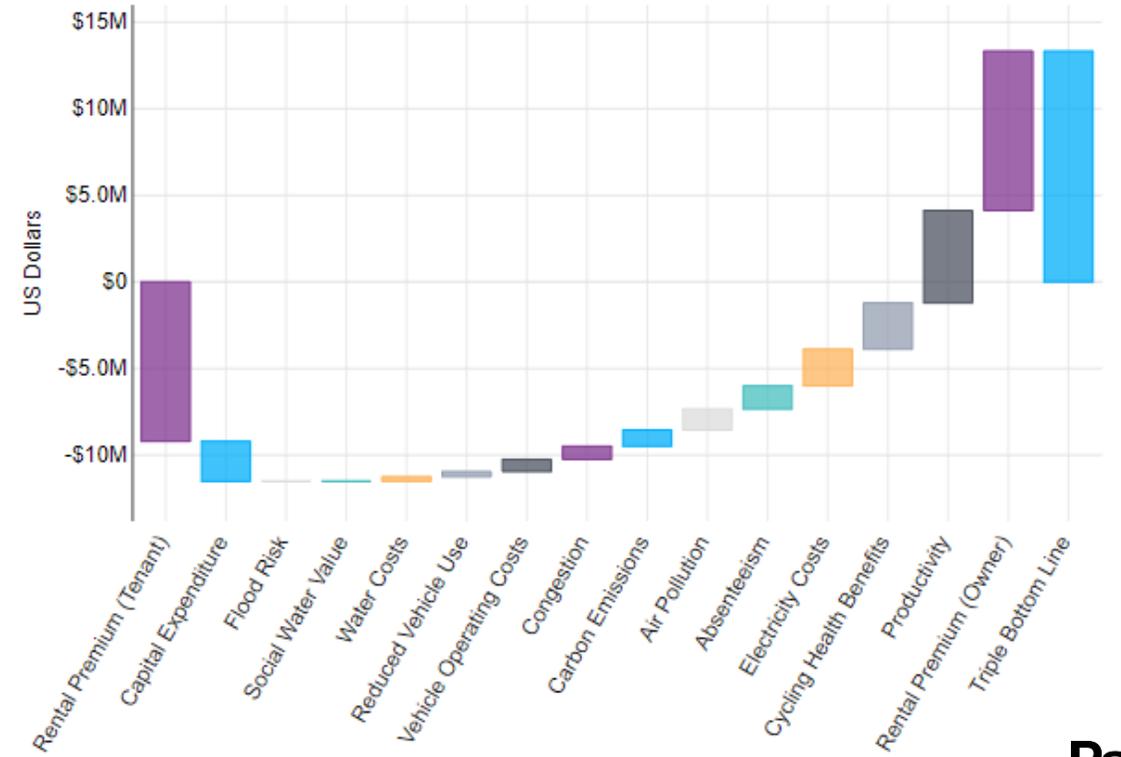
Lifecycle Financial \$61,864 ⓘ +
 Social & Environmental \$13,239,670 ⓘ =
 Triple Bottom Line \$13,301,534 ⓘ





-  Green Power and Carbon Offsets
-  Optimize Energy Performance
-  Indoor Water Use Reduction
-  Outdoor Water Use Reduction
-  Construction Indoor Air Quality Management Plan
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-  Low Emitting Materials
-  Quality Views
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Autocase

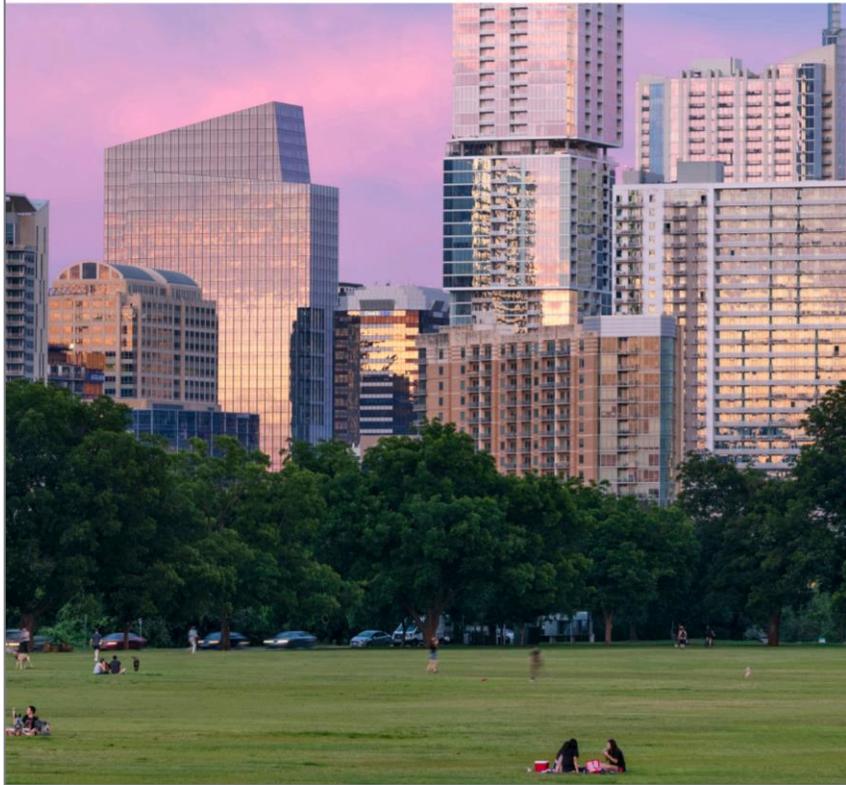


AUSTIN, TEXAS

Indeed Tower

SUSTAINABILITY CASE STUDY

TRAMELL CROW COMPANY
PRINCIPAL REAL ESTATE INVESTORS
PAGE
KILROY REALTY CORPORATION
DPR CONSTRUCTION



Page/ Thank you.

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<https://www.pagethink.com/case-study/200-west-sixth-street-indeed-tower/>