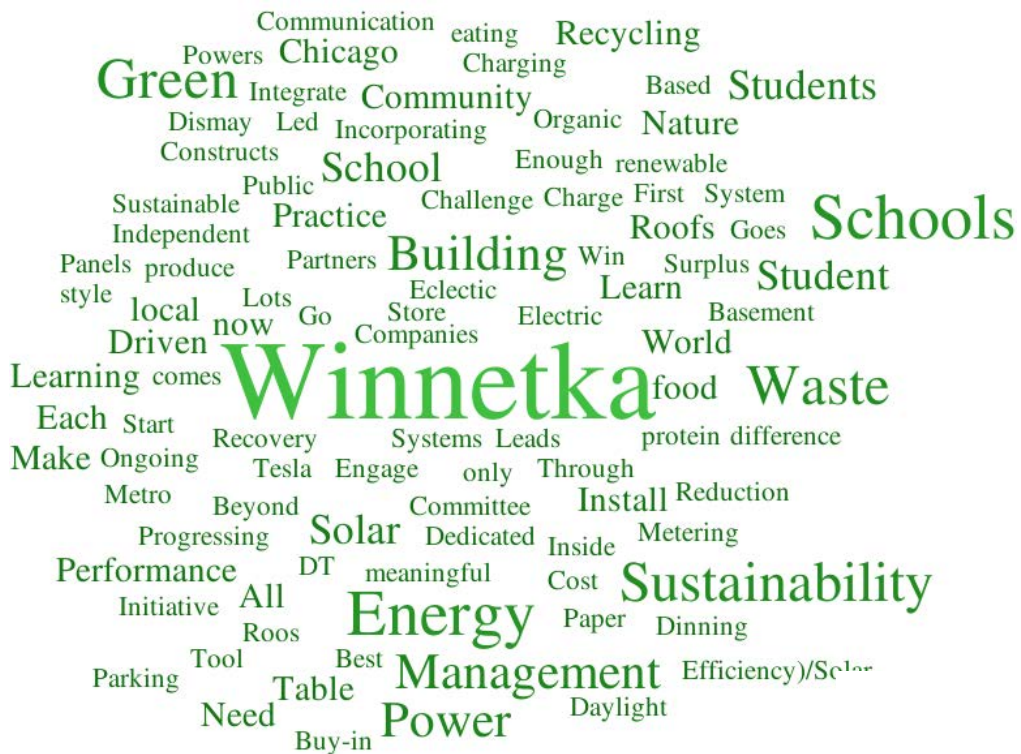




# VALUES Eco-Charrette Report



## Executive Summary

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This report aims to summarize the outcomes of the Eco-Charrette where the VALUES framework was followed, which relies on an integrated design process to identify user values related to sustainability. A list of KPIs were identified for these contexts, and details the Design Strategies to be implemented in order to satisfy these KPIs.

- Students & Teachers
  - Air Quality
  - Student Centric Design
  - Connectivity to Outdoors
  - Nutrition
  - Thermal Comfort
  - Healthy Materials
  - Daylight
  - Sustainability Curricula
  - Acoustics
  - Carbon Emissions
  - Lighting Control
  - Sustainable Operations
  - Indoor Biophilia
  - Outdoor Biophilia
  - Interior Fitness
  - Native Plantings
  - Innovative Building Systems
  
- Administration
  - Sustainable Operations
  - Transparency
  - Renewable Energy
  - Interior Fitness
  - Innovative Building Systems
  - Low Energy Materials
  
- Neighbors & Community
  - Energy Consumption
  - Waste Management
  - Carbon Emissions
  - Doing Less Harm
  - Transparency
  - Renewable Energy
  - Water Consumption
  - Recycled Materials

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## Eco-Charrette Overview

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*- An interactive brainstorming and team-building exercise that generates and targets sustainability goals for a green building*

An Eco-charrette is an important project visioning session used to establish sustainability and wellness goals, while also taking into consideration project specific challenges and resources. The process encourages the team to identify issues, develop solutions, understand technical and budgetary constraints, and establish the next steps forward.

During Winnetka D36 Eco-Charrette attendees participated in the following activities, which were separated by a series of educational topics ranging from Big Picture Sustainability to cutting edge trends in Resource Conservation, Human Health and Ecology.

- Activity 1 – Consensus
- Activity 2 – Visioning
- Activity 3 – Prioritization

This report aims to summarize the outcomes of the Eco-Charrette, make recommendations for the district to consider in the future.



## VALUES

- *Viewing Architecture through the Lens of User Experience for Sustainability: A dynamic, adaptive, framework to design, promote, and prove sustainability that aligns with end user values by enhancing user experience.*

Sustainability is an evolved conversation today. It has moved beyond a resource conservation movement to include climate change, human health and well-being, resilience, regeneration, and eco-system integrity. Such a broadened definition of sustainability today requires new perspectives in processing competing design parameters to provide a holistic solution that values the health of end users, the immediate local communities and the larger eco-systems. Simply put, thinking beyond the building.

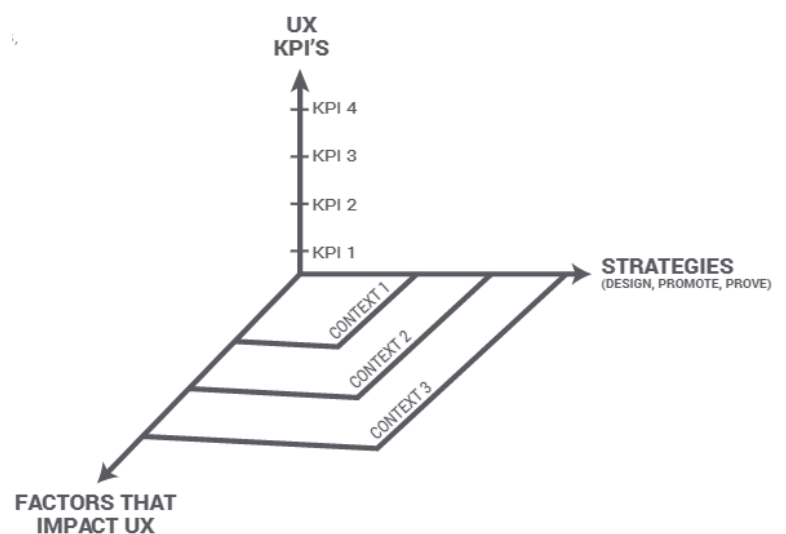
Our approach to sustainability stems from people. We build buildings for people. There is a growing amount of research that connects the built environment's impact on human experience and their health and well-being. VALUES is adaptable and scalable based on the complexity of users and their activities, relative to different contexts. VALUES evaluates sustainable design and its impact on user experience.

The VALUES framework relies on an integrated design process that starts with an Eco-Charrette to identify user values related to sustainability.

The first step in the VALUES process is to define the User Experience (UX). The next step is to identify the success measures that are identified and synthesized as Key Performance Indicators (KPIs) specific to each user type. The final step is to determine a set of good, better, best Strategies based on user priorities.

Before going through these steps, attendees participated in two activities to help them conceptualize what they already have versus what they would like Winnetka

to have.



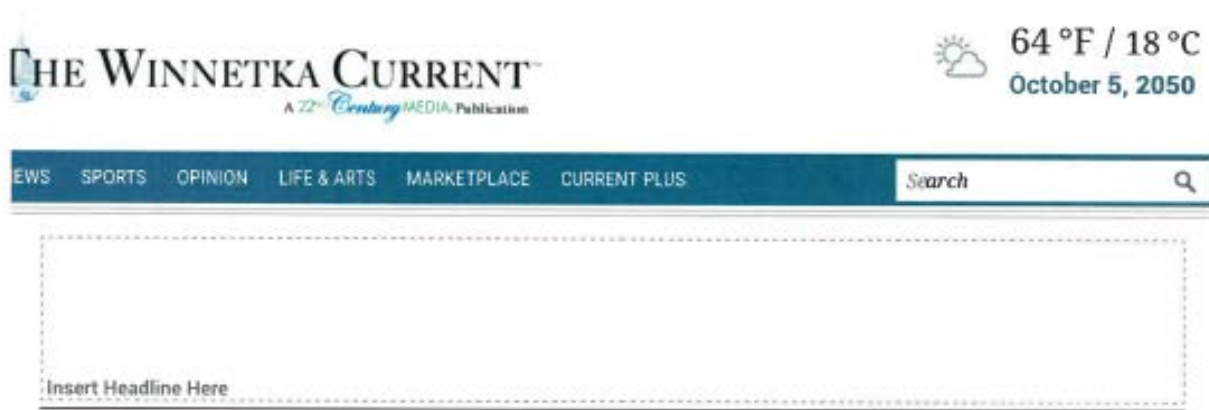
## Activity 1 – Consensus

The Eco-Charrette opened with a group discussion about Sustainability at Winnetka. The consensus of this passionate group was that Winnetka could do more to make Sustainability central to the district. Topics discussed were:

- Keys to Success
  - Knowledge Management
  - Communication
  - Breaking Down Constructs
  - Willingness to Learn
  - Ad Hoc Committee
  
- Barriers
  - Winnetka Laws
  - Implementation
  - Buy-in
  
- Initial Ideas
  - Green Roofs
  - Daylight Controls
  - Net Metering
  - Beyond the Building; Incorporating Nature
  - Make Value Driven Decisions versus First Cost Driven
  - Ongoing Operation – Need for a Dedicated Sustainability Coordinator
  - Waste Management
    - Waste Reduction
    - Paper Recycling
    - Technology Recycling
    - Food scraps
  - Energy Recovery
  - Rainwater Harvesting
  - Community Solar
  - Building as a Teaching Tool; Social and Practice
  - Nutrition
    - Organic
    - Family style food eating
    - Need for a kitchen

## Activity 2 - Visioning

In this activity, attendees were asked to imagine it was the year 2050 and asked to imagine what 'Breaking News Headline' Winnetka D36 Schools would have due to their Sustainability Initiatives.



### Headlines

All headlines created are summarized below. These naturally fell into the two buckets of Sustainability so are grouped as such.

- Resource Conservation
  - “Winnetka Schools Go Off the Grid”
  - “All of Winnetka Schools Are Now Energy Independent to the Dismay of the Local Energy Companies”
  - “Winnetka Village Eliminates Waste Management”
  - “Winnetka Powers Chicago!”
  - “Sustainability Changes in Winnetka Public Schools Creates Enough Surplus Energy to Power One of Chicago Metro.
  
- Curriculum
  - “Winnetka Students LEED”
  - “Winnetka Schools Integrate Progressing / PBL Learning / DT with Green Challenge to make a meaningful difference”
  - “Winnetka Schools Win World Sustainability Award!”

## Bold Ideas

Attendees were asked to record bold ideas under their headline, which are summarized below.

- Renewables
  - Install Solar Panels (High Efficiency)/Solar Roofs on the Roofs of Each School
  - Install Tesla Power Packs in the Basement of Every Building to Store Power
  - Solar Roads in Winnetka
  - Charging Stations in the Parking Lots for Eclectic Cars
  - Students Engage in Inquiry Learning to Develop the Best Alternative Energy for
  - 70% of power comes from renewable energy
  - Low Energy=High Performance
  
- Biophilia
  - Inside Out – Student and Teachers Learn About Themselves Through Nature Based Classroom!
  
- Transparency
  - Sustainability Dashboard
  - Green Light on Performance
  - Community Partners
  
- Thought Leadership
  - Student Summit Led by Winnetka 36 on Sustainable Future Practice
  - Winnetka Innovation Incubator Leads to Student Start Up Business
  - Internships in Green Industries
  - World Leader in Sustainability Efforts
  - No Green Initiative Left off the Table
  - Students Leading the Charge
  
- Waste Management
  - ALL Houses & Building & Commercial Have System where Waste Goes Directly to Waste Management District Underground Systems.
  
- Transport
  - Electric Hybrid bus
  - Transportation to and from schools is 0% emissions
  
- Nutrition
  - The cafeteria now serves only local produce and protein.
  - “School to Table Dinning”



## Step 1: Defining UX

*User Experience (UX) is the totality of the effects felt by a user as a result of interaction with the building, including the influences of usability, usefulness and emotional impact during interaction, and savoring the memory after interaction.*

Enhancing user experience through the VALUES framework promises the following outcomes.

- Social and Cultural Impact
  - Sustainable design features can influence the culture within the facility while promoting the users to influence their lives.
  - When sustainability is proven to improve user experience and success, the community is more engaged in propelling that message in a larger context.
- Environmental and Economic Impact
  - Sustainable design that focuses on human health brings user engagement to resources consumed and promotes conservation.
  - When sustainability is proven to save constrained resources, the community is more engaged in the larger conversation of our ecological future.

By acknowledging the ripple effect that a building can have, we identify numerous UX contexts, each with a different level of importance to the building owner. At Winnetka D36 district, we have established be 3 UX Contexts:

1. Students & Teacher – This group will be inside the building the majority of the week, hence the indoor environment provided is extremely important to them.
2. Administration – This group is responsible for ongoing operations and maintenance of the building, so design decisions that impact their logistics will be of most interest.
3. Neighbors & Community – While this group may never enter the building, they are impacted by its existence and their perception matters.

Representatives from each of these key groups were present during the Eco-Charrette. The Charette started with polling questions, to gain a deeper understanding of what different groups found important in Winnetka’s Sustainability Plan. The group then participated in a visioning session to define big ideas, summarized on the following pages.

## Step 2 - Key Performance Indicators

*- a measurable value that demonstrates how effectively an entity is achieving key objectives. Organizations use KPIs to evaluate their success at reaching targets.*

This phase of the VALUES process delves deeper into the User Experience for Sustainability by identifying what "sustainability" means to the project stakeholders and defining Key Sustainability Performance Indicators, relative to each UX context.

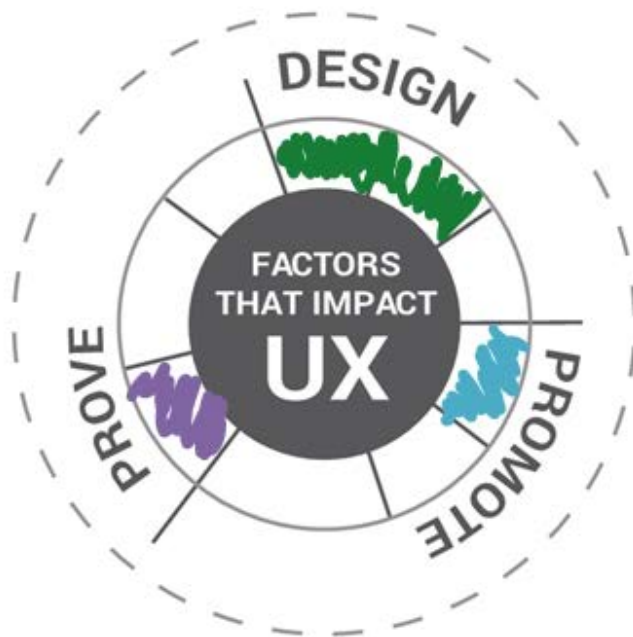
This particular group was extremely interactive throughout the session. This allowed Key Performance Indicators (KPIs) to be refined through continuous feedback during the educational period of the Eco-Charrette.

After KPIs were defined by the group, they were prioritized based on the level of interest expressed during the in-person session. This helps determine the level of emphasis that will be put on each KPI in the **Design**, in addition to the need to **Promote** this KPI when the building is occupied and the best methods through which to **Prove** the KPI was, in fact, achieved.

Each of the KPIs has an impact on Human Health, Resource Conservation, Ecology, or a combination of all three, which is also highlighted in the table on the next page.

### Step 3 – Design Strategies

Using the UX and KPIs identified during the Eco-Charrette, DLR Group developed detailed Design Strategies informed by the prioritization matrix. DLR Group also factored in what was important to Promote through Education, Engagement or Empowerment opportunities, both during design and during operation of the facility. Certain factors that impact UX were given special emphasis in terms of Proving the design either through Surveys, Meters or Sensors – or an appropriate combination of these tools.



**DESIGN**  
GOOD | BETTER | BEST

**PROMOTE**  
EDUCATE | ENGAGE | EMPOWER

**PROVE**  
SURVEY | METER | SENSOR

## Activity 3 – Prioritization

Attendees completed VALUES worksheets on their own that:

- Define links between Key Performance Indicators and UX
- Prioritize Key Performance Indicators
- Categorize decisions under Design, Promote, and Prove

All worksheets were compiled into the following ‘Sustainability Scorecards,’ which are unique to Winnetka D36. These are grouped by user groups, showing what each group feels are the most important aspects of the Winnetka Sustainability story.

- UX1: Students and Teachers
  - Air Quality
  - Student Centric Design
- UX2: Administration
  - Sustainable Operations
- UX3: Neighbors and Community
  - Energy Consumption

The group also defined whether the design should take a Good, Better or Best approach to incorporating each KPI – with Best having the highest associated cost. How the KPI(s) will be incorporated into the curriculum was indicated by the terms Educate, Engage or Empower. Finally, attendees were asked how best to prove that each KPI was achieved, using the terms Survey, Sensor and Meter.

As we move forward in the process, we must establish strategies to fulfill each one of these recommendations in a detailed strategy checklist.

## UX1-Students and Teachers

User Experience (UX)	Key Performance Indicator (KPI)	Human Health	Resource Conservation	Ecology	Priority (1 to 10)	Design Good Better Best	Promote Educate Engage Empower	Prove Survey Meter Sensor
Students & Teachers	Air Quality				8	Best	Educate	Sensor
	Student Centric Design				8	Best	Empower	Survey
	Connectivity to Outdoors				7	Best	Empower	Survey
	Nutrition				6	Best	Empower	Survey
	Thermal Comfort				6	Best	Educate	Sensor
	Healthy Materials				6	Best	Educate	Survey
	Daylight				5	Better	Educate	Meter
	Sustainability Curricula				4	Best	Empower	Survey
	Acoustics				4	Best	Educate	Meter
	Carbon Emissions				4	Best	Empower	Meter
	Lighting Control				4	Best	Educate	Sensor
	Sustainable Operations				4	Best	Engage	Meter/Sensor
	Indoor Biophilia				3	Better	Educate	Survey
	Outdoor Biophilia				2	Best	Engage	Survey
	Interior Fitness				2	Better	Engage	Survey
	Native Plantings				2	Best	Engage	Survey
Innovative Building Systems				2	Best	Educate	Survey	

## UX2 – Administration

User Experience (UX)	Key Performance Indicator (KPI)	Human Health	Resource Conservation	Ecology	Priority (1 to 10)	Design Good Better Best	Promote Educate Engage Empower	Prove Survey Meter Sensor
Administration	Sustainable Operations				4	Best	Educate	Survey/Meter/Sensor
	Transparency				3	Best	Empower	Survey
	Renewable Energy				3	Best	Empower	Meter
	Interior Fitness				2	Best	Empower	Survey
	Innovative Building Systems				2	Best	Engage	Meter/Sensor
	Low Energy Materials				1	Best	Engage	Survey/Sensor

## UX3 – Neighbors and Community

User Experience (UX)	Key Performance Indicator (KPI)	Human Health	Resource Conservation	Ecology	Priority (1 to 10)	Design Good Better Best	Promote Educate Engage Empower	Prove Survey Meter Sensor
Neighbors & Community	Energy Consumption				8	Best	Empower	Meter/Sensor
	Waste Management				4	Best	Empower	Meter
	Carbon Emissions				4	Best	Empower	Survey
	Doing Less Harm				4	Best	Empower	Meter/Sensor
	Transparency				3	Best	Empower	Survey
	Renewable Energy				3	Best	Empower	Survey
	Water Consumption				1	Best	Empower	Meter
	Recycled Materials				1	Better	Educate	Survey