

SESSION #E87

8-9AM | November 14, 2017

> **INTENT**

IMPACT <

Tying Strategy to Outcome in the Built Environment

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Associate AIA, WELL AP



CONTINUING **EDUCATION**

ARCHITECTS:

Have your conference badge scanned by the room monitor at the start of each session you attend. Complete the AIA verification form (be sure to check off the sessions you attend) and retain it for your records. CE credits will be uploaded to the AIA transcript system within 6-8 weeks of the close of the conference.

INTERIOR DESIGNERS:

Have your IDCEC verification form STAMPED by the room monitor at the start of each session you attend. This is the ONLY proof of attendance that will be accepted. You will self-submit your credits to the IDCEC system at the conclusion of the conference. If you have questions about reporting your credits, contact the interior design association that is responsible for monitoring mandatory continuing education to fulfill membership requirements.

EDAC:

Complete the EDAC verification form and retain it for your records. You will self-submit your CE credits to Castle Worldwide at the time of your EDAC renewal. Renewal notices with login instructions will be sent from Castle Worldwide six months and three months prior to the candidate's renewal date. The verification form is your proof of attendance in case of an audit.



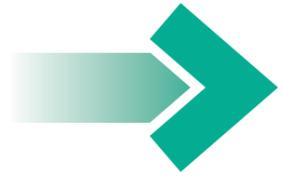
SESSION **EVALUATIONS**

SESSION EVALUATION – HCD MOBILE APP

All session evaluations will be done through the new HCD Mobile App. If you have not done so already please download the app through your device's app store. If you have any questions or need assistance please visit the help desk.

INDIVIDUAL SESSION EVALUATION INSTRUCTIONS

- On the home screen, click **Show Schedule**
- Find the session you are attending
- After selecting an individual session, a navigation bar will appear on the left. Click the clipboard icon and evaluation/survey will begin.



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TELL US SOMETHING YOU'VE LEARNED OR A
UNIQUE PRODUCT YOU'VE SEEN AT THIS YEAR'S
HEALTHCARE DESIGN EXPO & CONFERENCE.



LEARNING OBJECTIVES

participants will...

1

understand the importance and benefits of **defining, documenting, and reporting meaningful metrics** from 'day zero'.

2

define the **steps of the Intent to Impact process** as it correlates with the design process (concept, SD, DD, CD, CA, post-occupancy).

3

explore the **key findings and lessons learned** from Akron Children's Hospital Kay Jewelers Pavilion.

4

integrate and apply the Intent to Impact approach to the design process of future projects.

.....
**How do we design
responsibly and leave
the world better
than how we found it?**
.....

BETTER



**people &
communities**



**earth &
environments**



**organizations
& economies**

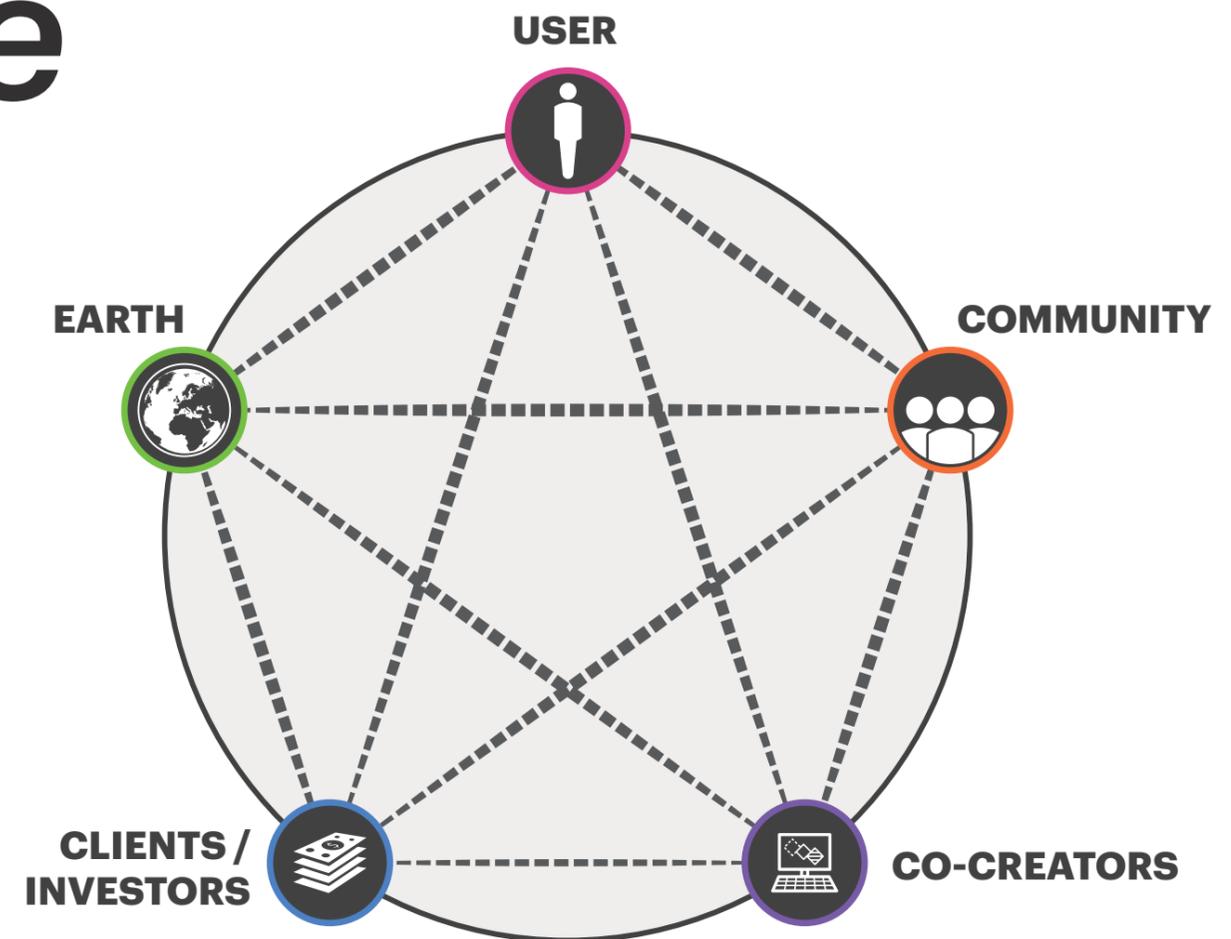
*integrate beauty & performance for
systemic wellbeing*



KEY STAKEHOLDERS

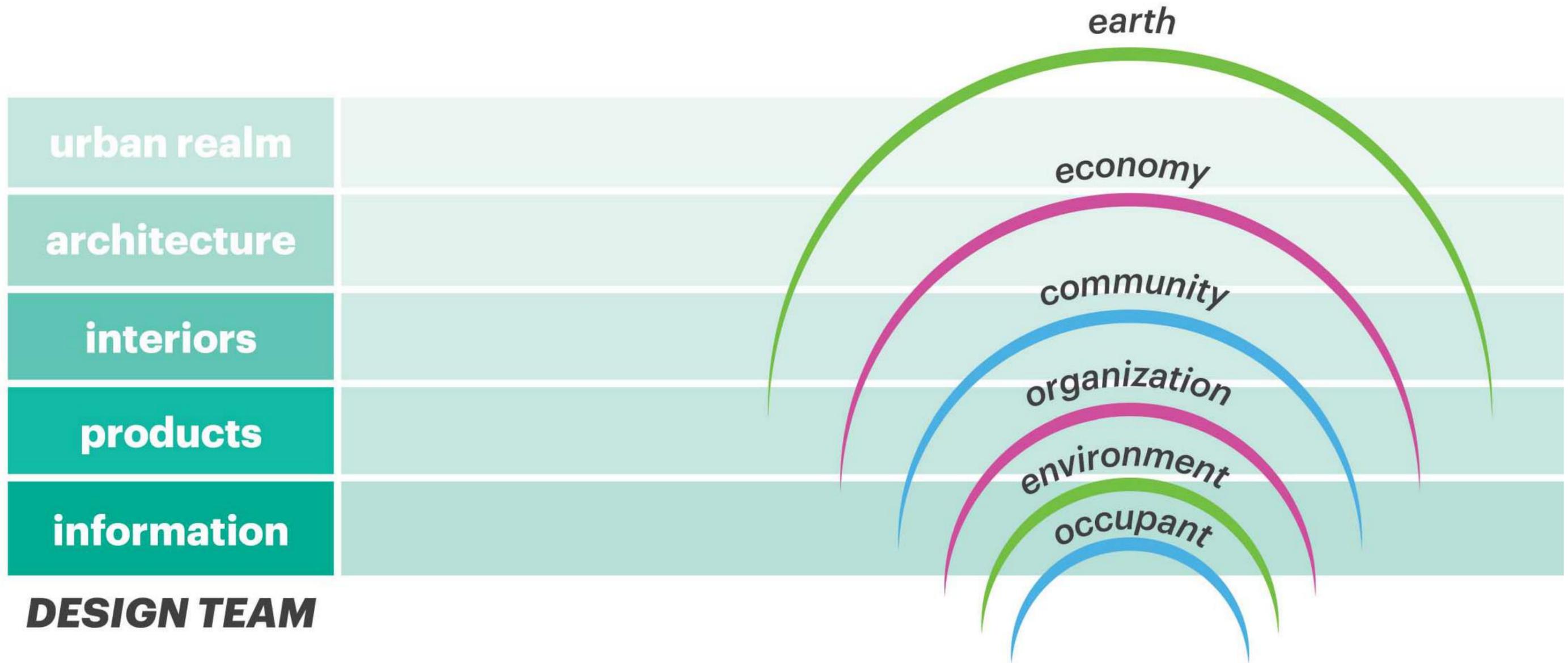
*responsible
& holistic*

RESPONSIBLE DESIGN
ECOSYSTEM ➔





SCALAR ECOSYSTEMS



UNOBTRUSIVE DATA + OTHER DATA SOURCES

data that is already being collected by designers, clients, the industry...

examples of
COMMON METRICS



DESIGN TEAM

BIM / Revit Data
Construction Data
Energy Model Data
Parametric Analysis
Project Management Data

CLIENTS

HR Data
Insurance Data
Public Health Data
Performance Dashboards
Market Analysis



IMPACT

where meaning & measures overlap



.....
just because it is **measurable** does not make it meaningful.

.....
just because it is **NOT measurable** does not take away the meaning.

.....
IMPACT is where *meaning* and *measure* overlap.

HOW DO WE TIE DESIGN STRATEGIES TO ANTICIPATED OUTCOMES?



INTENT



articulate design purpose and impact potential by identifying areas of the project to **prioritize** based on rationales such as return on investment, evidence-based research, user feedback, precedents or best practices, and code or certification requirements; consider all stakeholders and systemic wellbeing / responsible design

constantly record intent and why design decisions were made throughout and reference that documentation

● DEFINE

PRE-DESIGN

CONCEPT

● DESIGN

SCHEMATIC DESIGN

DESIGN DEVELOP.

● DELIVER

CONSTRUC. DOCUM.

CONSTRUC. ADMIN.

OCCUPANCY

// EXAMPLE

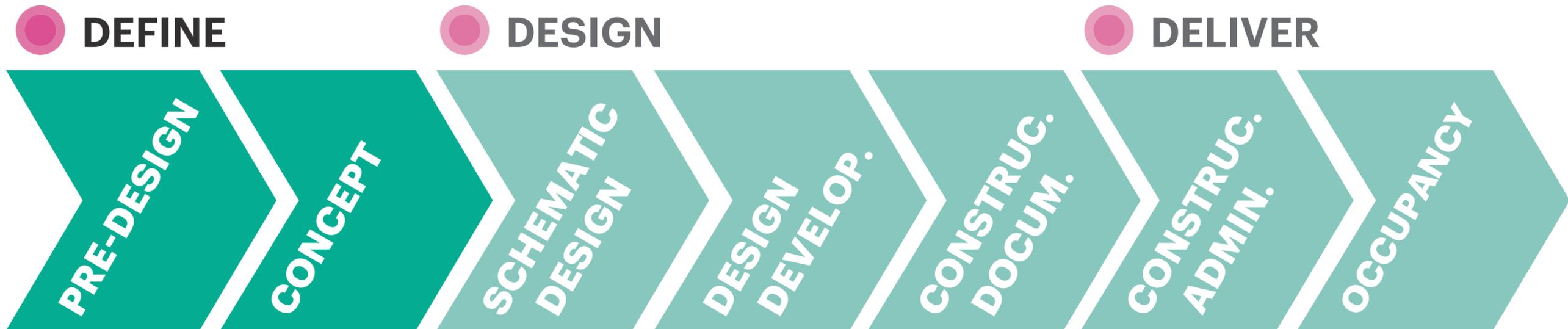
GOAL SETTING

	GOAL	METRIC	OUTCOME
 USER	Improve comfort in family waiting areas	HCAHPS	Family Satisfaction
 CLIENT / INVESTOR	Owner move-in / substantial completion ahead of schedule	Calendar Days + Revenue	Cost Savings + Profit
 COMMUNITY	Provide public green space with walking pathways	Obesity Rates	Public Health
 EARTH	energy usage XX% below the national average	EUI	Reduce Energy / Fuel Consumption
 CO-CREATORS	Highly effective and collaborative team	Pulse Point Check Surveys	Project Team Satisfaction

DEFINE



collect existing / current organizational, systemic, and site data or other **baseline information** to help establish goals, targets, and baselines to achieve (and later compare with) post-occupancy results





// EXAMPLE

INTENT DOCUMENT

RATIONALE

- Evidence Based
- User Feedback
- Prevalent Practice
- Innovation

REGISTRATION LOUNGE

- Decentralized lounge setting for registration activities
- Mobile pay / Installment payment setup
- PRO - Customer friendly atmosphere
- CON - Privacy (HIPPA) is more difficult to achieve

AUGMENTED REALITY WAYFINDING

- Combine the technology of Google maps or Waze with the reality of walking through a hospital in order to achieve assisted guidance to and from your destination by using only your cell phone
- <https://www.youtube.com/watch?v=fZa43ASg4ow>

ADVANCED / VIRTUAL CHECK-IN

- Pre-registration online or by phone; registration wristband, parking map, etc. mailed or patient or sent by email. Wristband / barcode scanned upon entry notifying hospital that patient has arrived and how to be greeted / directed
- PRO - Customer friendly atmosphere
- CON - Reprinting of information for patients that don't bring / can't access registration materials

SELF CHECK-IN KIOSK

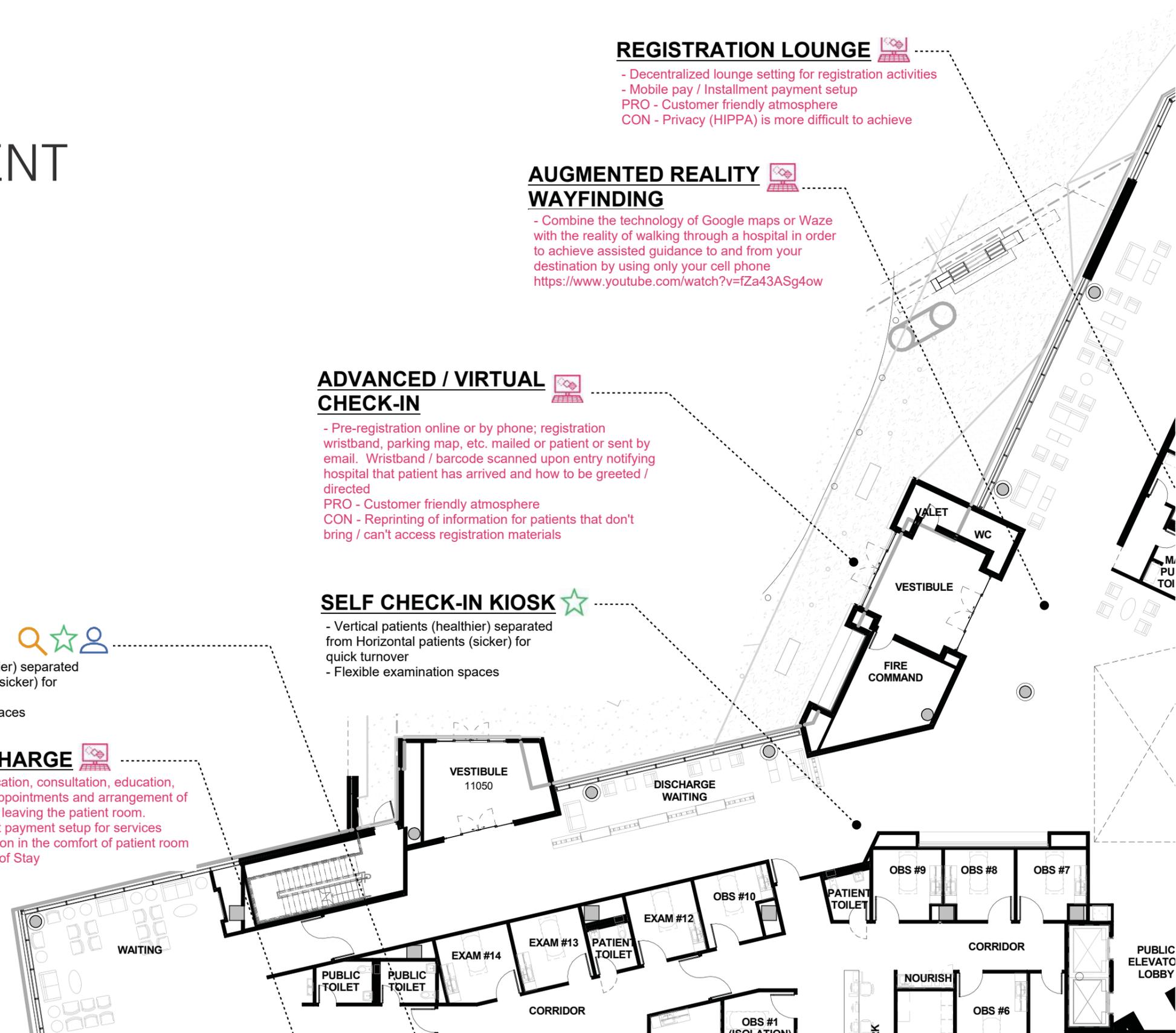
- Vertical patients (healthier) separated from Horizontal patients (sicker) for quick turnover
- Flexible examination spaces

SPLIT FLOW

- Vertical patients (healthier) separated from Horizontal patients (sicker) for quick turnover
- Flexible examination spaces

BEDSIDE DISCHARGE

- Patient to receive medication, consultation, education, scheduling of follow-up appointments and arrangement of any valet services before leaving the patient room.
- Mobile pay or Auto-draft payment setup for services
- PRO - Specialized attention in the comfort of patient room
- CON - Increased Length of Stay



DESIGN



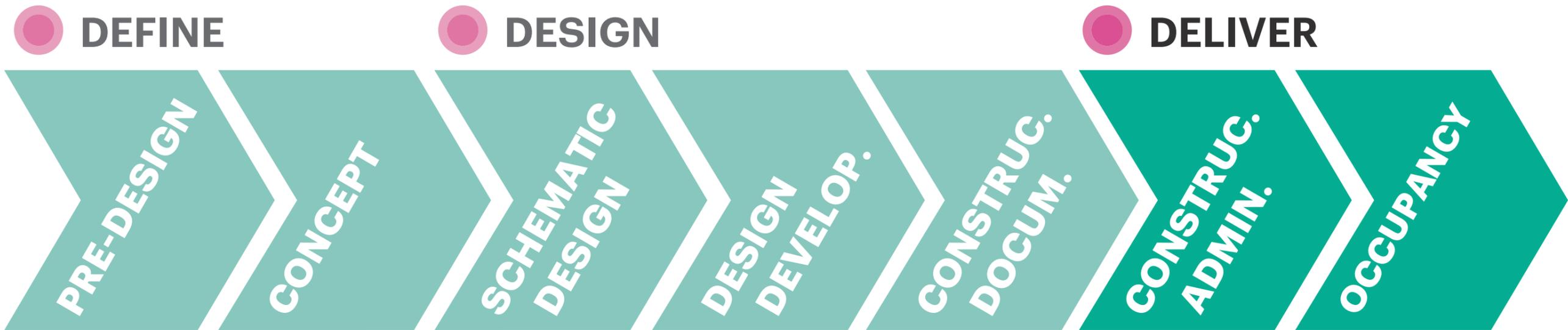
through research and studies, **discover strategies linked to certain outcomes and protect the design intent** by using supporting evidence and tracking / testing certain metrics with various tools and integrative or collaborative efforts as the design develops



DELIVER



supervise and monitor the construction delivery of the project to ensure that design strategies or policies are built and executed in accordance with original design intents and specifications



IMPACT

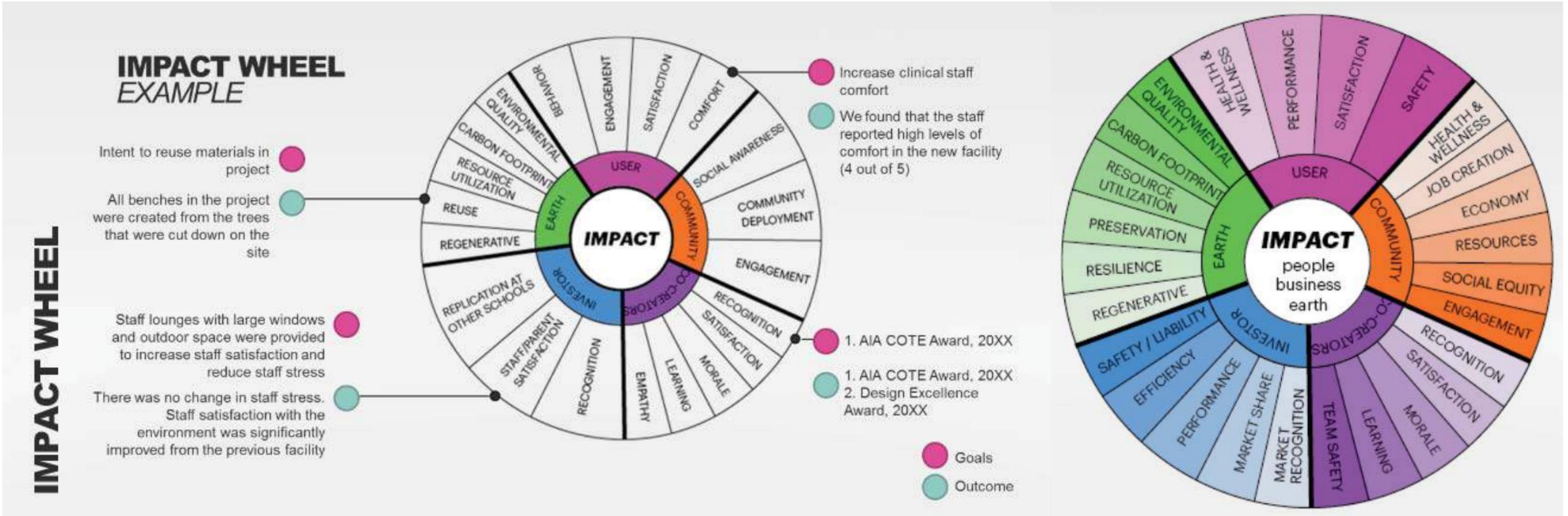


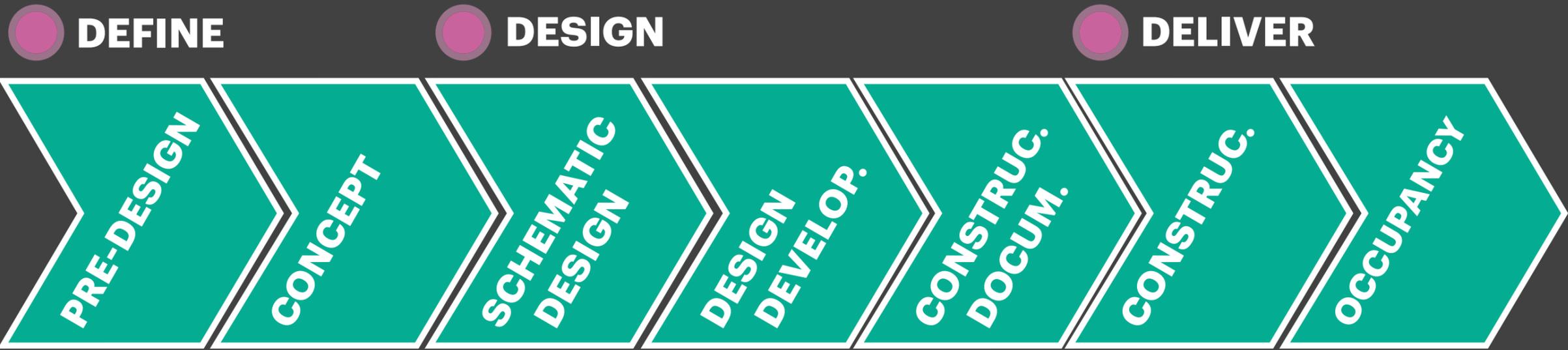
routinely collect data and conduct performance evaluations post-occupancy to continue recording meaningful metrics that measure how well the project meets anticipated outcomes; if the project is under-performing, or as technologies, care models, or trends evolve, devise and implement strategies for **continuous improvement**



// EXAMPLE

IMPACT REPORT





.....
every project has GOALS
metrics exist for EVERY goal

*establishing and recording
baselines, targets, and
intentions begins on...* **DAY 0.**



We can have no
meaningful impact
without clearly articulated
and ***informed intent.***



// CASE STUDY

AKRON CHILDREN'S HOSPITAL KAY JEWELERS PAVILION



MISSION

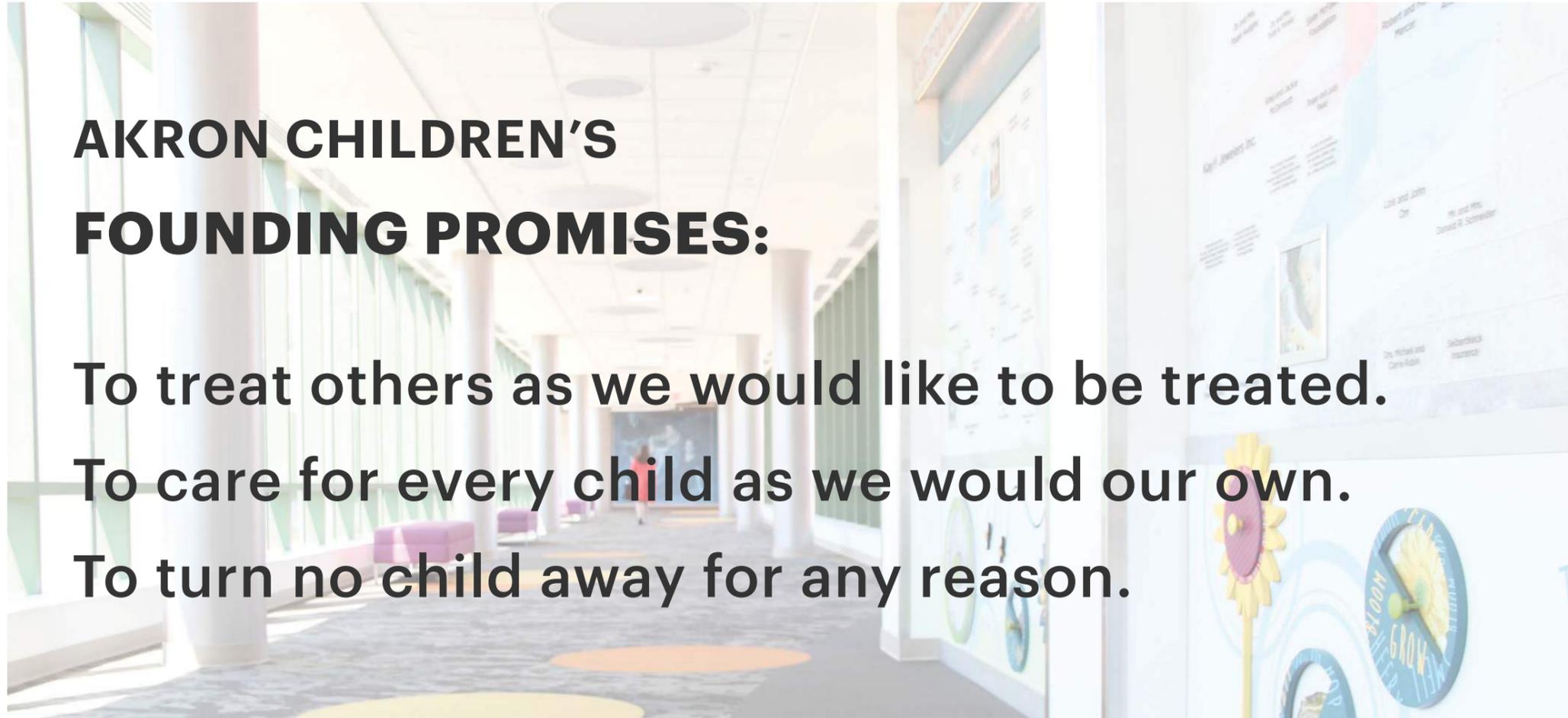
“BUILDING ON THE PROMISE”

AKRON CHILDREN'S FOUNDING PROMISES:

To treat others as we would like to be treated.

To care for every child as we would our own.

To turn no child away for any reason.





VISION & GUIDING PRINCIPLES

key guiding principles:

We intend to create a place that...

- 🏠 is **distinctive** and serves as a beacon to the **community**.
- 🏠 is **safe** and **comforting** in the eyes of a **child, parent,** and **staff member**.
- 🏠 has a respectful connection to the **natural environment**.
- 🏠 is playful and engages the **imagination**.
- 🏠 inspires **confidence** and **hope**.
- 🏠 **builds on the promise** to serve the needs of the community and never turn a child or family away.



PROJECT BACKGROUND

Location **AKRON, OHIO**

Type **CRITICAL CARE TOWER**

Scope **368,000 SF**
75-bed NICU, 39-bay Emergency Department, Special Delivery Unit, Outpatient Surgery Center with 6 Operating Rooms, & Support Services

Opened **MAY 2015**

LEED **LEED GOLD CERTIFICATION under Healthcare v2009**

Project Delivery **INTEGRATED LEAN PROJECT DELIVERY & LEAN SIX-SIGMA**

Level 08
Mechanical Penthouse

Level 07
Neonatal Intensive Care Unit (NICU)

Level 06
Neonatal Intensive Care Unit (NICU) swing space for high census and acute care (PEDS)

Level 05
Shell Space (for specialty clinics)

Level 04
Special Delivery Unit (HROB)

Level 03
Outpatient Surgery Center (OSC)
Sterile Processing Department (SPD)
Shell Space (potentially Pharmacy)

**no Level 02*

Level 01
Emergency Department (ED)
Food Services

Level 00
Support Services



// DEFINE

ARTICULATING INTENT





SUCCESS METRICS

- 1 SAFETY**
- 2 LOCAL PARTICIPATION**
- 3 ENERGY EFFICIENCY**
- 4 TEAM PERFORMANCE**
- 5 SCHEDULE**
- 6 LEED**
- 7 QUALITY** PROBLEM RESOLUTION
- 8 QUALITY** PRIDE IN QUALITY WORK
- 9 QUALITY** SCOPE GAPS
- 10 STAFF & FAMILY SATISFACTION** WORKSHOP
- 11 STAFF & FAMILY SATISFACTION** CONSTRUCTION
- 12 STAFF & FAMILY SATISFACTION** POST-CONSTRUCTION



WHY **INTEGRATED LEAN PROJECT DELIVERY (ILPD)**?



optimize project
results



increase **value** to
the owner / client



reduce / eliminate
waste



maximize
efficiency during
all project phases



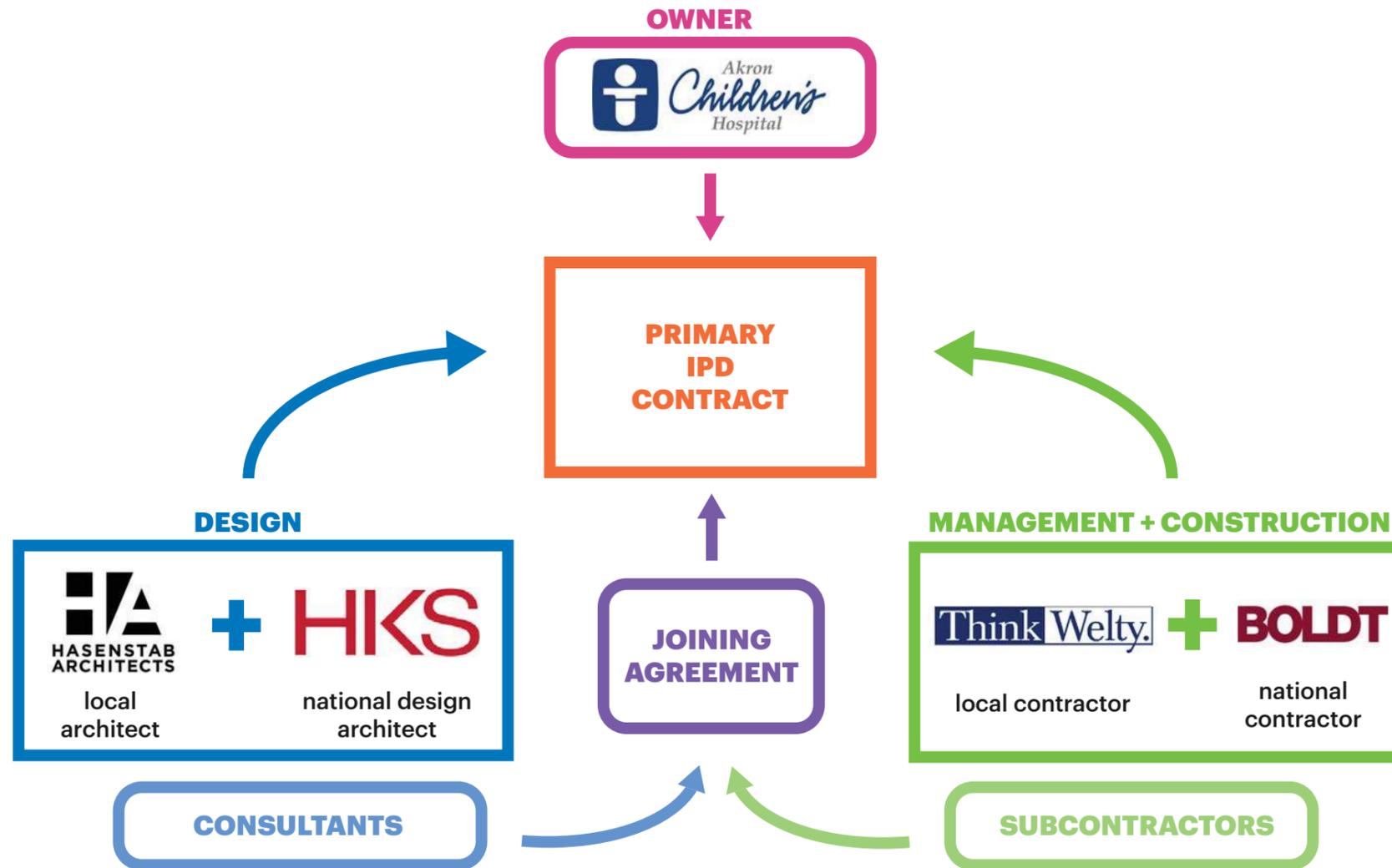
amplify the
voice of patients,
families, and staff



enhance **quality**
of care



ILPD CONTRACT



in addition to the key players, the team included other trade partners to perform aspects of construction, as well as hospital executives, physicians, nurses, clinical staff, and patient families



ILPD: **CO-LOCATION**



BIG ROOM COLLABORATION



LEAN SIX-SIGMA: **LEAN BOOT CAMP**

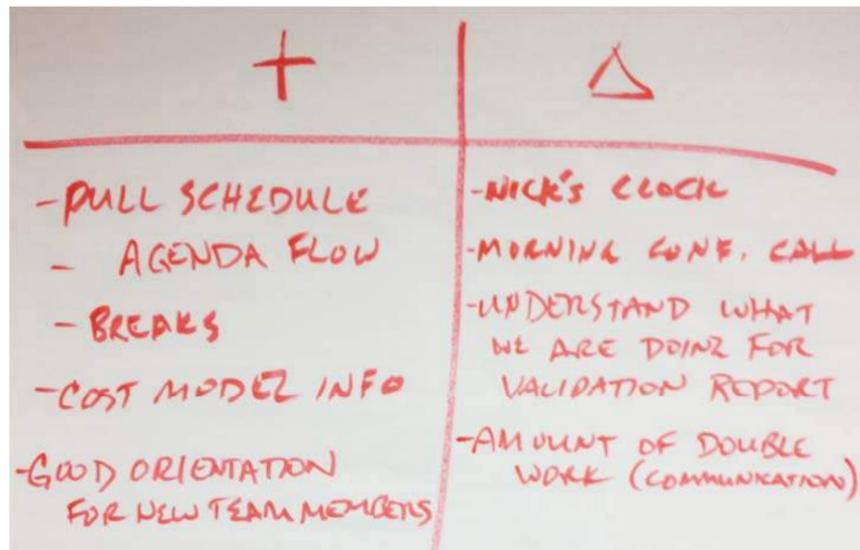


ALL team members were educated and trained in Lean Six-Sigma principles and implementation.

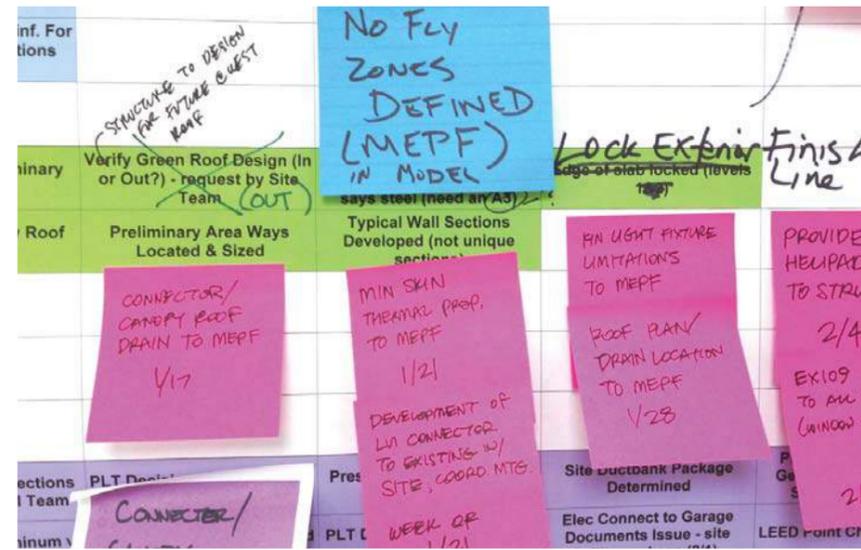


LEAN SIX-SIGMA: **METHODOLOGIES**

Continuous Improvement



Collaboration



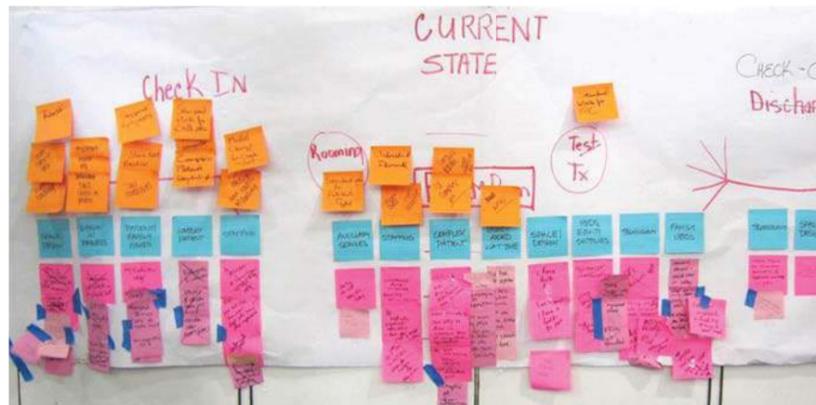
Pull Planning





EARLY DESIGN PROCESS ENGAGEMENT

Current / Future State Process Mapping



Critical Adjacencies Study



First Impressions

color-coded roadmap
child-centered family-friendly
 clean information desk
 close comfortable accessible calming automatic
 bright colorful artwork
 less institutional continuity of care appropriate flooring for wheelchairs
 WOW
 inviting
 wheelchair-friendly doors
 natural light

Improvements

less carpet
 hanging height of artwork
 natural light
lactation rooms
 food options
 adult size changing spaces
rounded furniture corners
 angled turns for wheelchair accessibility
 indoor playground
 HC stalls in bathroom
 team visits of caregivers
 cleaner bathrooms without grab bars
 quiet flooring
temperature control
 furniture for sleeping
 more scales in NICU
 staging areas in ED
 ramps

Healing Environment

furniture people
 variety
feeling supported
 understanding
 live trees
 lighting control
water comfortable
 sensory
 positive distractions serene colors
 natural light soothing
 nice people fun
 good attitudes seating music touch
 acoustics
consult rooms
 noise reduction
 compassion

Programming and Layout Iterations



Critical Review





ILPD: **MOCK-UPS & SCENARIO TESTING**



FULL-SCALE CARDBOARD MOCK-UPS

RAPID 3D PROTOTYPING / SPACE PLANNING

SIMULATION & ITERATION

REAL TIME DESIGN VALIDATION



TESTING WHAT?

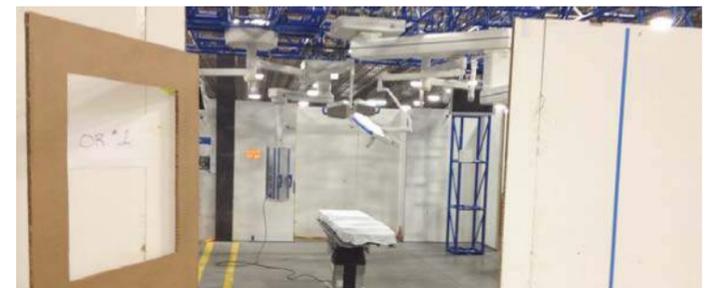
KEY ROOMS

ADJACENCIES

OCCUPATION & SPACE UTILIZATION

WORK FLOWS

VISIBILITY





LEAN SIX-SIGMA: A3s

A3 #	Title	Date Opened	Date to be Closed (LRM)	Status
V102	Design Visioning 03			<input type="checkbox"/> In-Progress <input type="checkbox"/> Closed / Approved
	Discipline	Champion	Decision Maker	Author
	Participants:			

<p>DEFINE (Purpose/Background/Problem/Goal): Goals for Visioning 02 Session:</p> <ul style="list-style-type: none"> - Recap of What We Learned in Visioning 02 - Share the updated Project's Guiding Principles - Review Landscape and Site Development - Review Development of Exterior - Review Development of Interior Concept 	<p>IMPROVE (Countermeasures):</p> 	<p>Guiding Principles:</p> <p>We intend to create a place that:</p> <ul style="list-style-type: none"> - is distinctive and serves as a beacon to the community - is safe and comforting in the eyes of a child, parent and staff - has a respectful connection to the natural environment - is playful and engages the imagination - inspires confidence and hope - builds on the promise 									
<p>MEASURE (Current State / Performance Gap):</p> 	<p>CONTROL (Plan and Follow-Up):</p> <table border="1"> <thead> <tr> <th>What?</th> <th>Who?</th> <th>When?</th> </tr> </thead> <tbody> <tr> <td>Design Visioning 04 for Exterior and Landscape/Site</td> <td>Meeting Attendees</td> <td>November 5th</td> </tr> <tr> <td>Design Visioning 04 for Interiors</td> <td>Meeting Attendees</td> <td>November 14th</td> </tr> </tbody> </table>		What?	Who?	When?	Design Visioning 04 for Exterior and Landscape/Site	Meeting Attendees	November 5th	Design Visioning 04 for Interiors	Meeting Attendees	November 14th
What?	Who?	When?									
Design Visioning 04 for Exterior and Landscape/Site	Meeting Attendees	November 5th									
Design Visioning 04 for Interiors	Meeting Attendees	November 14th									
<p>ANALYSIS (Root Cause Analysis):</p> <ul style="list-style-type: none"> - Landscape/Site <ul style="list-style-type: none"> - Confirm number of parking spots at ED - Employee Parking is lower grade than ED Parking, but may have covered shelters along accessible walkway (shelters priced as an alternate) - The question was asked if the project could take Buchtel Ave and expand parking? <ul style="list-style-type: none"> - It was stated that Buchtel is being vacated, but would still act as vehicular path as it does today. - The landscape/site design will create a sense of arrival at the main entry, introducing artwork and landscape along the street. - The softness of the meandering path was preferred, but without the large earth mounds - Artwork that would provide color through all seasons and engage the children was also preferred - Exterior <ul style="list-style-type: none"> - It was stated that there is no feeling of synergy between the green panels, glass, brick and canopy. - There is no softness on the exterior, it feels very boxy with sharp angles – would like to see more curves - A window wall is a similar feature to all buildings on campus – it identifies the building as a Children's building - Would like to see additional options for the drop off area at the Main Entrance - Interiors <ul style="list-style-type: none"> - The concepts "Uniquely Akron" and "Things Familiar" were presented, with "Things Familiar" (sandbox, garden, tree house, puddles, etc...) being the preferred concept. - The group cautioned against using materials and colors that were too trendy and would make the building appear outdated as soon as it opened. - Alternatives to interactive walls should also be explored. 											

PROJECT WIDE FACTORS	
Seven Flows of Healthcare	
	Patient Flow
	Family Flow
	Staff Flow
	Medications Flow
	Supplies Flow
	Equipment Flow
	Information Flow
Safety	
	Patient Safety
	Staff Safety
	Construction Safety
Cost	
	First Cost
	Life Cycle Cost
Schedule	
	Design
	Procurement
	Fabrication
	Installation
Impacts on Occupants	
	Patient Impact
	Family Impact
	Staff Impact
Future	
	Flexibility (surge)
	Expendability (grow)
	Adaptability (change)
Community Impact	
	Traffic
	Aesthetics
Evidence-base Healing Environment	
	Natural Light
	Landscape Integration
	Horticulture
	Acoustics
	Infection Control
Sustainability	
Quality	

RECORDING KEY DECISIONS



PULSE REPORTS

method chosen by the Project Leadership Team (PLT) to evaluate the **overall performance of the Project Team**

MONTHLY SURVEY analyzed and documented by 3rd party



PURPOSE:



detect **potential issues** within the team



monitor progress on key metrics

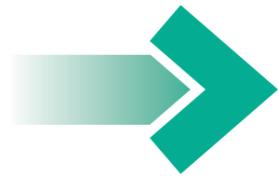


assess the **working climate** on the project



// DESIGN

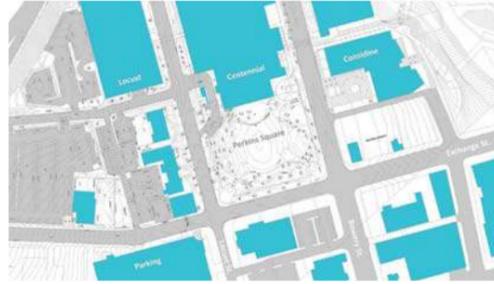
DISCOVERING STRATEGIES



// OVERALL FACILITY

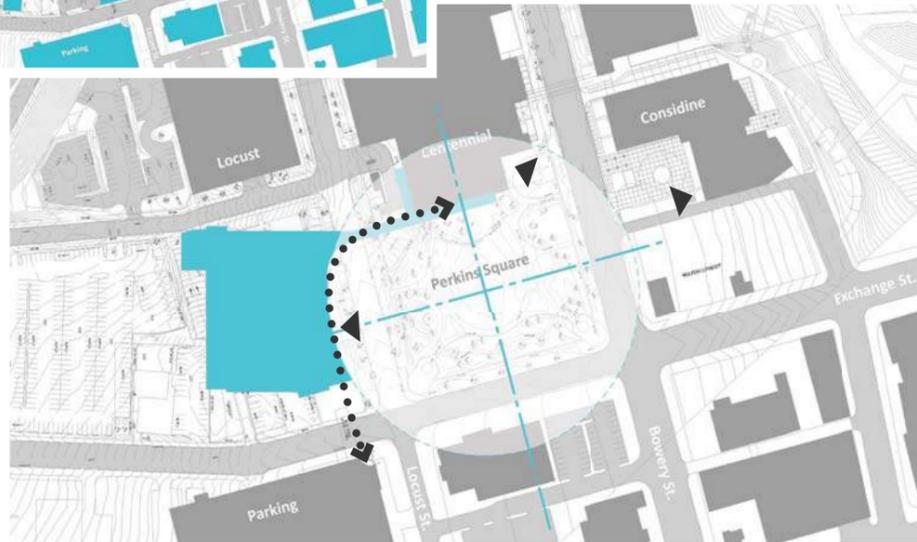
EXTERIOR + SITE

Before Kay Jewelers Pavilion



**ORIENTATION,
CONNECTIONS,
& CLARITY**

Site Strategy



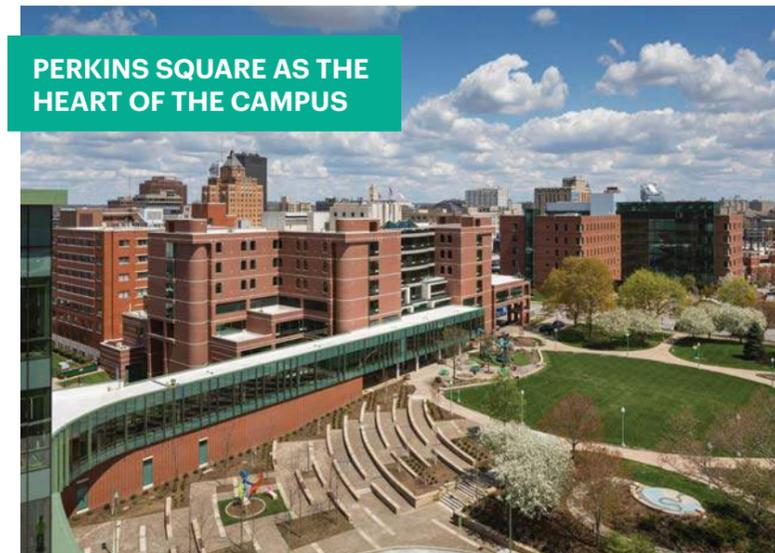
PROMINENCE AT THE POINT OF ARRIVAL



**CURVATURE
+ ENHANCED
CORNER**

**GREEN METAL
CLADDING +
CANTILEVERS**

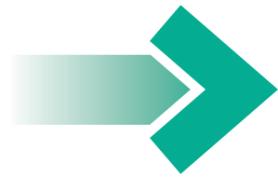
**ACCESS TO
NATURAL
ELEMENTS**



**PERKINS SQUARE AS THE
HEART OF THE CAMPUS**



**CAMPUS
COHESION**

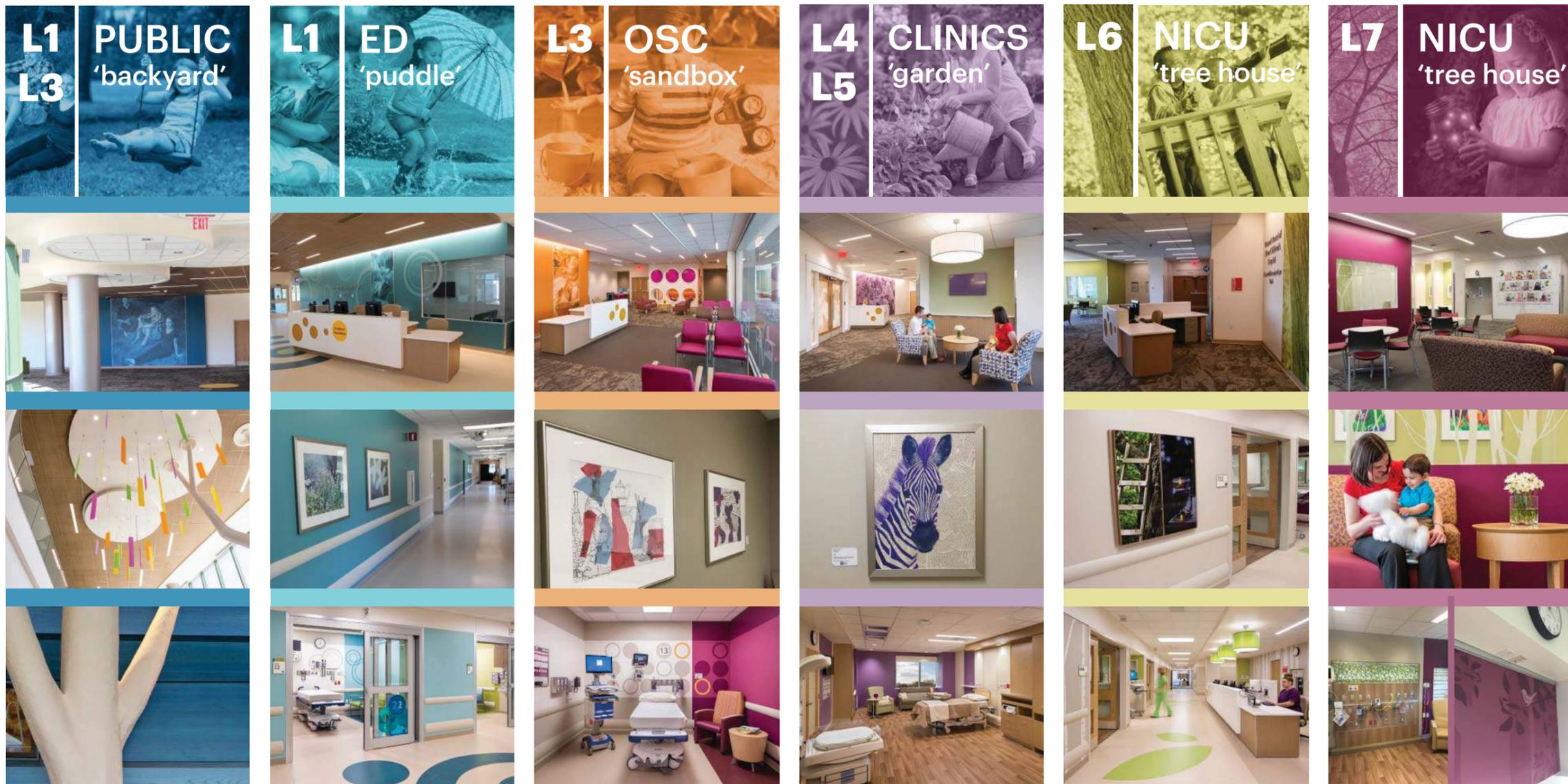


// OVERALL FACILITY
INTERIOR DESIGN

INTERIOR DESIGN CONCEPT:

“THINGS FAMILIAR”

- PLAYFUL + RELATABLE = CHILD-FRIENDLY
- BIOPHILIA
- POSITIVE DISTRACTIONS
- WAYFINDING STRATEGY
- SAFE, DURABLE, FUNCTIONAL, LOW-MAINTENANCE MATERIALS
- ARTWORK THROUGHOUT
- GEOMETRIC PATTERNS, + TEXTURES



EMERGENCY DEPARTMENT

MAIN HOSPITAL - LEVEL 01



KAY JEWELERS PAVILION - LEVEL 01



- Inpatient
- Clinical Support/ Treatment & Diagnostic Space
- Staff Support
- Public Space
- Administrative / Lounge / Lockers
- Outpatient
- Shell Space
- Vertical Circulation & Mechanical
- Circulation

floor plans are NOT to scale



// EMERGENCY DEPARTMENT

WAITING + TRIAGE

PRE-CONDITION

- Crowded
- minimal natural light
- limited security presence
- **Open Triage** visible from the waiting room

security station in waiting area



private triage rooms



space for families to be greeted where nurse engages immediately



WAITING AREA

large windows

DESIGN STRATEGIES

LINKED OUTCOMES



FAMILY SATISFACTION



ACCESS TO NATURAL LIGHT



SAFETY + SECURITY

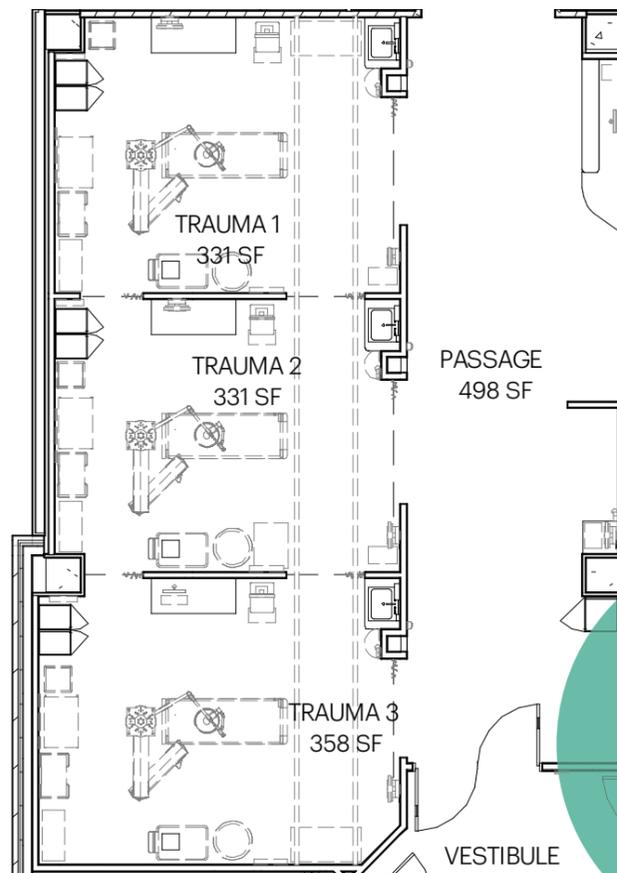
// EMERGENCY DEPARTMENT

TRAUMA SUITE

DESIGN STRATEGIES

PRE-CONDITION

- 3 small trauma rooms (one considered unusable)
- Hallway between rooms narrow and difficult to move patients through



one room with 3 generously-sized trauma bays

transport from ambulance entrance to trauma includes one turn with wider hallways and slider doors

LINKED OUTCOMES

- STAFF INJURIES**
- STAFF SATISFACTION**
- SUPPLY ACCESS**
WORKSPACE FLEXIBILITY
TEAMWORK
- PATIENT PRIVACY**

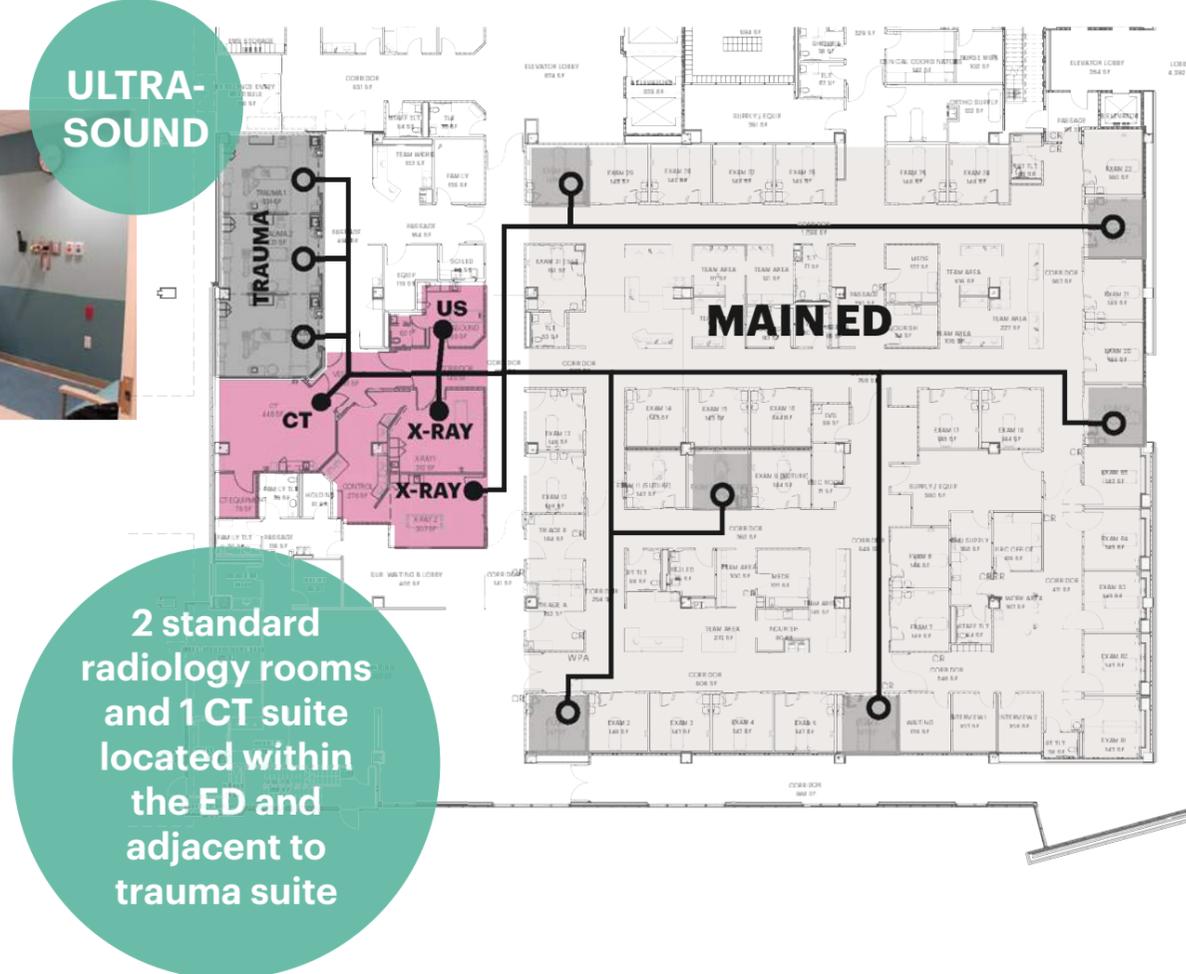
// EMERGENCY DEPARTMENT

RADIOLOGY + IMAGING

DESIGN STRATEGIES

PRE-CONDITION

- all radiology / imaging with portable equipment or child taken to radiology / imaging on the same floor, but opposite side of the hospital



LINKED OUTCOMES



STAFF INJURIES



STAFF SATISFACTION



EXTUBATIONS IN TRANSIT



REPEAT FILMS

// EMERGENCY DEPARTMENT



EXAM ROOMS

PRE-CONDITION

- small exam rooms with minimal family space
- challenging to get bed into room due to room configuration
- standard doors with small windows
- limited amount of staff equipment at bedside

DESIGN STRATEGIES



wall-mounted monitor and diagnostics; supplies in mobile carts



“straigh-in” allowance and 4/2 breakaway glass doors

larger exam rooms with family zone

LINKED OUTCOMES



STAFF INJURIES



VISIBILITY



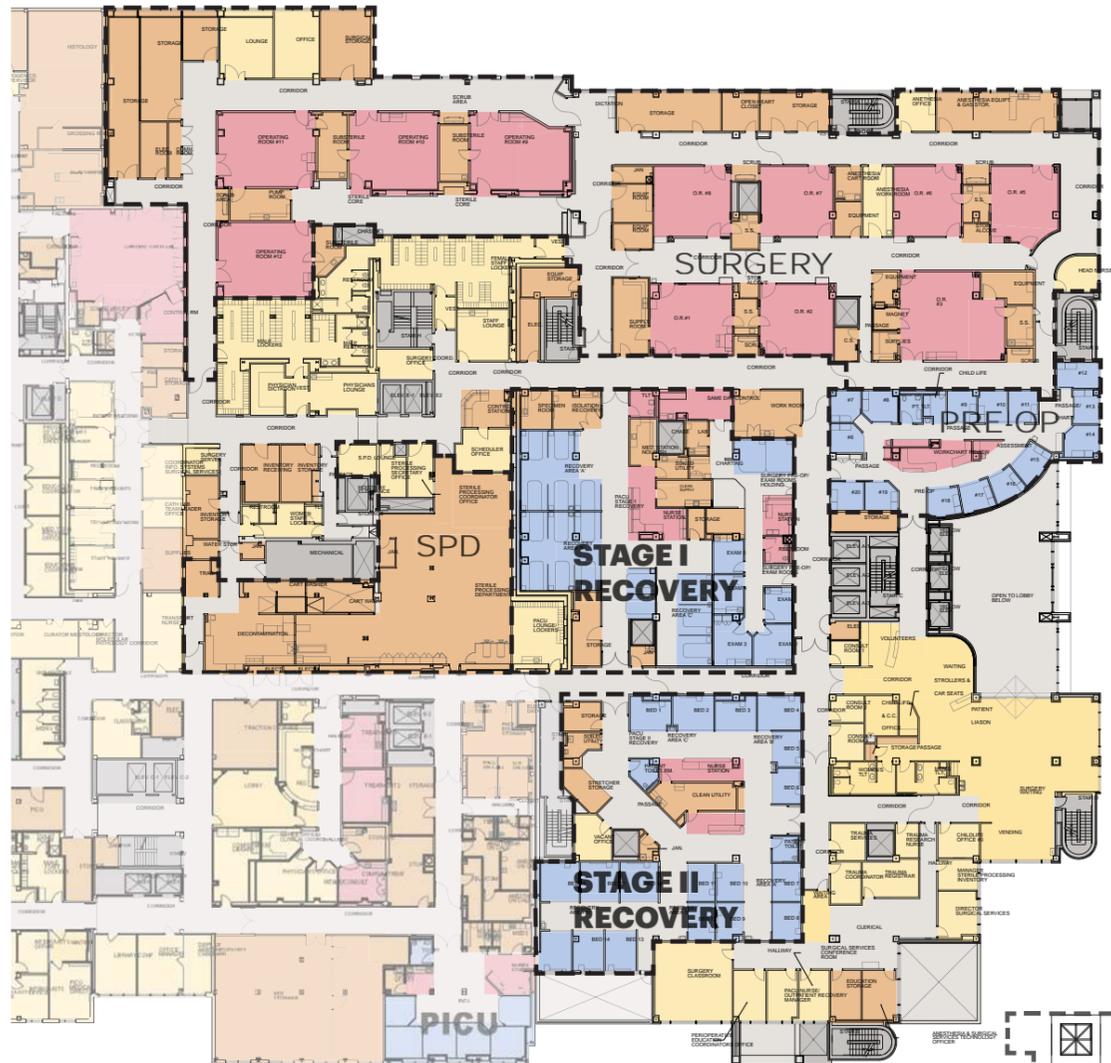
PATIENT / FAMILY SATISFACTION



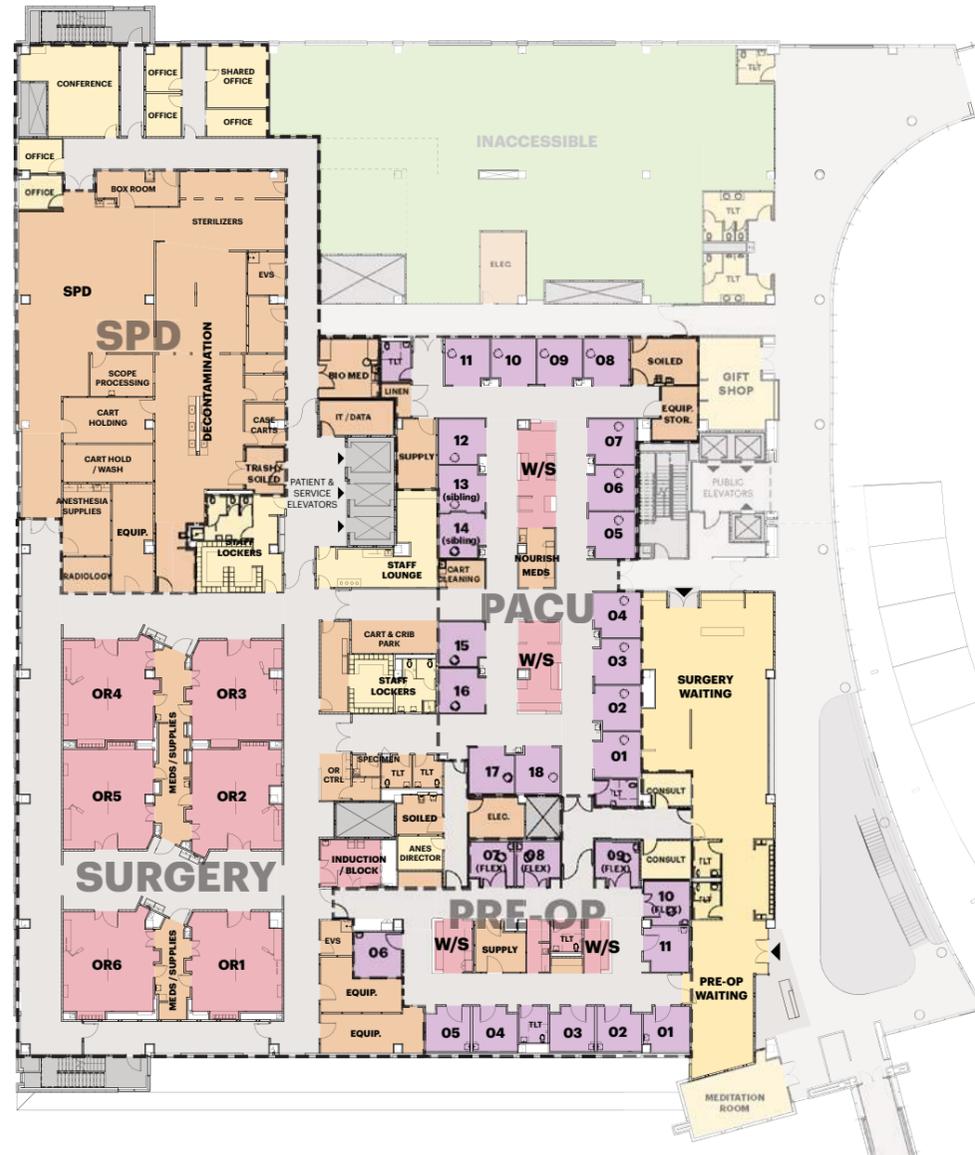
SUPPLY ACCESS + WORK SURFACE FLEXIBILITY

OUTPATIENT SURGERY CENTER (OSC)

MAIN HOSPITAL - LEVEL 04



KAY JEWELERS PAVILION - LEVEL 03



- Inpatient
- Clinical Support/ Treatment & Diagnostic Space
- Staff Support
- Public Space
- Administrative / Lounge / Lockers
- Outpatient
- Shell Space
- Vertical Circulation & Mechanical
- Circulation

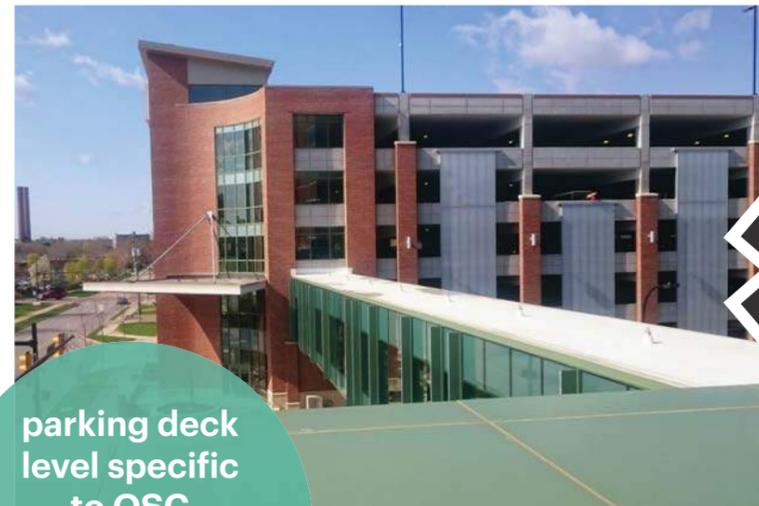
floor plans are NOT to scale

// OUTPATIENT SURGERY CENTER

PARKING + WAYFINDING

PRE-CONDITION

- all parking is remote to OR area leading to confusion with parking deck and finding pre-op



parking deck level specific to OSC parking - on the same floor as the OSC

bridge access



DESIGN STRATEGIES



high visibility of reception desk

LINKED OUTCOMES



ANXIETY



PATIENT / FAMILY SATISFACTION



ON-TIME PROCEDURES

// OUTPATIENT SURGERY CENTER

FAMILY SPACES

PRE-CONDITION

- no space for privacy or family storage
- outpatient and acute surgery cases mixed together

DESIGN STRATEGIES

vending + entertainment + family storage in waiting

family zones in private patient rooms so family can stay with child

areas and nooks for privacy

connected waiting rooms for pre-op and post-op for flexibility of volumes

LINKED OUTCOMES



ANXIETY



PATIENT / FAMILY SATISFACTION



PRIVACY

// OUTPATIENT SURGERY CENTER



STAFF CORE

PRE-CONDITION

- limited visibility for staff to monitor patients from the central workspace

DESIGN STRATEGIES

transparent materials



private patient rooms with curtains



half-height partitions

LINKED OUTCOMES

↑ ↑ PATIENT / FAMILY SATISFACTION

↑ ↑ VISIBILITY

↑ ↑ STAFF SATISFACTION

↑ ↑ COLLABORATION

// OUTPATIENT SURGERY CENTER

STERILE PROCESSING DEPARTMENT

smaller
clean
core

PRE-CONDITION

- Sterile Processing Department on same level, but not adjacent to ORs

DESIGN STRATEGIES



separate doors to access carts with supplies from clean core



LINKED OUTCOMES



EFFICIENCIES (JUST IN TIME DELIVERY)



STORAGE SPACE



STAFF SATISFACTION



TRAVEL DISTANCES

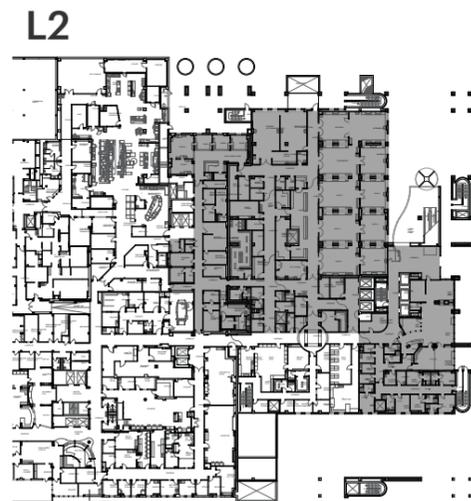
// NEONATAL INTENSIVE CARE UNIT



FLEXIBILITY

PRE-CONDITION

- very small, crowded unit



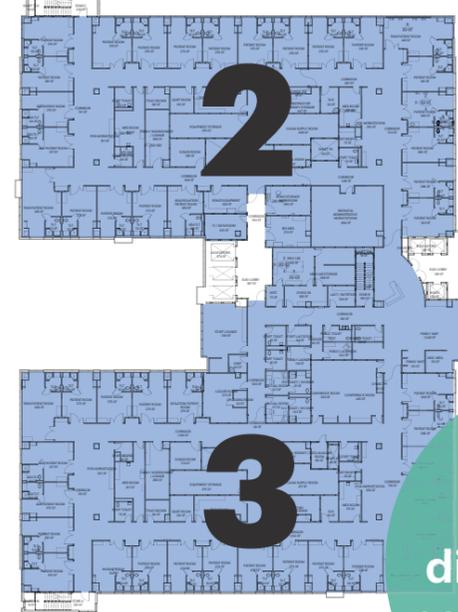
28,000 SF
PREVIOUS

L6



strategic shell space

L7



75 rooms
divided into 3
neighborhoods

70,292 SF
KAY JEWELERS PAVILION

DESIGN STRATEGIES

standardized patient rooms for NICU or PEDS

LINKED OUTCOMES



FLEXIBILITY FOR PEDS



STAFF SATISFACTION



STAFF TURNOVER



COLLABORATION + TEAMWORK

// NEONATAL INTENSIVE CARE UNIT

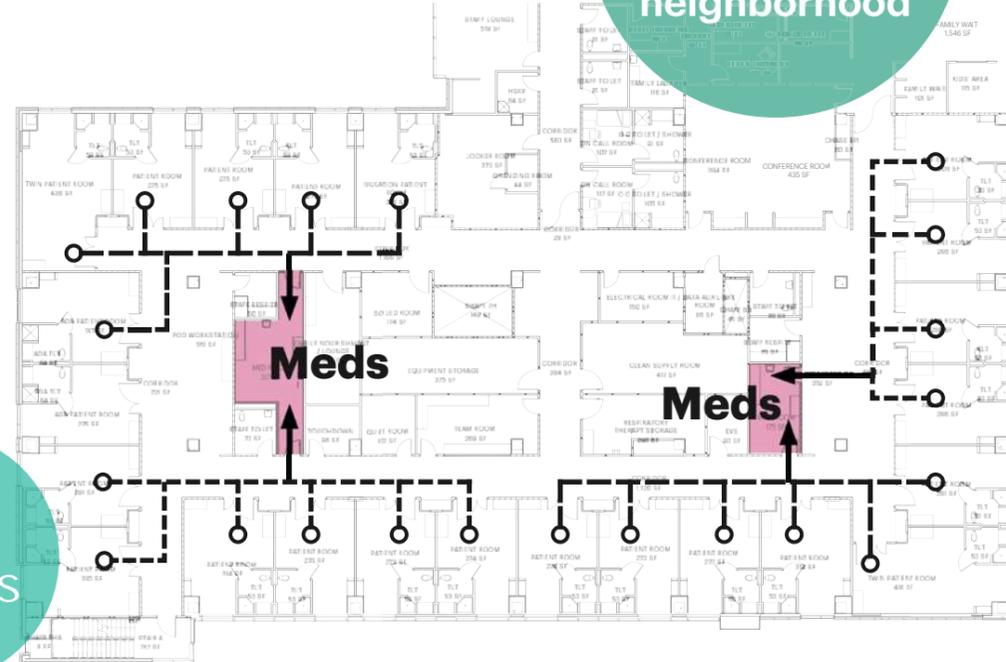
MEDICATION ROOMS

PRE-CONDITION

- common medication storage and prep area shared among 4 pods
- open medication room; crowded and cluttered area of high activity
- medications and breast milk prepped on same counter

DESIGN STRATEGIES

2 medication rooms per 25-bed neighborhood



dual-access



supply storage above and below



separate medication and breast milk prep counters

LINKED OUTCOMES



MEDICATION ERROR RATES



STAFF SATISFACTION



TRAVEL DISTANCES



SUPPLY ACCESS + STORAGE

// NEONATAL INTENSIVE CARE UNIT



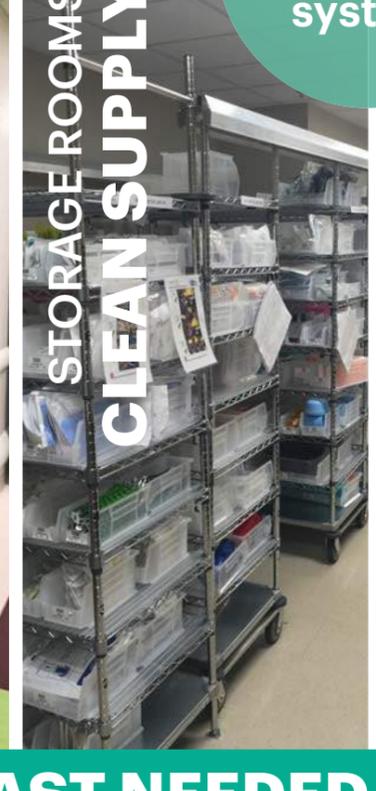
STORAGE

PRE-CONDITION

- single storage room for ALL supplies

MOST NEEDED

storage hierarchy



kanban supply system

DESIGN STRATEGIES

LEAST NEEDED

LINKED OUTCOMES

- OUTDATED SUPPLIES
- STAFF SATISFACTION
- TRAVEL DISTANCES
- INFECTION CONTROL

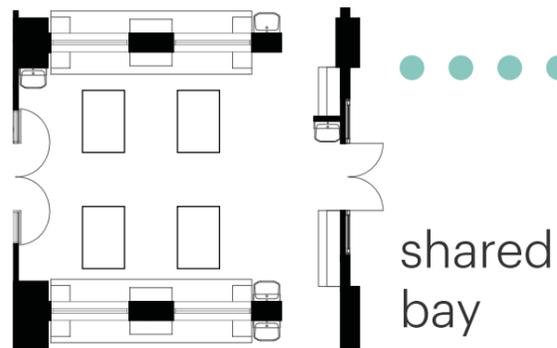
// NEONATAL INTENSIVE CARE UNIT



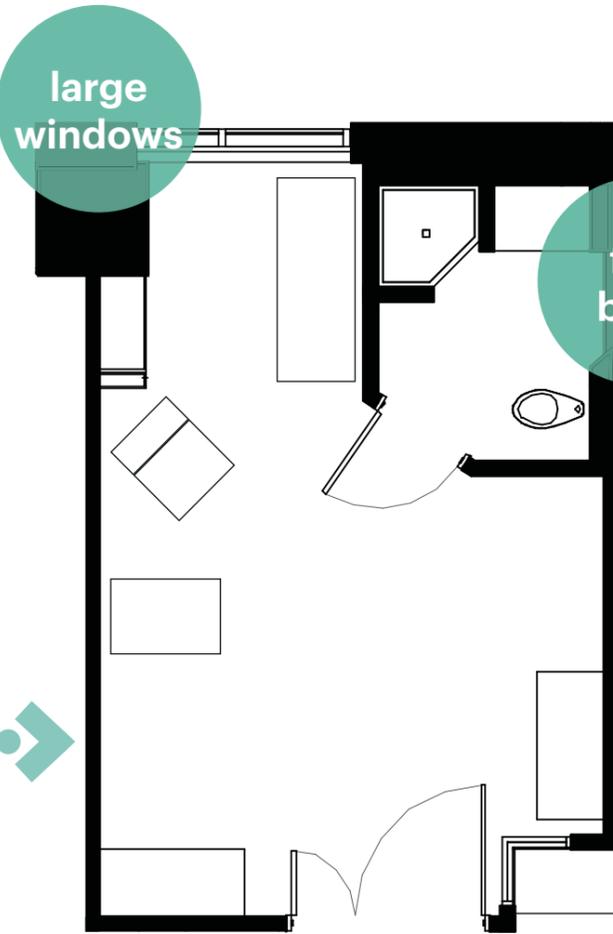
PATIENT ROOMS

PRE-CONDITION

- shared bays (4 families to a room)
- no family privacy for bonding and no personal storage
- no natural light



large windows



full bath

family zone + overnight amenities



family storage + opportunities for personalization

DESIGN STRATEGIES

LINKED OUTCOMES



LENGTH OF STAY



INFECTION RATES



FAMILY SATISFACTION



PRIVACY + ENGAGEMENT



STRESS

// DELIVER

WHAT WAS THE IMPACT?



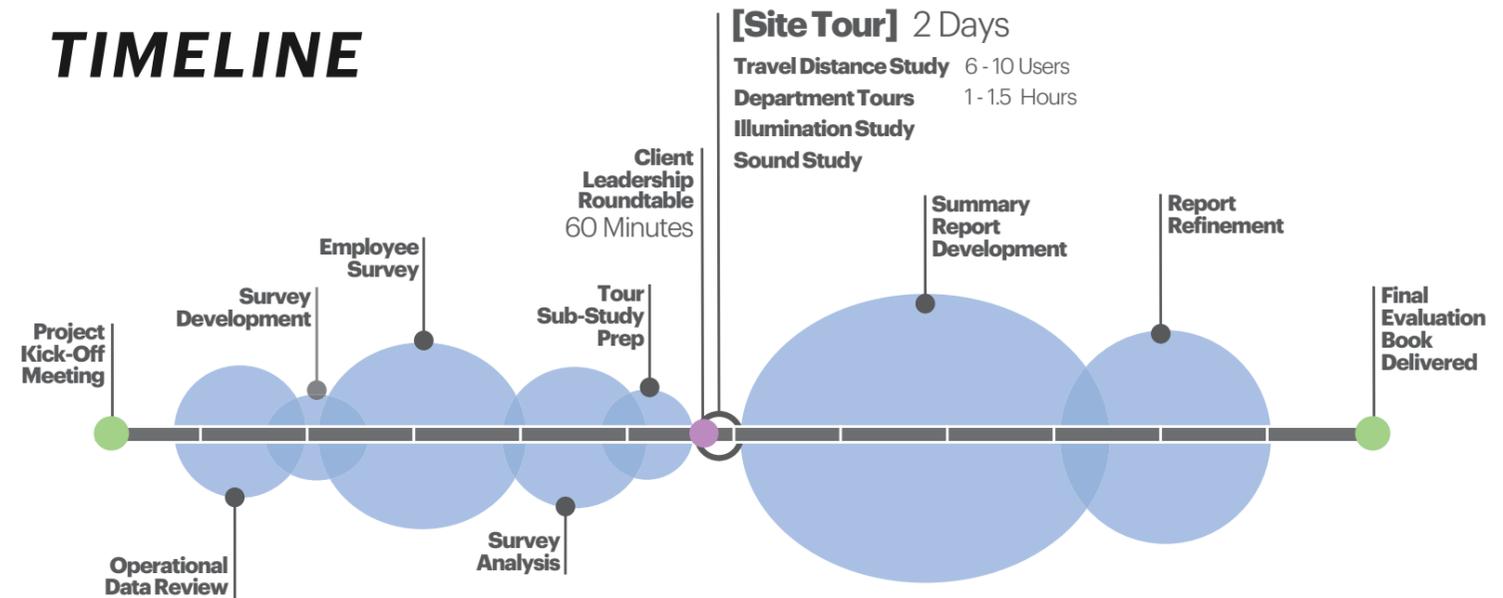


FUNCTIONAL PERFORMANCE EVALUATIONS

PROCESS

The FPE process extensively reviews a healthcare facility through *quantitative* and *qualitative* studies to gather and analyze *subjective* and *objective* data.

TIMELINE



1
collect current operating data



2
distribute surveys



3
round table interview



4
facility tour



5
analyze findings



6
final report and results

INTERNAL DATABASE



KEY FINDINGS

// BEST PRACTICES

- 1 flexibility** embedded in the design for the future
- 2 growth strategy**
- 3 clear and distinct separation of flows**
- 4 simplified and clean wayfinding routes**
- 5 high quality and durable materials**
- 6 facility image**

// LESSONS LEARNED

- 1 future state assumptions** do not always become present state operations when a facility opens
- 2 value-engineered based decisions,** have contributed to operational, maintenance, and building service related challenges
- 3 lack of engagement** of building support services staff during the design process



FPE SURVEY **RESPONSES**

OVERALL FACILITY



3.71 OF 5

SCORE ACCORDING TO
119 STAFF ASSESSMENT
RESPONSES

BY DEPARTMENT

ED



OSC



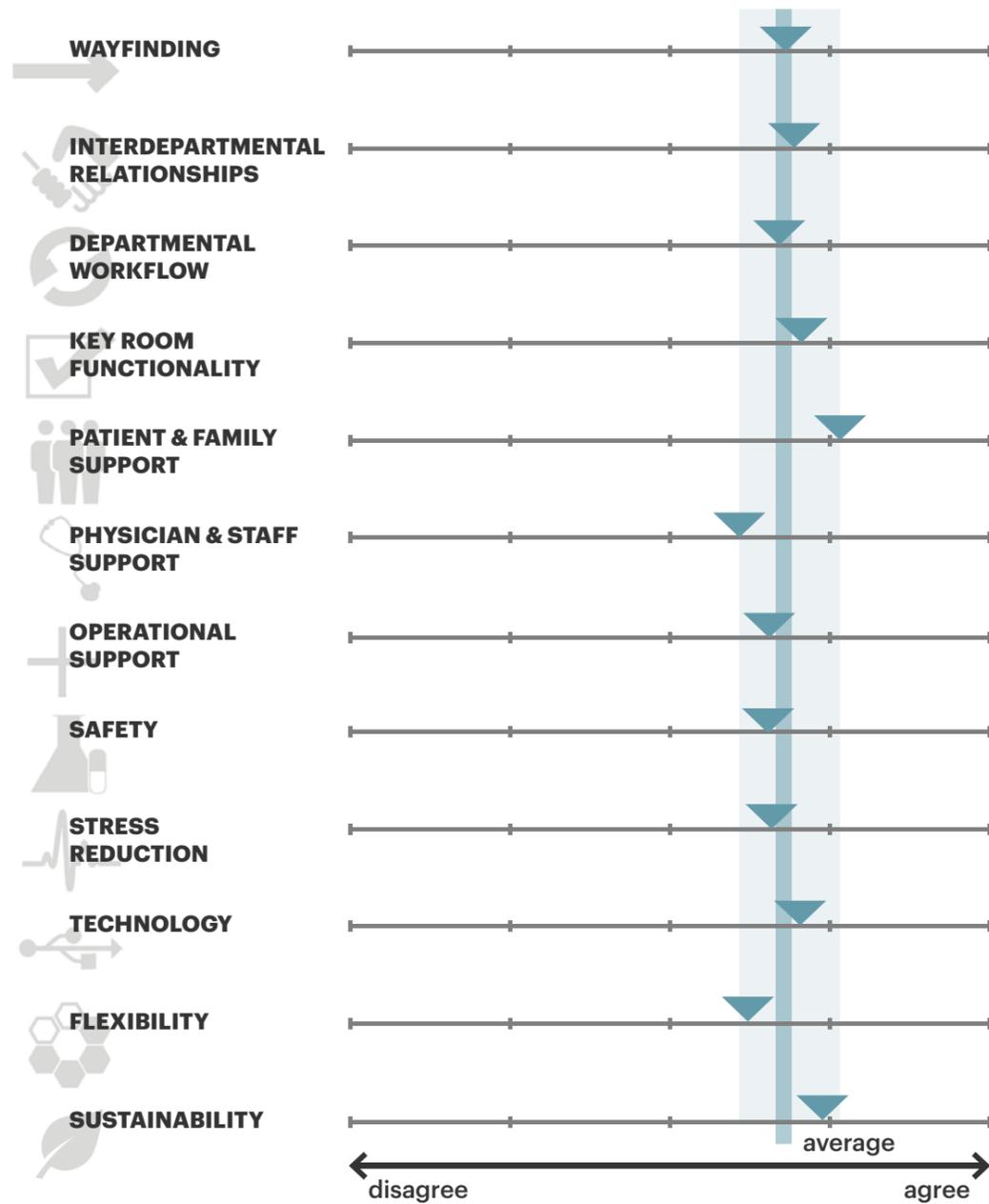
NICU



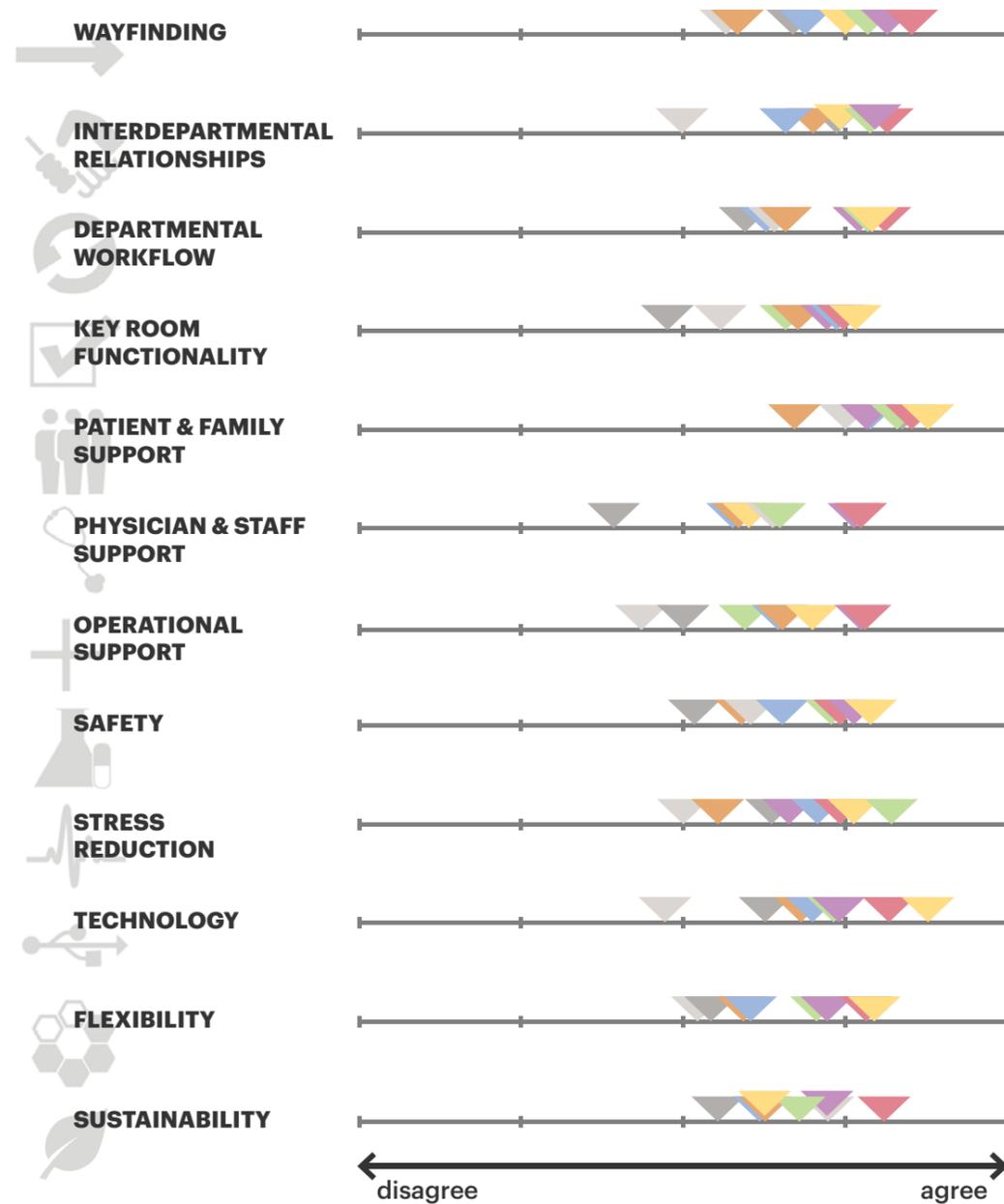


FPE SURVEY RESPONSES

COMBINED AVERAGES



BY DEPARTMENT



- Bio Engineering
- Building Facility
- (Pediatric) Emergency Dept.
- EVS
- NICU
- Nutrition
- Prep / Recovery / PACU
- Surgery



SUCCESS METRIC **OUTCOMES**

SAFETY



LOCAL PARTICIPATION



ENERGY EFFICIENCY



TEAM PERFORMANCE



SCHEDULE



LEED



QUALITY PROBLEM RESOLUTION



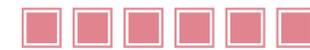
QUALITY PRIDE IN QUALITY WORK



QUALITY SCOPE GAPS



STAFF & FAMILY SATISFACTION WORKSHOP



STAFF & FAMILY SATISFACTION CONSTRUCTION



STAFF & FAMILY SATISFACTION POST-CONSTRUCTION



While the highest number of possible points varied, the project **Health Facility achieved the greatest points possible in 9 of the 12 success metrics (75%)** and even exceeded expectations for certain goals.



SIGNIFICANT
COST SAVINGS

Budget

\$44 million
UNDER
BUDGET OF \$211 MILLION

Schedule

CONSTRUCTION
COMPLETED
54 days
BEFORE
24 MONTH SCHEDULE

Construction

0 change orders

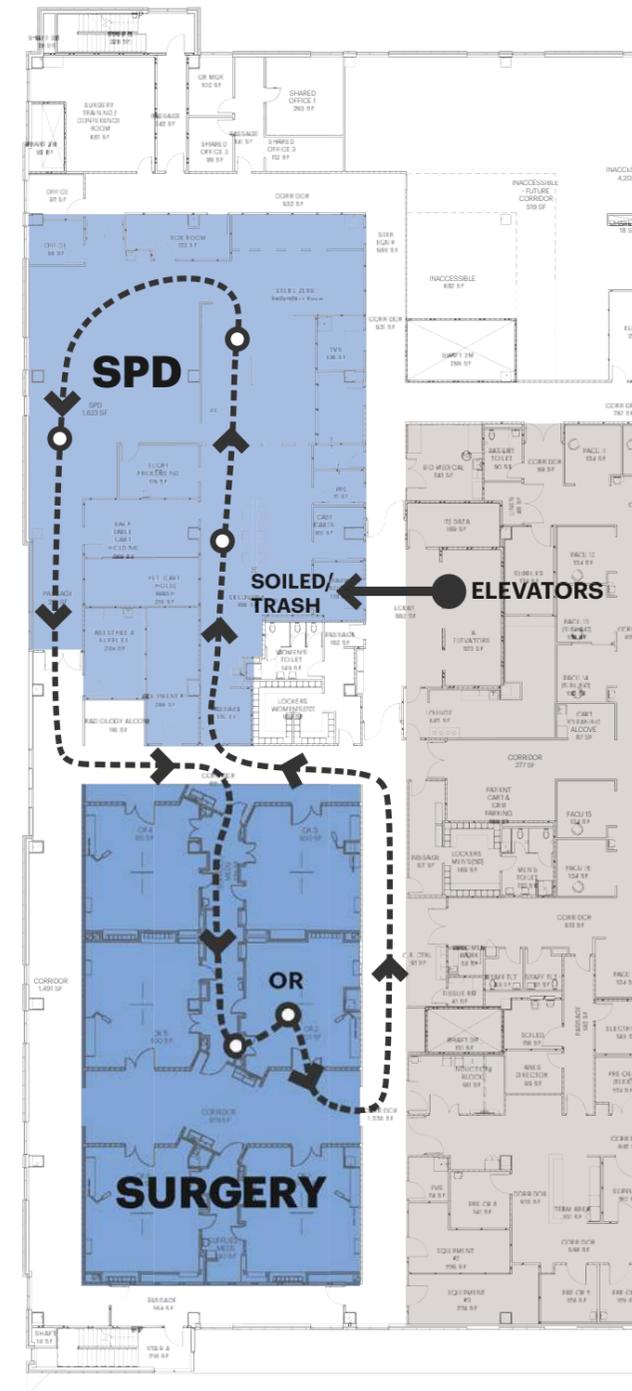
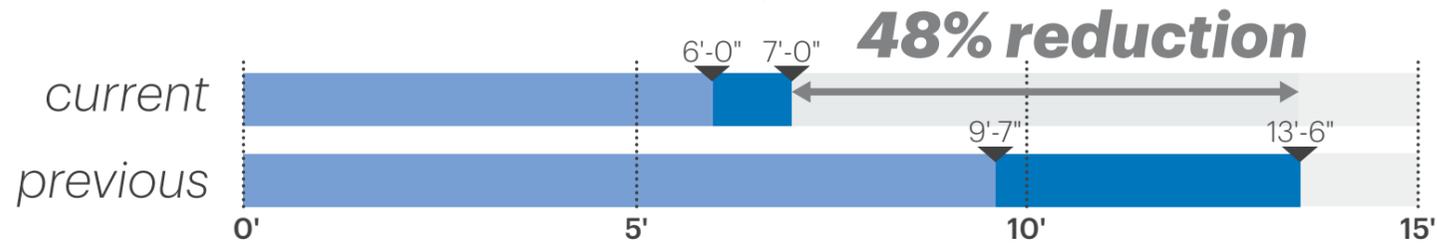


OPERATIONAL ADJACENCIES

STERILE PROCESSING DEPARTMENT **ADJACENT** to CLEAN CORE

CLEAN CORE WIDTH

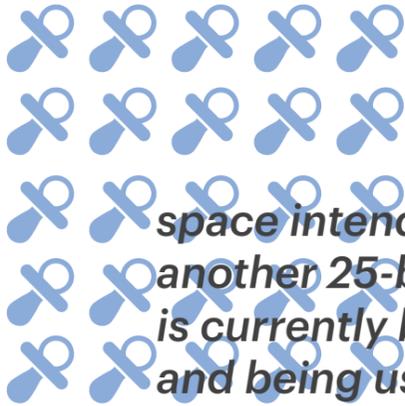
maximum and minimum corridor widths



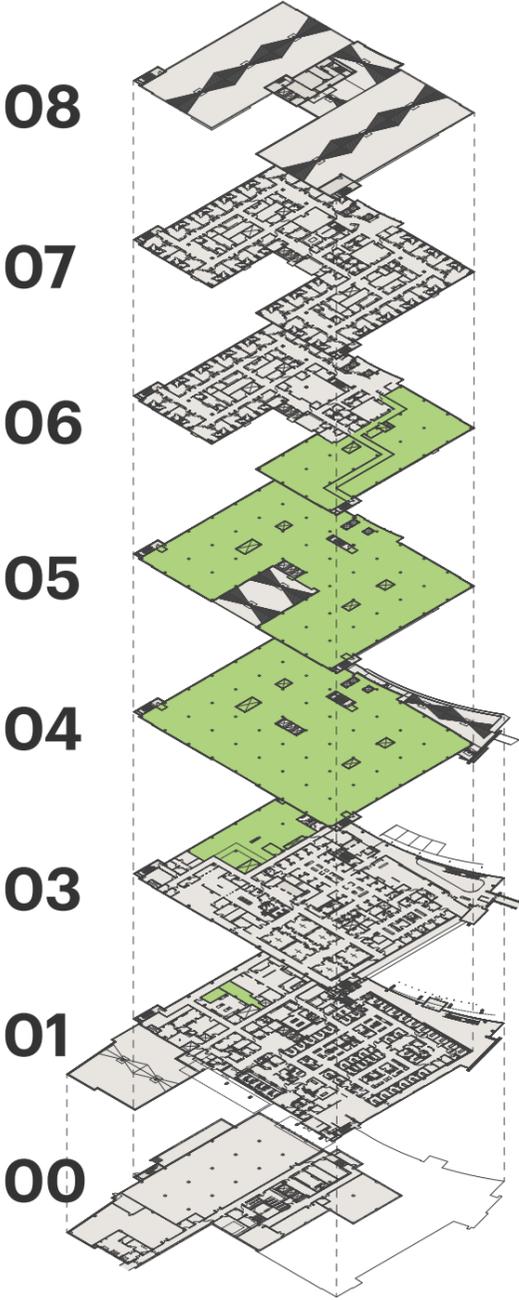


STRATEGIC SHELL SPACE **FLEXIBILITY**

+ 25 100 total
NICU / PEDS beds



space intended for another 25-bed NICU is currently built out and being used for Pediatrics while the main hospital is being renovated





PROJECT DELIVERY **SATISFACTION**

PROJECT TEAM SATISFACTION

IPD FEEDBACK SURVEY

ADVANTAGES

ENGAGEMENT (team, buy-in, local participation, community)

COLLABORATION

*RELATIONSHIP BUILDING / TRUST /
TRANSPARENCY*

*LEARNING (continuous improvement,
understanding)*

SCHEDULE

BUDGET

COMMON GOAL & CLEAR MISSION



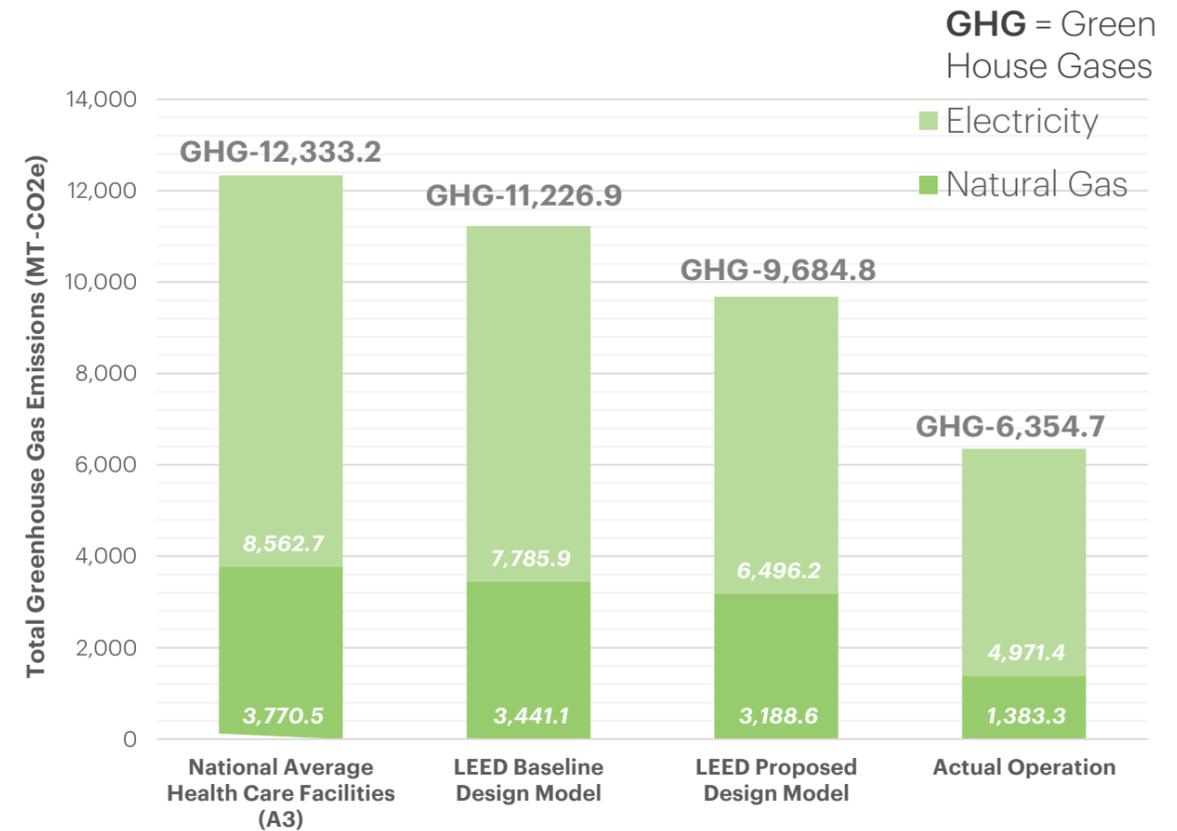
100%

**OF PROJECT TEAM
MEMBERS**

agreed or strongly agreed that **Lean-IPD is better than non-Lean-IPD** in terms of scheduling, cost, quality, safety, morale, and learning



REDUCED CARBON FOOTPRINT



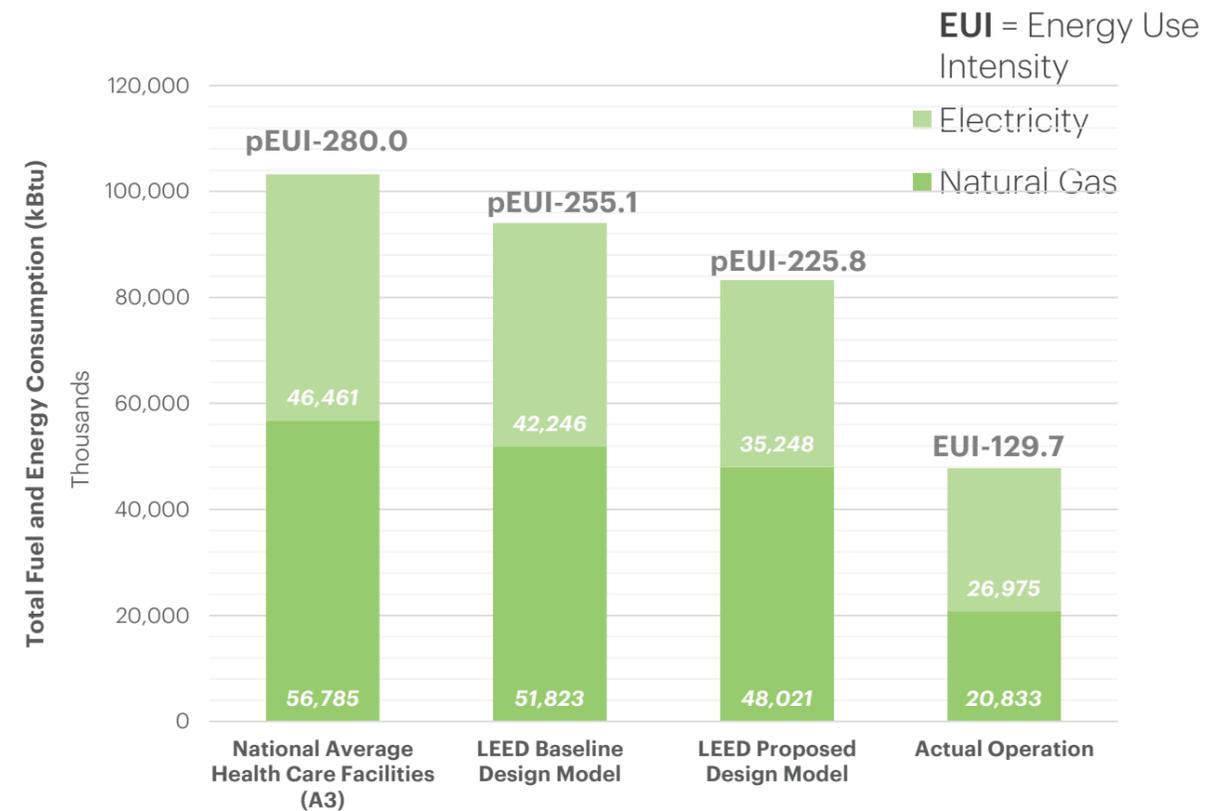
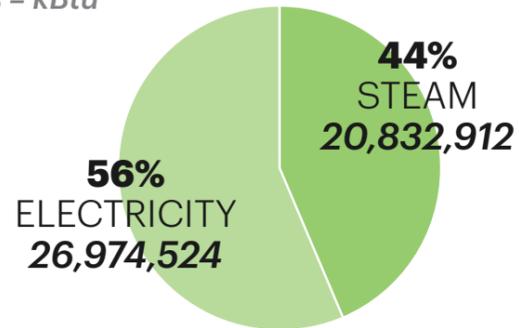
**savings percentages represent the comparisons of Akron Children's Hospital's actual operations to the National Averages for Health Care Facilities based on steam and electricity data to calculate EUI, GHG emissions, and ECI*



REDUCED ENERGY CONSUMPTION



USAGE
TOTAL FACILITY FUEL + ENERGY CONSUMPTION
units = kBtu



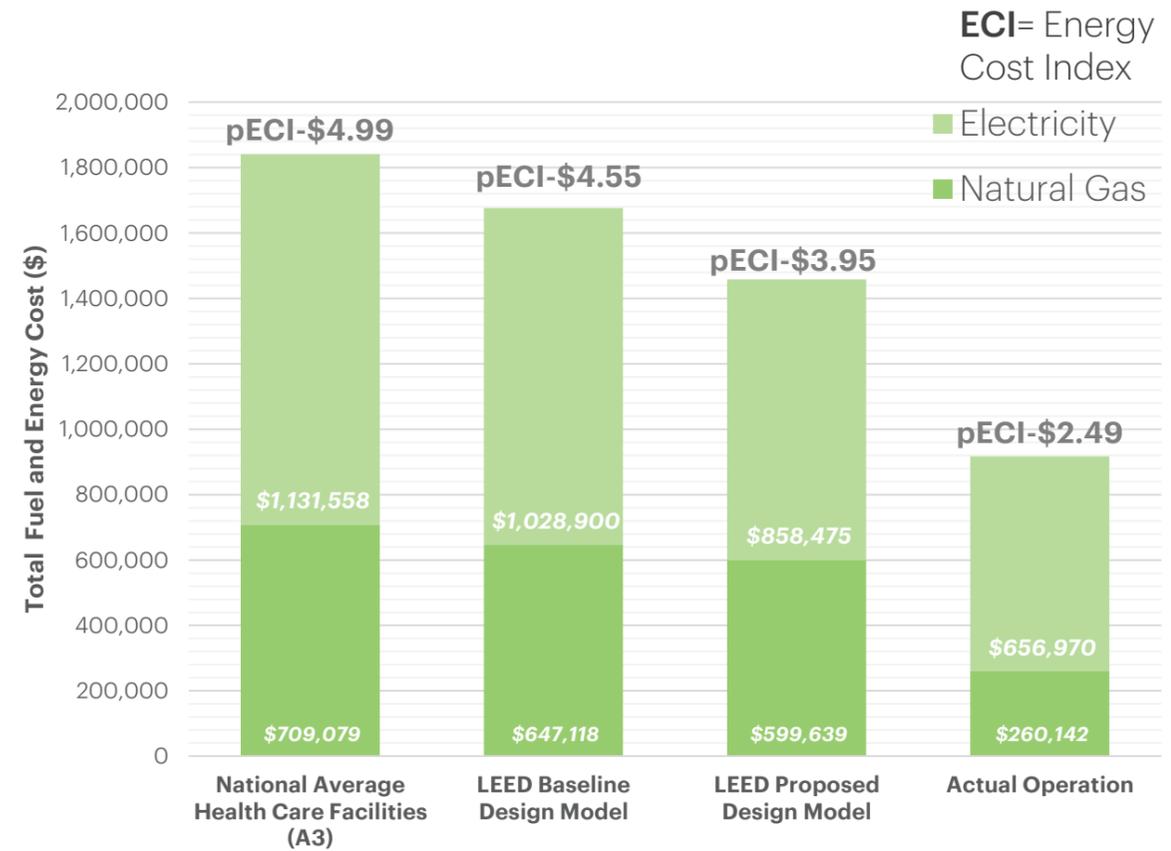
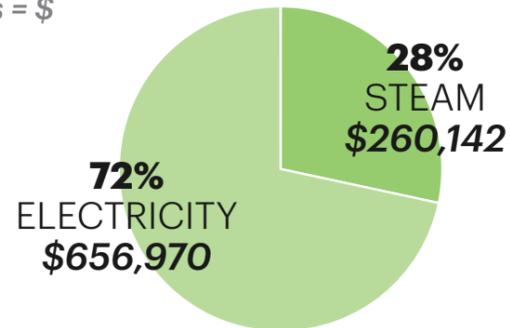
*savings percentages represent the comparisons of Akron Children's Hospital's actual operations to the National Averages for Health Care Facilities based on steam and electricity data to calculate EUI, GHG emissions, and ECI



REDUCED ENERGY COSTS



USAGE
TOTAL FACILITY FUEL + ENERGY COSTS
units = \$



*savings percentages represent the comparisons of Akron Children's Hospital's actual operations to the National Averages for Health Care Facilities based on steam and electricity data to calculate EUI, GHG emissions, and ECI



INCREASED SATISFACTION

STAFF SATISFACTION

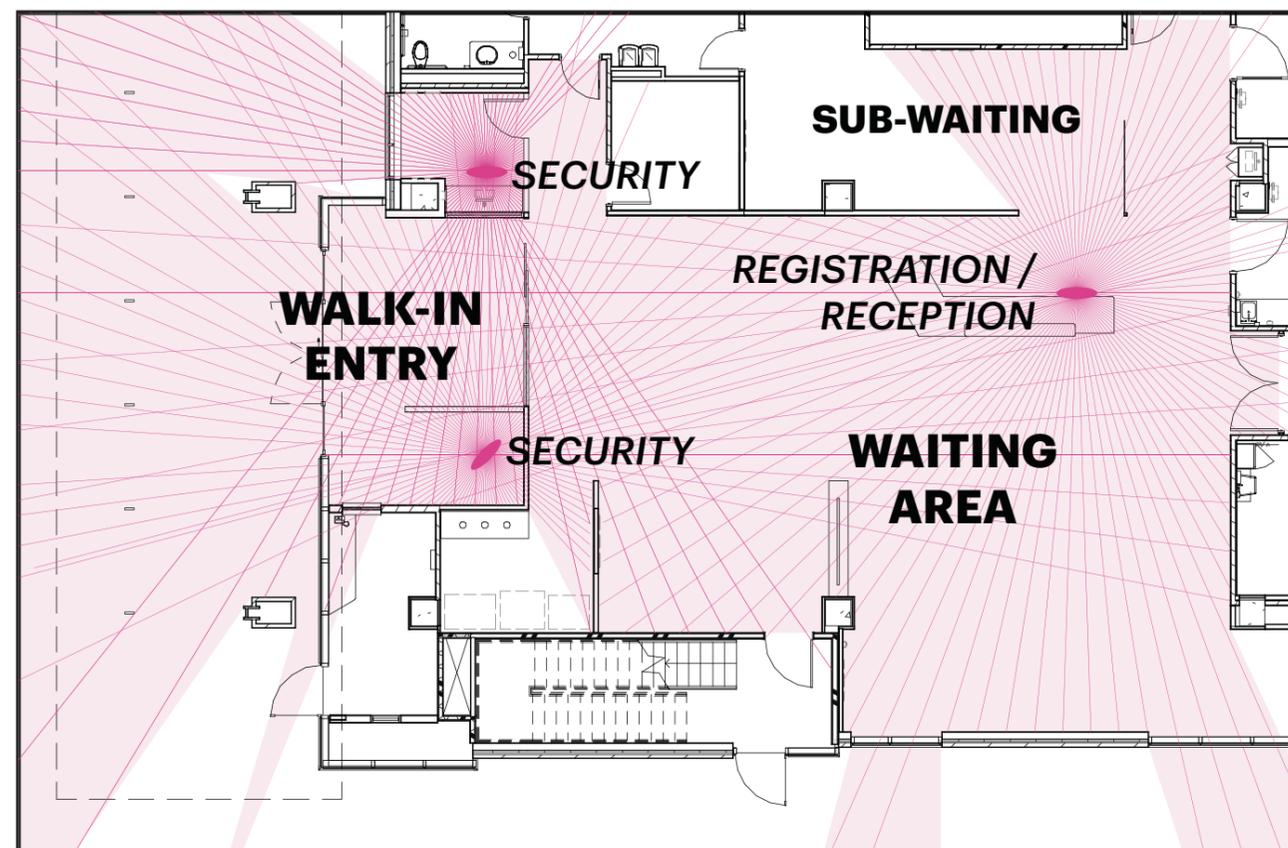
POST-MOVE STAFF SURVEY





IMPROVED
SECURITY

95% VISIBILITY
OF ED WAITING &
WALK-IN ENTRY



ED WAITING ROOM AND WALK-IN ENTRY VISIBLE FROM
REGISTRATION / RECEPTION AND SECURITY DESK



ENHANCED
SAFETY & COMMUNICATION

13
18

**PACU PATIENT
HEADS / MONITORS**
VISIBLE FROM THE SUPPORT CORE

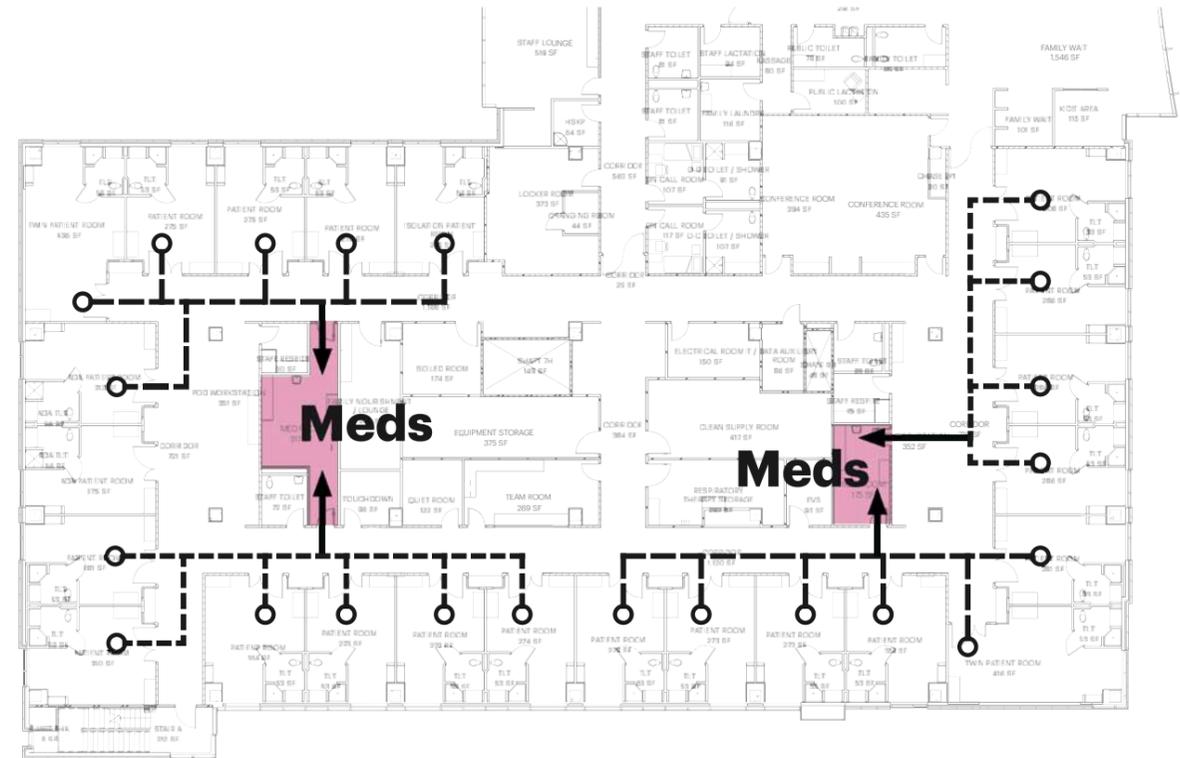




REDUCED TRAVEL DISTANCES



on average
MEDICATION ROOM
36 ft
FROM PATIENT ROOM



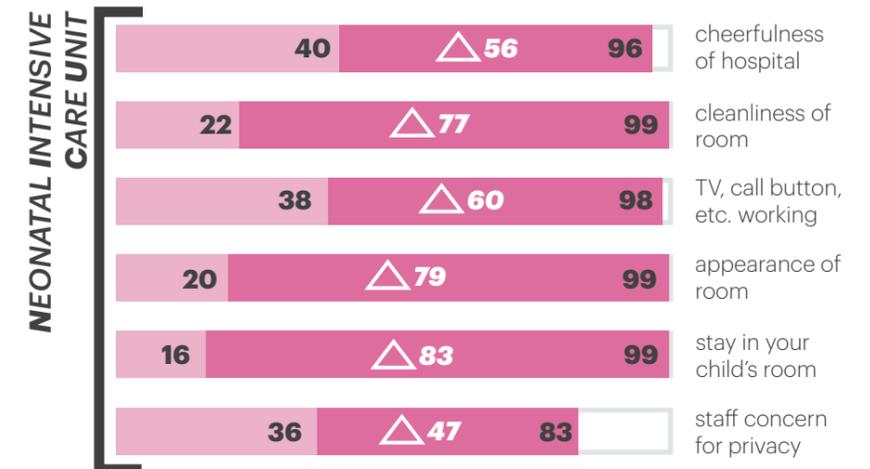
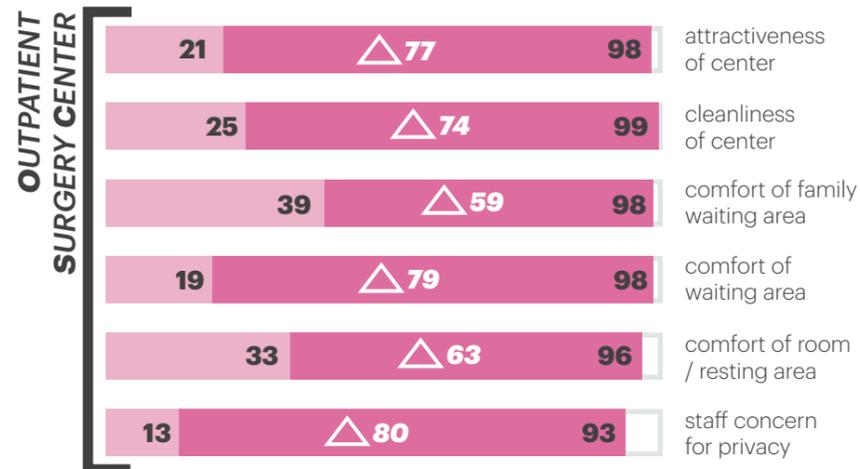
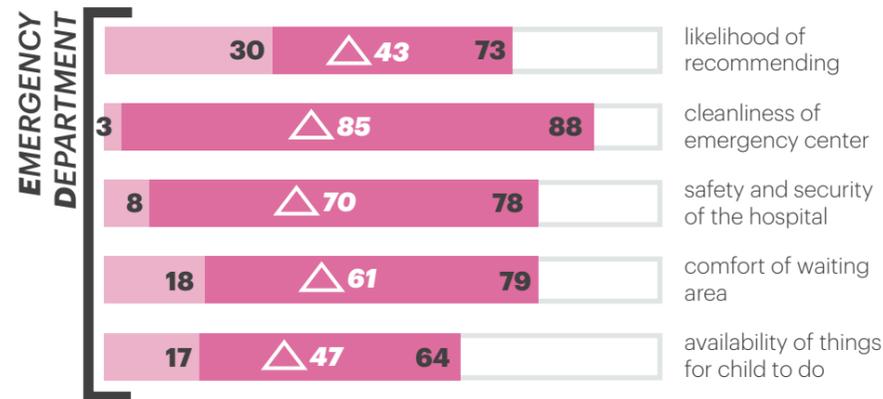
2 Medication Rooms per 25-bed neighborhood with **dual access**



INCREASED SATISFACTION

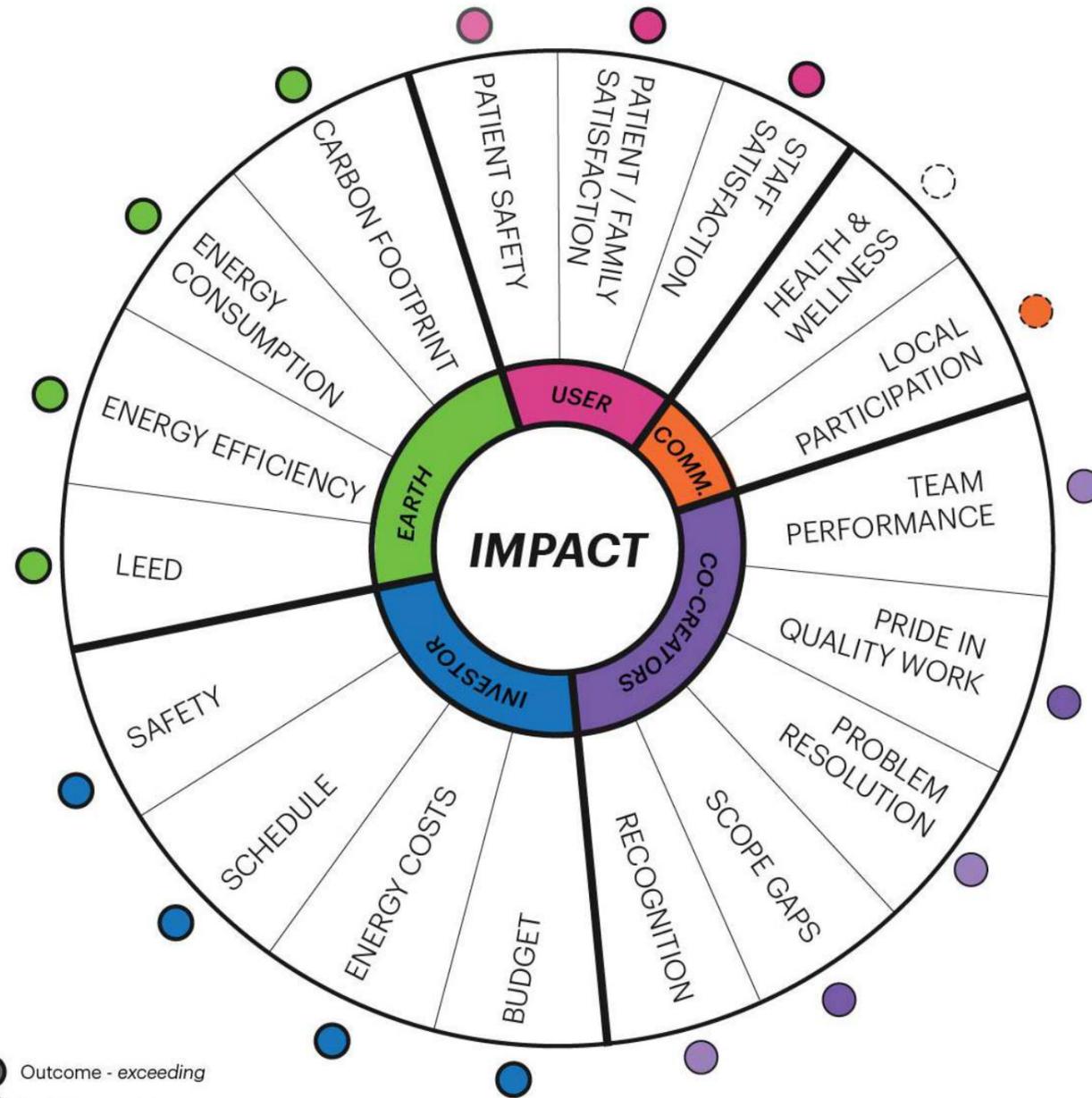
PATIENT / FAMILY SATISFACTION PRESS GANEY SCORES

AVERAGE IMPROVEMENT:
67 points





IMPACT



- Outcome - exceeding
- Outcome - met
- Outcome - under-performing
- Outcome - unknown



.....
0 CHANGE ORDERS
54 DAYS BEFORE SCHEDULE
\$44 MILLION UNDER BUDGET
50.2% ENERGY COST SAVINGS



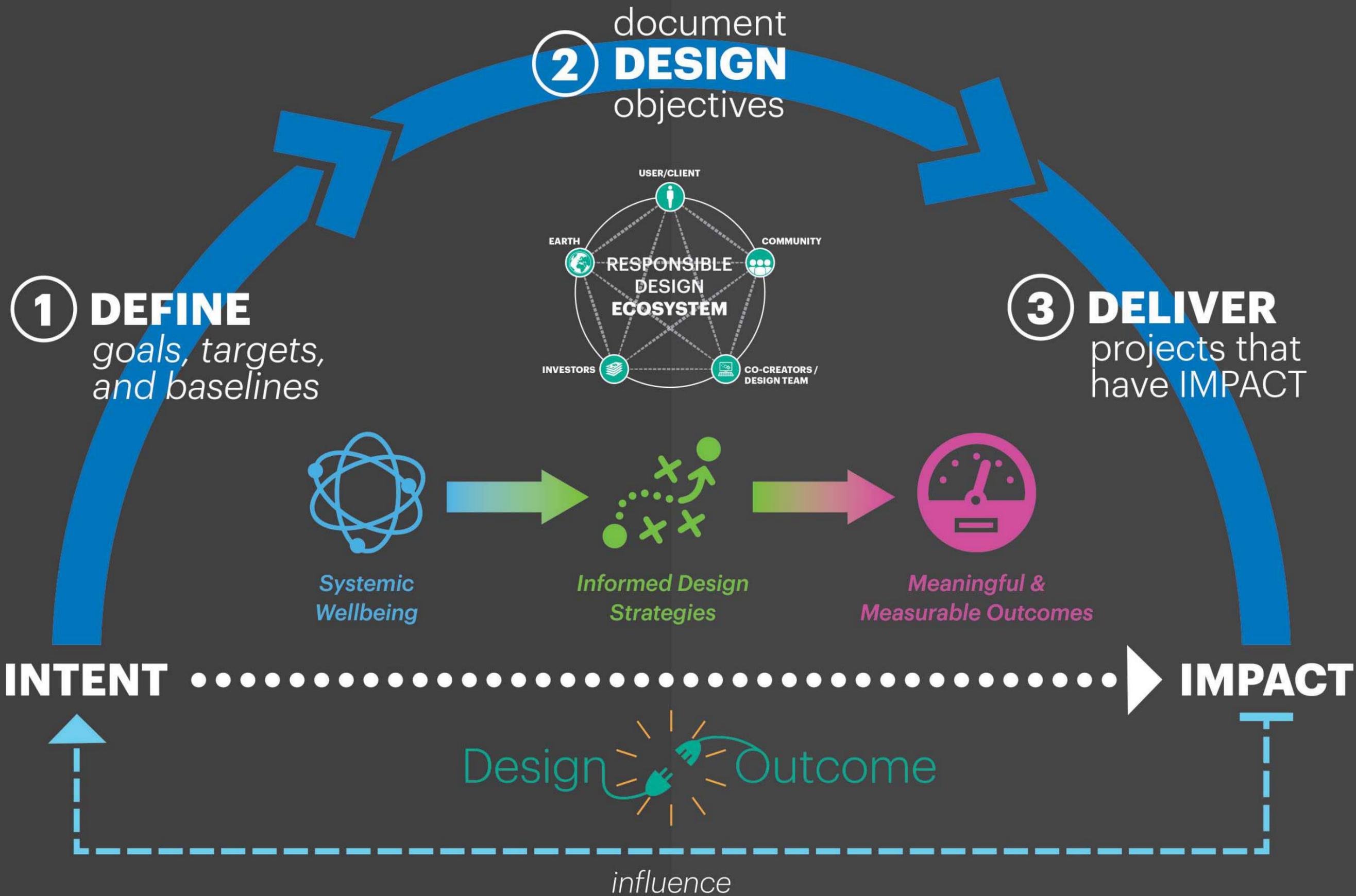
.....
67 POINT INCREASE IN PATIENT SATISFACTION
70% INCREASE IN STAFF SATISFACTION

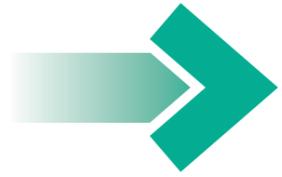


.....
BETTER PLACES FOR PEOPLE DESIGN AWARD
AIA OHIO DESIGN AWARD
CHD TOUCHSTONE AWARD (PENDING)



.....
LEED GOLD
48.5% TOTAL GREENHOUSE GAS EMISSIONS SAVINGS
53.7% REDUCTION IN FUEL AND ENERGY CONSUMPTION





3 BIG IDEAS

1

We can have no **meaningful impact** without **clearly articulated and informed intent**.

2

ILPD requires education of and active participation from all key **stakeholders** throughout the **entire design process** to achieve the greatest value.

3

Routinely **tracking and documentation** of intent and subsequent impacts informs design strategies for **continuous learning and improvement**.

// INTENT TO IMPACT

QUESTIONS?





WANT TO LEARN MORE?



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