



WSP

Healthcare Evolves: Sustainability to Wellness

Rick Rome

The Path for Today



LEED Framework



Eventually, We Figured Out This

Enhance
community, social
equity, env. justice
& quality of life

Reverse
contribution to
climate change

Enhance human
health and
wellbeing

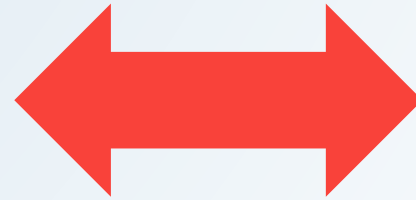
Protect and restore
water resources

Build a greener
economy

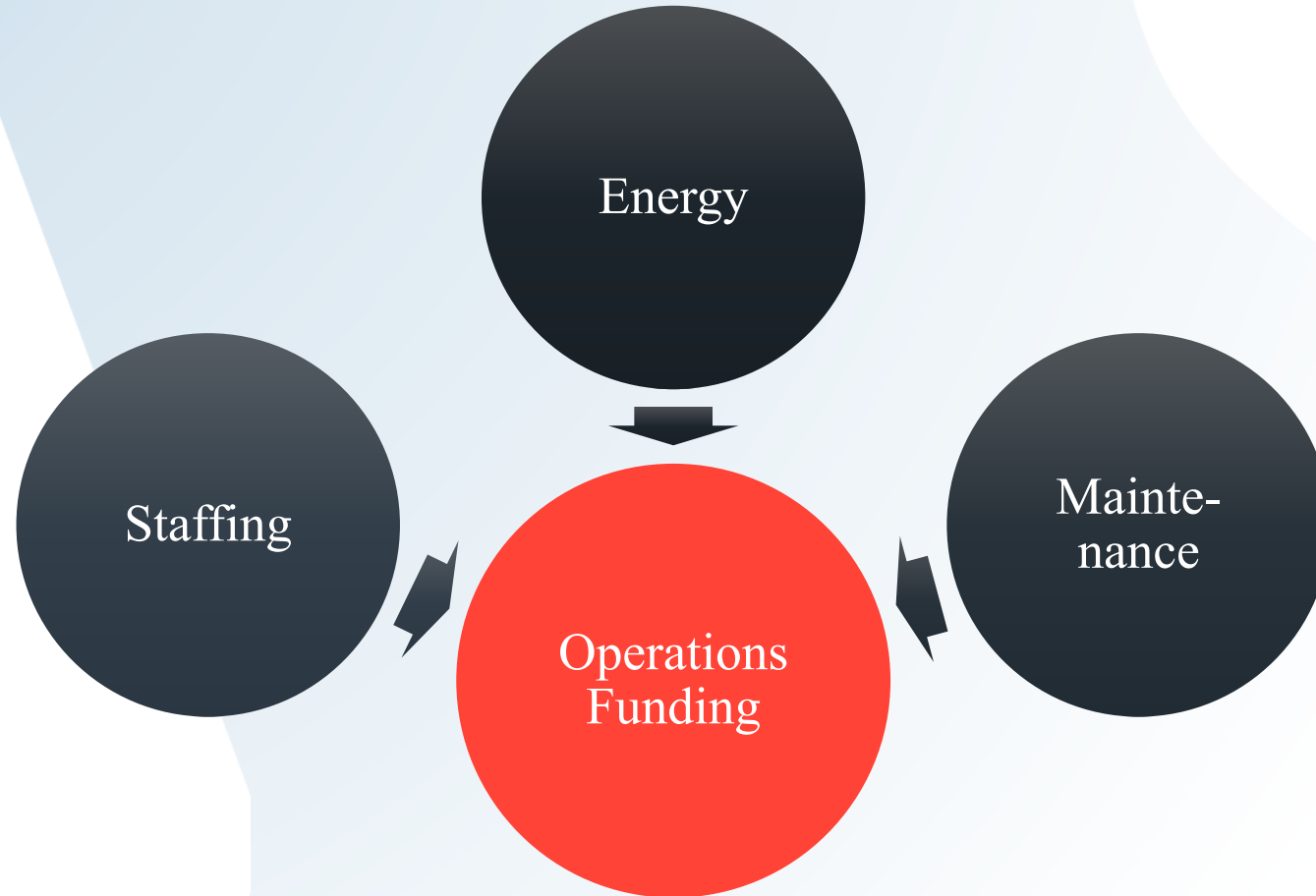
Promote
sustainable and
regenerative
resource cycles

Protect biodiversity
and ecosystem
services

Why Be Sustainable ?



Where is the Money Going?



Sustainability in Perspective

Sustainable design & construction *leads to a healthy building philosophy*

Patients thrive in a healthy building and that *means lower operational cost*

With a 4% operating margin, \$1 of energy savings = *\$25 less revenue* that must be produced!

Sustainability = Logical Healthcare

The healthy building concept is now:

1. The *Right* thing to do
2. The “payback” *never* stops
3. Saving operating \$ = *Saving patients*

Seton Medical System Proving Sustainability Works



Environment/Employee Analysis

Compare Three Hospitals Operations

1. All within same healthcare system
2. All designed within two years time
3. WSP engineer on all projects
4. *Design philosophy was different*

Dell
Children's
Medical
Center of
Central Texas

1st LEED Platinum Healthcare Facility



Dell
Children's
Medical
Center of
Central Texas

**MEDICAL OFFICE
BUILDING**

RONALD MCDONALD HOUSE

**COMBINED
COOLING/HEATING/
POWER PLANT**

EMERGENCY DEPARTMENT

MAIN ENTRANCE

**SERVICE
ENTRANCE**

NURSING UNITS

HEALING GARDEN



*3BT
Expansion*

Dell
Children's
Medical
Center of
Central Texas



Heat
Recovery

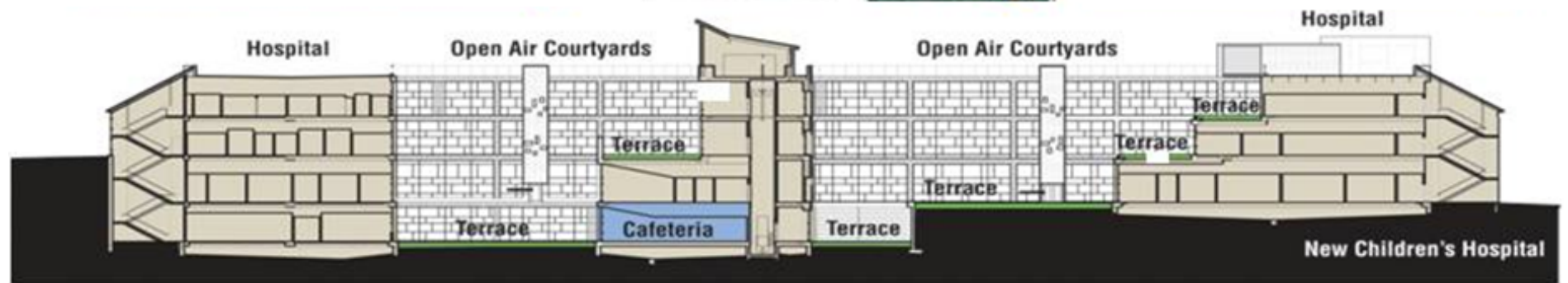
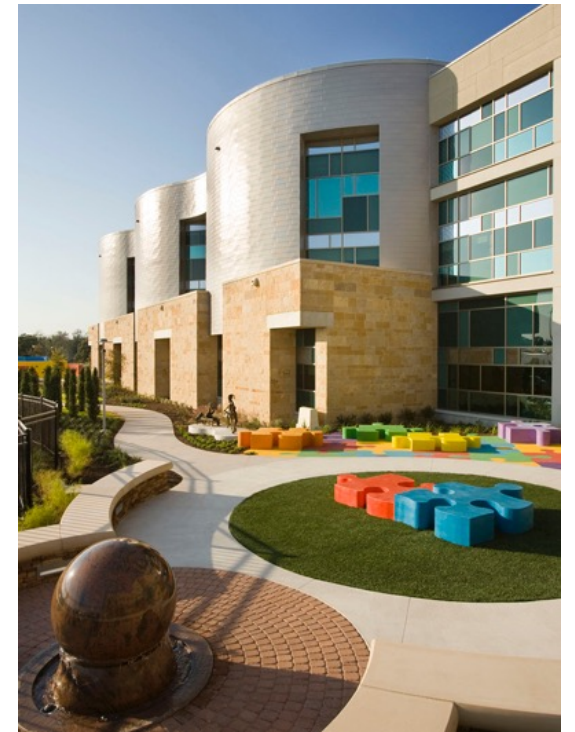
Lighting
Controls

Solar PV &
Heating
Water

- FIRST LEED Platinum under 2009 LEED for Healthcare
- 7,000 BGSM, 72 beds
- 57 LEED Design Phase Credits Awarded
- 86 LEED Credits Awarded Total

Courtyard

Dell
Children's
Medical
Center of
Central Texas



Specifics

Dell
Children's
Medical
Center of
Central Texas

- Individual control capabilities
 - 96% of occupants have lighting control
 - Underfloor air distribution in administrative areas
- Occupancy sensors and daylight harvesting utilized
- Environmentally sensitive materials used on interiors
- CO2 monitoring in high occupancy areas
 - Reduce outside air under low occupancy
- Approximately 1.3 million gallons water saved annually
 - Dual low flush fixtures, low flow showers, automatic sensors
- Energy savings estimated at \$1.5 million
- Energy measurement and verification system
 - Maintain and optimize energy usage



Seton
Williamson
Medical
Center



Seton
Williamson
Medical
Center



- Greenfield Site Hospital at 37,000 SM
- 160 Patient Beds
- General Community Hospital
- Designed and Built in 21 Months

Seton Hayes
Medical
Center



Seton Hayes
Medical
Center



- Greenfield Site
Hospital at 35,000 SM
- 140 Patient Beds
- General Community
Hospital
- Designed and Built in
22 Months

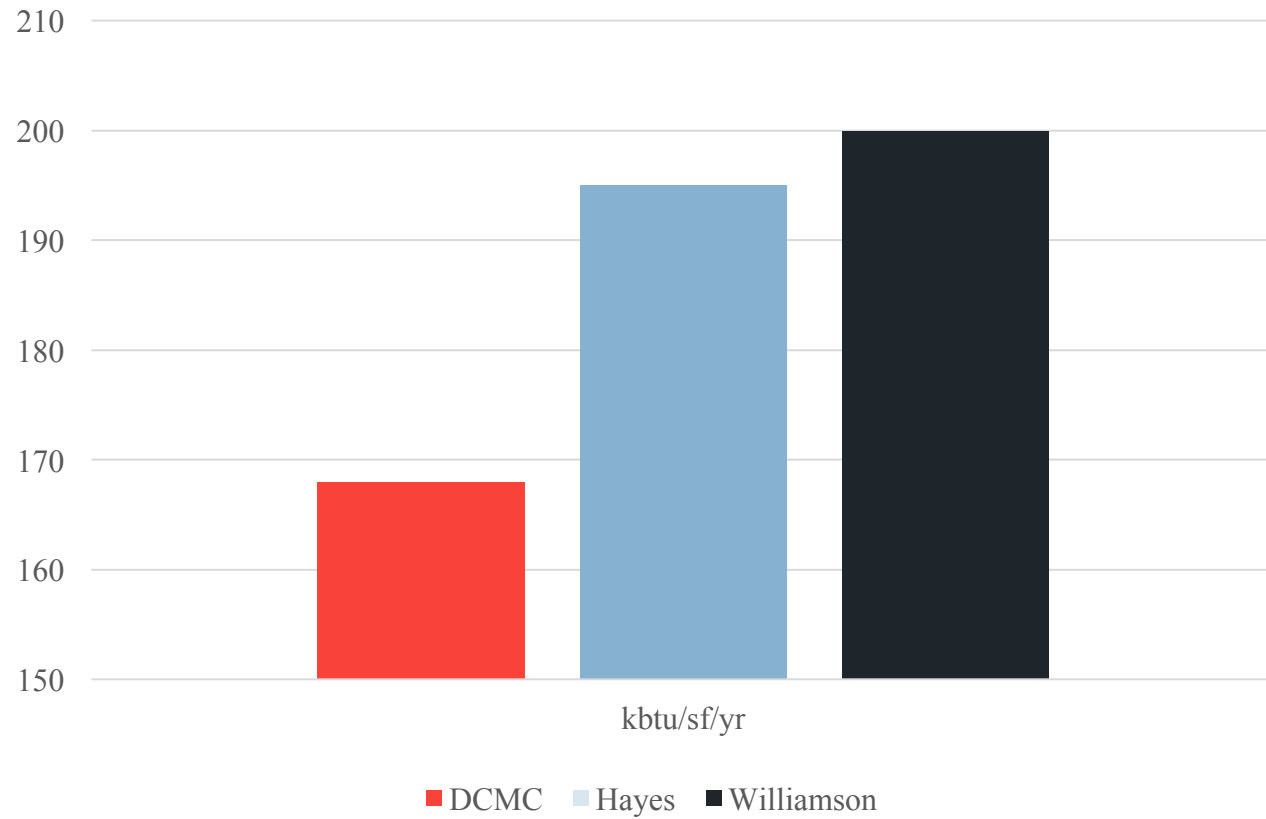
Measuring the
LEED Process
Differences

- Independent Consultant- RAD (Research & Design Company)
- Over 1900 employees included in the survey
- Use of hospitals over a two year period
- Energy measured independently thru facility group
- Primary Focus Points
 - *Employee Engagement*
 - *Employee Health and Well Being*
 - *Employee Turnover*
 - *Employee Injuries*
 - *Perceived Quality of the Indoor Environment*



Energy Usage Comparison

Energy Usage Comparison



Dell Children's savings in energy:

- \$350,000 per year over Seton Williamson
- \$300,000 per year over Seton Hayes

Employee Engagement

- Employee Engagement at each of the newer facilities (Seton Williamson, Seton Hayes and Dell Children's) was all higher than older facilities
- Dell Children's had a 5% higher employee engagement rating
- Potential savings from high employee engagement: \$300,000/yr.



Employee Turnover



- Turnover and the Subsequent Cost of Replacement is a Large Factor in Healthcare Operations Costs
- Dell showed a 3.1% Lower Turnover Rate than Hayes
- Dell showed a 3.6% Lower Turnover Rate than Williamson
- The Savings for Reduced Turnover is \$1.1 million

Employee
Injuries and
Illness



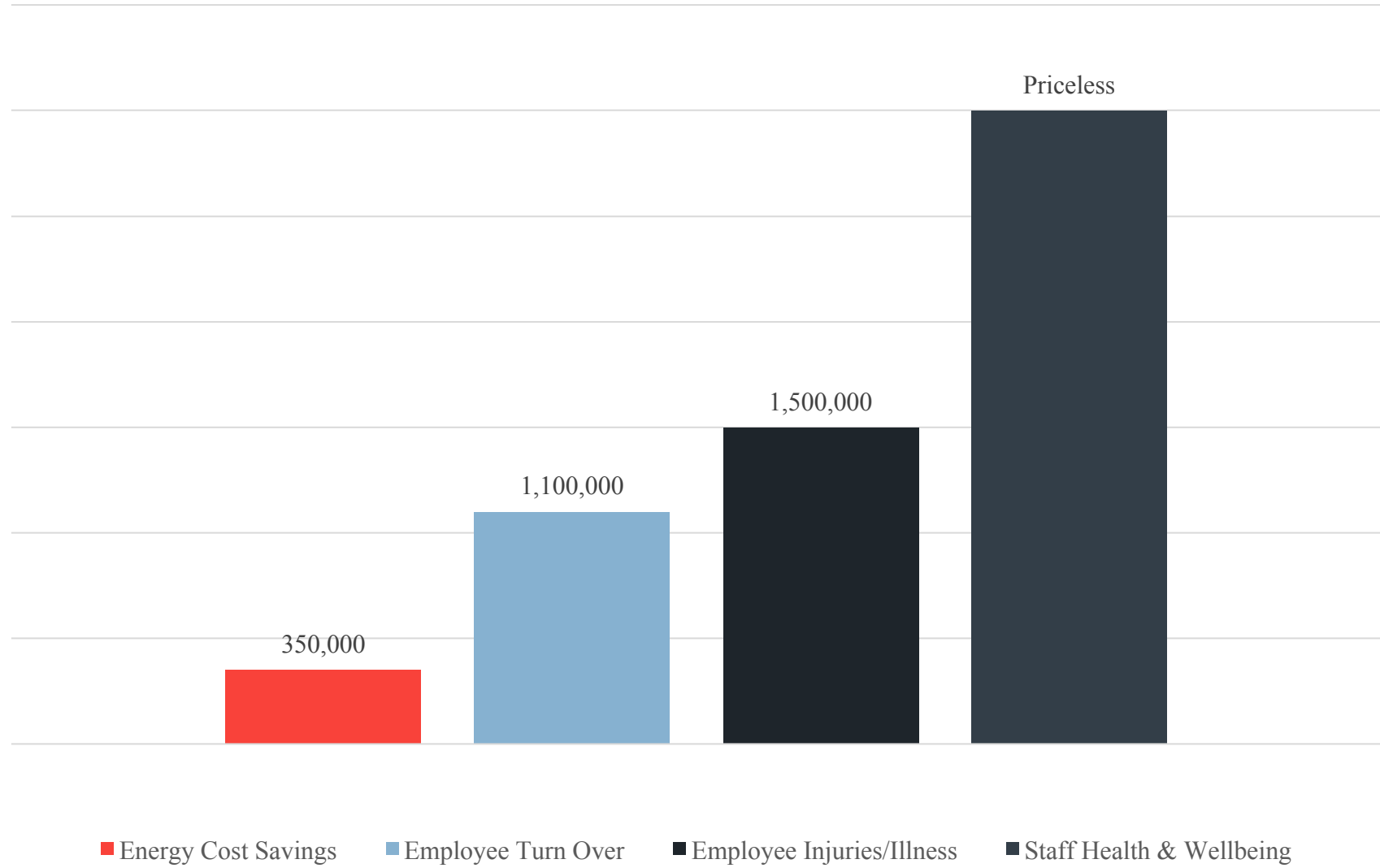
- Injuries/Illness at Dell were 8.0% Less Than the Old Facility
- Injuries/Illness at Dell were 3.0% Lower Than at Hayes
- Injuries/Illness at Dell were 3.1% Lower Than at Williamson
- This Cost Translated to \$1.5 Million / yr.

Perception
Quality of the
Indoor Air
Environment

- The PQIE for Dell was the highest of all Seton Facilities
- A PQIE rating increase of 14% results in a 5% increase in the Health and Wellbeing of its Staff.



Process
Advantages
Summary
Savings



University of Texas Medical Campus Austin, Texas

Next:
The Health &
Well Being
Campus



Next Step

Seton Health



- Opened Dell Seton University of Texas Teaching Hospital in May
- 60,000 SM Teaching Facility with 190 Beds
- LEED Gold Pending
- Part of the University of Texas Medical Campus
- Campus Design Philosophy- 'Healthy Campus/Village'

Thank you