

Framework for Healthy Communities

**DESIGN & BUILD FOR WELLNESS, NOT ILLNESS**

The objective of Public Health in the Built Environment is to improve health by reducing onset of chronic diseases and accidents resulting in injuries.

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Framework for Healthy Communities

**AGENDA - DESIGN & BUILD FOR WELLNESS NOT ILLNESS**

- ✓ IMPROVE AIR QUALITY
- ✓ ENABLE SMART, SAFE, ACCESSIBLE INFRASTRUCTURE
- ✓ ENCOURAGE PHYSICAL ACTIVITY FOR ALL

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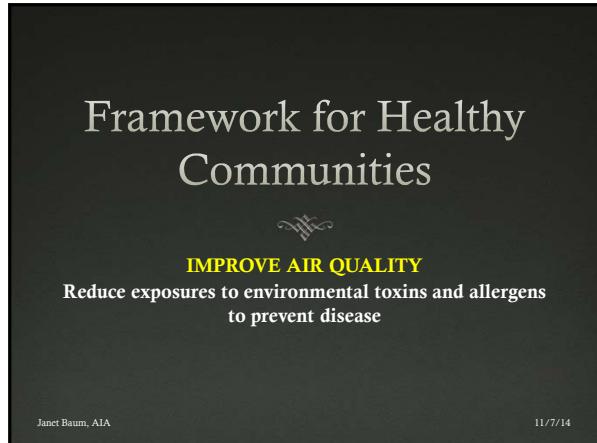
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Framework for Healthy Communities

**IMPROVE AIR QUALITY**

Reduce exposures to environmental toxins and allergens to prevent disease

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REDUCE OUTDOOR AIR POLLUTION

- AVOID sites in ambient environmental conditions of -
  - Pollution generated by industrial emissions
  - Pollution generated on highways with high traffic volumes
  - Pollution generated by atmospheric conditions
    - High ozone conditions
    - Frequent smog conditions
    - Seasonal wind-blown dust and sand

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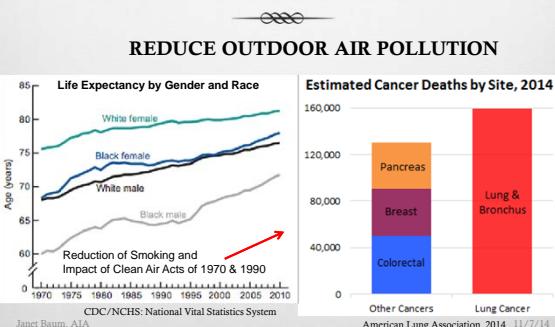
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REDUCE OUTDOOR AIR POLLUTION

Life Expectancy by Gender and Race

Year	White female	Black female	White male	Black male
1970	75	68	70	65
1975	77	70	72	67
1980	79	73	74	69
1985	81	75	76	71
1990	82	76	77	72
1995	83	77	78	73
2000	84	78	79	74
2005	85	79	80	75
2010	86	80	81	76

Reduction of Smoking and Impact of Clean Air Acts of 1970 & 1990

Estimated Cancer Deaths by Site, 2014<sup>2</sup>

Cancer Site	Estimated Deaths
Pancreas	~120,000
Breast	~80,000
Colorectal	~40,000
Other Cancers	~10,000
Lung & Bronchus	~160,000

CDC/NCHS: National Vital Statistics System  
Janet Baum, AIA American Lung Association, 2014 11/7/14

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REDUCE OUTDOOR AIR POLLUTION

With more than 45 million people in the United States living, working, or attending school within 300 feet of a major road, airport or railroad there is growing concern about the health impacts of roadway traffic.

<http://www.epa.gov/otaq/nearroadway.htm>

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## Framework for Healthy Communities

### REDUCE OUTDOOR AIR POLLUTION

Environmental Siting Criteria Considerations for Schools					
Feature/Link Use	Description	Potential Hazards	Recommendations	Evaluation	Additional Information*
High-traffic roads or highways	<ul style="list-style-type: none"> <li>High traffic roads or highways, including heavy duty truck traffic</li> <li>Accidental release/quicks of hazardous chemicals</li> <li>Pedestrian and bike safety</li> </ul>	<ul style="list-style-type: none"> <li>Air pollution</li> <li>Accidental release/quicks of hazardous chemicals</li> <li>High likelihood of accidental release considered</li> </ul>	<ul style="list-style-type: none"> <li>Identify and evaluate all high-traffic roads or highways within .1-1 mile of the school site with a high likelihood of accidental release considered.</li> </ul>	<ul style="list-style-type: none"> <li>In general, air pollutants from traffic sources are highest closer to the road. The distance of maximum magnitude and extent of impact will depend on specific variables and mitigation strategies employed. School siting should be evaluated based on additional mitigation measures, such as buffering near high-traffic roads. Also consider potential adverse consequences associated with lack of students to walk/bike to school.</li> </ul>	<ul style="list-style-type: none"> <li>Risk Assessment</li> <li>Risk Reduction</li> <li>Mapping</li> <li>Planning/Design</li> <li>VOOU</li> </ul>
Distribution centers, rail terminals, bus garages, and truck stops	<ul style="list-style-type: none"> <li>Facilities with more than 100 rail cars or more than 100 truck stops per day.</li> <li>Heavy truck or bus traffic</li> </ul>	<ul style="list-style-type: none"> <li>Air pollution</li> <li>Industrial chemical emissions</li> <li>Ground water contamination</li> <li>Surface water contamination</li> <li>Industrial noise</li> <li>Heavy truck or bus traffic</li> </ul>	<ul style="list-style-type: none"> <li>Identify and evaluate all major distribution centers, rail terminals, bus garages, and truck stops within .1-1 mile of the school site with a high likelihood of accidental release considered.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation on a case-by-case basis for potential hazards and mitigation options.</li> </ul>	<ul style="list-style-type: none"> <li>Risk Assessment</li> <li>Risk Reduction</li> <li>Mapping</li> <li>Planning/Design</li> <li>VOOU</li> </ul>

Janet Baum, AIA <http://www.epa.gov/schools/guidelinestools/siting/download.html> 11/7/14

## Framework for Healthy Communities

FOSIL FUEL POLLUTANT	HEALTH EFFECTS	ENVIRONMENTAL EFFECTS
Acid Gases (hydrogen chloride, hydrogen fluoride)	Eye, skin, nose, and throat irritation; respiratory problems.	Contributes to acid rain; damages crops and forests.
Benzene and other Aromatics	UNKNOWN CARCINOGENS; irritation to eyes, skin, respiratory tract; central nervous system effects (e.g. drowsiness, dizziness, headaches, depression, nausea, irregular heartbeat), immunotoxic effects.	Contributes to ozone-smog formation.
Dioxins	UNKNOWN CARCINOGENS; soft tissue sarcomas, lymphoma, stomach carcinomas; developmental and immune effects; immunotoxic effects.	Deposits in ecosystems; taken up by fish and wildlife, accumulated in the food chain.
Formaldehyde and other Aldehydes	UNKNOWN CARCINOGENS; lung and non-Hodgkin's lymphoma, eye, skin, nose, and throat irritation, respiratory symptoms.	Contributes to ozone-smog formation.
Inhalable Particulates (arsenic, barium, cadmium, chromium, manganese, nickel)	UNKNOWN CARCINOGENS; lung, bladder, kidney, skin; affects respiratory and reproductive systems.	Accumulates in soil sediment; contaminates water.
Lead	Anemia; high blood pressure; brain and kidney damage; neurological, reproductive effects (low sperm count, spontaneous abortion).	Affects plants, animals, and aquatic ecosystems; accumulated in the food chain.
Mercury	Unknown; affects the nervous system, kidneys, liver; causes neurological and developmental birth defects (lower IQ); behavioral changes; affects the heart, lungs, and blood vessels; attacks, increased blood pressure, thickening of arteries).	Transposed around the globe; taken up by fish and wildlife, accumulated in sediments and food chain.
Nitrogen Oxides (NOx)	Constricts the bronchial tubes; irritates the lungs; can cause respiratory symptoms (e.g. cough, chest pain, difficulty breathing).	Contributes to acid rain; contributes to water quality deterioration, global warming, and visibility impairment.
Ozone (O3) (secondary formation of)	Irritation to eyes, skin, nose, and throat; respiratory tract problems; asthma, bronchitis; lung damage; premature death.	Damage to crops, vegetation, and ecosystems.
Particulate Matter (PM)	Unknown; can contribute to heart disease, stroke, and lung damage; can contribute to respiratory problems; can contribute to heart disease, stroke, and lung damage; can contribute to respiratory problems.	Visibility impairment; atmospheric deposition; damage to plants, animals, and ecosystems.
Polycyclic Aromatic Hydrocarbons (PAH)	UNKNOWN CARCINOGENS; lung, developmental, nervous, limb defects; associated with low life effects on the immune system.	Can accumulate in soil and sediment; and potentially contribute to the formation of acid rain; visibility impairment; and water damage; aesthetic damage.
Sulfur Dioxide (SO2)	Eye irritation; wheezing; chest tightness, shortness of breath; lung damage.	

Janet Baum, AIA Sources: Agency of Toxic Substances & Disease Registry, Environmental Health & Engineering, Inc., U.S. E.P.A.: Health Effects Summary 11/7/14

## Framework for Healthy Communities

### RESTORE OUTDOOR AIR QUALITY

- Reduce fossil fuel pollution in transportation systems
- Reduce toxins released in fossil fuel emissions
- Relocate homes, schools, healthcare facilities, and parks far away from roadways, airports, and rail yards.

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# Framework for Healthy Communities

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# Framework for Healthy Communities

# Framework for Healthy Communities

## Tree City U.S.A. Program

### Sacramento, California

Framework for Healthy Communities

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REDUCE OUTDOOR AIR POLLUTION

As Americans we are promised certain rights regardless of race. But science shows the right to breathe clean air can have racial boundaries. Health studies indicate low-income, predominantly racial/ ethnic minority neighborhoods experience the highest burden of pollution in the United States.

<http://www.mindthesciencegap.org/2012/01/16/silent-discrimination-issues-of-environmental-justice/>

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REDUCE INDOOR AIR POLLUTION

Indoor air pollutant levels may reach **25% to 62%** higher than outside levels.

Many people spend most of their lives indoors.

They may suffer more from the effects of indoor air pollution than from outdoor pollution.

Source: National Resource Defense Council.

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REDUCE INDOOR AIR POLLUTION

New Buildings -

- ↳ Homes
- ↳ Schools
- ↳ Workplaces
- ↳ Institutional facilities
- ↳ Recreational facilities
- ↳ Healthcare facilities

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REDUCE INDOOR AIR POLLUTION

New Buildings:

- Insufficient fresh air volume
- Air-tight building envelope
- Insufficient and/or poorly maintained air filters
- Poor location of fresh air intakes to air handling equipment
- Off-gas of harmful fumes and particulate from materials
- Off-gas of harmful fumes and particulate from equipment
- Odors and fumes from cooking and other work processes

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REDUCE INDOOR AIR POLLUTION

New Buildings - Hazardous building materials used

- Formaldehyde
- Benzene
- Polyvinyl chloride (PVC)
- Plasticizers and Phthalates

Hazardous building materials prohibited

- Living Building Institute has a 'Red List' of materials deemed unsuitable for use in buildings due to their hazardous implications for the occupants' health: **formaldehyde, benzene, and polyvinyl chloride**

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REDUCE INDOOR AIR POLLUTION

Old and Other Existing Buildings

- Homes
- Schools
- Workplaces
- Institutional facilities
- Recreational facilities
- Healthcare facilities

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REDUCE INDOOR AIR POLLUTION

Old and Other Existing Buildings: All of above AND

Hazardous building materials no longer used, but found in old buildings that have not been renovated and decontaminated.

Asbestos  
Lead  
Polychlorinated Biphenyls (PCBs)

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REDUCE INDOOR AIR POLLUTION

Old and Other Existing Buildings: All of above AND

Presence of naturally occurring biological toxins/allergens

Mold  
Mildew  
House dust  
Mite and cockroach allergens  
House pet allergens

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ENABLE SMART, SAFE, and ACCESSIBLE INFRASTRUCTURE

✓ Universal Design  
✓ Streets and infrastructure  
✓ Alternative transportation

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## Framework for Healthy Communities

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UNIVERSAL DESIGN – 2 Core Concepts

- QR Design powerfully and profoundly influences everyone.
- QR Variation in ability is ordinary, not special, and this affects most of us for at least part of our lives.

Institute for Human-Centered Design, [www.HumanCenteredDesign.org](http://www.HumanCenteredDesign.org)

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## Framework for Healthy Communities

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UNIVERSAL DESIGN – Integrated Setting

- QR “Integrated setting” is the conceptual heart of US requirements for accessibility in Americans with Disabilities Act of 1990.
- QR “A primary goal of the ADA is the equal participation of individuals with disabilities in the “mainstream” of American society. The major principles of mainstreaming are –
  - 1) Individuals with disabilities must be integrated to the maximum extent appropriate.
  - 2) Separate programs are permitted where necessary to ensure equal opportunity. A separate program must be appropriate to the particular individual.
  - 3) Individuals with disabilities cannot be excluded from the regular program, or required to accept special services or benefits.”

Janet Baum, AIA Institute for Human-Centered Design, [www.HumanCenteredDesign.org](http://www.HumanCenteredDesign.org) 11/7/14

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## Framework for Healthy Communities

Universal Design Principles

The diagram illustrates the Universal Design Principles. At the top, a large orange circle labeled "Equitable" contains the text "Overarching & transcending principle". Below this, two smaller orange boxes represent "HUMAN FUNCTION PRINCIPLES" and "PROCESS PRINCIPLES". The "HUMAN FUNCTION PRINCIPLES" box lists: Ergonomically Sound, Perceptible, Cognitively Sound. The "PROCESS PRINCIPLES" box lists: Flexible, Tolerant of Error, Efficient, Predictable & Stable.

Janet Baum, AIA Institute for Human-Centered Design, [www.HumanCenteredDesign.org](http://www.HumanCenteredDesign.org) 11/7/14

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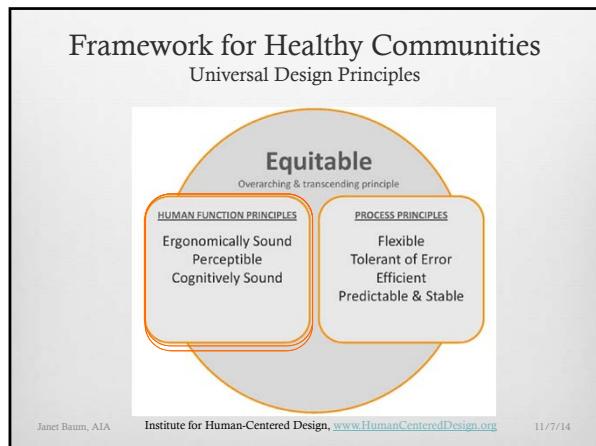
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Framework for Healthy Communities  
Universal Design Principles

**Comfort** = (ergonomically + cognitively sound human factors)

Look at public spaces in terms of psychological/cognitive comfort and usability.

Comfort includes perceived physical and cognitive safety.

We need to be confident that we will not be negatively surprised.

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Framework for Healthy Communities  
Universal Design Principles

**Comfort** = (ergonomically + cognitively sound human factors)

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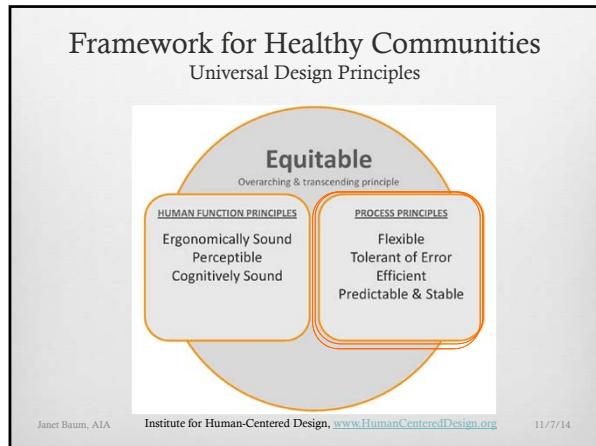
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Framework for Healthy Communities

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❖ SIDEWALKS, STREETS, AND INFRASTRUCTURE

❖ Separation from Vehicles – café and kiosk can work well



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❖ SIDEWALKS, STREETS, AND INFRASTRUCTURE



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❖ SIDEWALKS, STREETS, AND INFRASTRUCTURE

❖ Streets where pedestrians and vehicles of all kinds come together, plan transitions and intersections.

❖ Provide dedicated drop-off and transition spaces.



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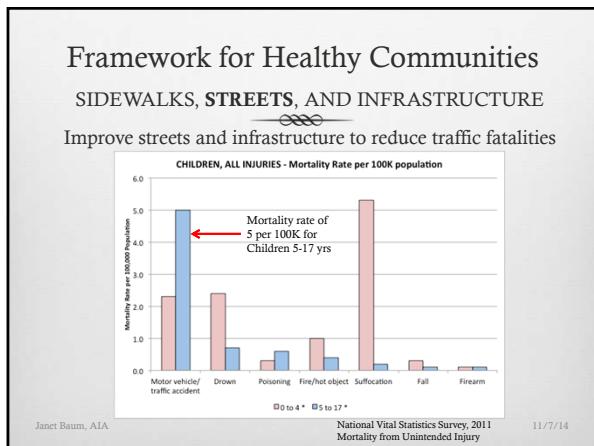
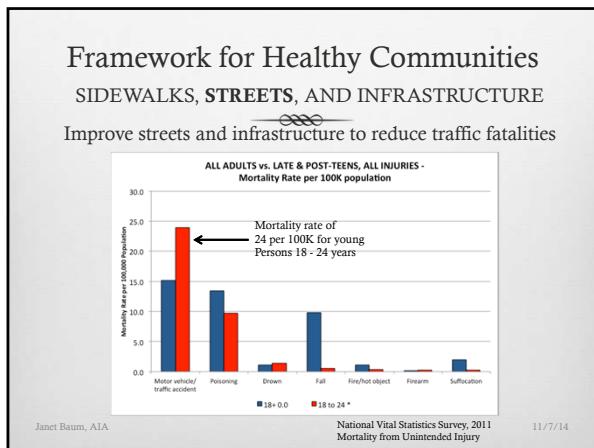
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Framework for Healthy Communities

ALTERNATIVE TRANSPORTATION



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<http://trailnet.org/work/bicycling/>

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ALTERNATIVE TRANSPORTATION



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<http://trailnet.org/work/bicycling/>

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Framework for Healthy  
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**ENCOURAGE PHYSICAL ACTIVITY FOR ALL**

Increase opportunities for recreational and occupational exercise in natural environments

- ✓ Improve life style choices
- ✓ Integrate movement into daily life at all ages
- ✓ Provide access healthy resources

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IMPROVE LIFE-STYLE CHOICES

- Proven impact of exercise on incidence and severity of chronic diseases
  - Obesity
  - Diabetes
  - Musculoskeletal impairments
  - Mental health

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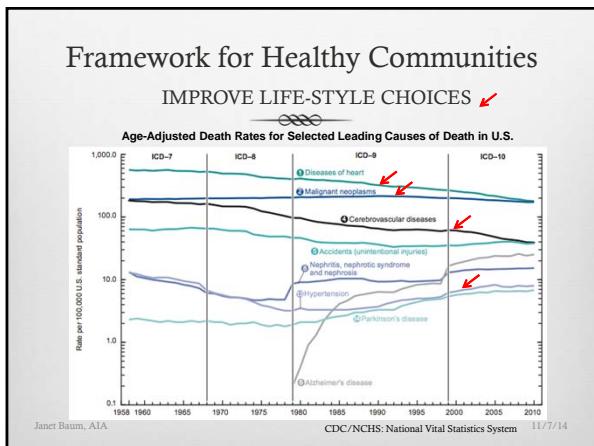
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INTEGRATE MOVEMENT INTO DAILY LIFE

- Walking / running/ biking for recreation
- Walking / running/ biking for commuting to work/school

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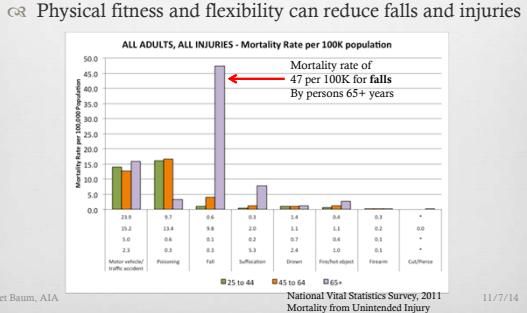
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## Framework for Healthy Communities

#### INTEGRATE MOVEMENT INTO DAILY LIFE



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## Framework for Healthy Communities

#### IMPROVE LIFE-STYLE CHOICES

- ❑ Accessible sidewalks that lead to resources for health
    - ❑ Park and Recreation locations and facilities
    - ❑ Fresh and healthy food sources
    - ❑ Pharmacy and healthcare resources

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## Framework for Healthy Communities

## ACCESS RESOURCES FOR HEALTH



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Framework for Healthy Communities

ACCESS RESOURCES FOR HEALTH

Parks and Greenways, Recreational Facilities



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Tower Grove Park, The Ruins, Saint Louis, MO 11/7/14

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Framework for Healthy Communities

ACCESS RESOURCES FOR HEALTH

Parks, Greenways and Recreational Facilities



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Tower Grove Park, The Ruins, Saint Louis, MO 11/7/14

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Framework for Healthy Communities

ACCESS RESOURCES FOR HEALTH

Fresh food, fruits and vegetables harvested in **community gardens**  
Fresh food, fruits and vegetables in stores and farmers' markets



<http://www.urbanharveststl.org>

Boston's Haymarket, circa 1830

St. Louis' Soulard Market, circa 1779  
Open for 235 yrs

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The slide features a dark background with white text. At the top, it says "Community Health & Healthcare, J. Baum, FINAL". In the center, there is a title "Framework for Healthy Communities" above a decorative flourish. Below the flourish is a section titled "CONCLUSIONS" in yellow. The conclusions are listed in white text: "Architects/ Planners SHOULD DO NO HARM", "DESIGN & BUILD FOR WELLNESS NOT ILLNESS", and "DO THE RIGHT THING for facility occupants, users, and communities". At the bottom left is the name "Janet Baum, AIA" and at the bottom right is the date "11/7/14".

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Hospital Campus Design Context	Built Environment Public Health Research Pillars	Evidence Based Design	Healthcare Trends
<ul style="list-style-type: none"> <li>❖ Social Interaction Impacts           <ul style="list-style-type: none"> <li>▪ Longevity</li> <li>▪ Well-being</li> <li>▪ Mental acuity</li> </ul> </li>   <li>❖ Physical Activity Impacts           <ul style="list-style-type: none"> <li>▪ Body Mass</li> <li>▪ Cardiovascular</li> <li>▪ Diabetes</li> <li>▪ Cancer</li> <li>▪ Depression</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>❖ Community           <ul style="list-style-type: none"> <li>▪ Mixed-use</li> <li>▪ Street trees</li> <li>▪ Parks</li> <li>▪ Sidewalks</li> <li>▪ Transit</li> </ul> </li>   <li>❖ Buildings           <ul style="list-style-type: none"> <li>▪ Daylight</li> <li>▪ Landscape Views</li> <li>▪ Navigability</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>❖ Sickcare  Healthcare</li> <li>❖ Expansion into new           <ul style="list-style-type: none"> <li>▪ Services</li> <li>▪ Neighborhoods</li> <li>▪ Building Types</li> </ul> </li>   <li>❖ Increased competition for choice</li> <li>❖ Fewer acute care facilities</li> <li>❖ Adaptation of abandoned structures</li> </ul>	

## What's new?

### Built Environment & Public Health Research + EBD/Community + Healthcare Trends = New Partnerships

Systems will need to engage with organizations that impact the health determinants in your community and influence individuals' behavior when they're between provider visits. A few examples of these organizations are religious entities promoting healthy behaviors, transportation companies facilitating access, the housing authority optimizing living arrangements, gyms and workout facilities, restaurants focusing on healthy living, and malls with walking programs.



HELP US & SHARE YOUR VISION FOR  
**A NEW URBAN VILLAGE**

Imagine if you could create a place people love to live, with a mix of shops, open spaces, schools and housing. What if a place where community and connection thrives, look like this? These are just a few of our goals, tell us yours.

WEBSITE | BLOG | FACEBOOK | TWITTER | YOUTUBE | GMAIL | DIAL-A-MARKET | FESTIVAL | FOODIE | VILLENA | VILLENA FOR BUSINESS

<http://www.riskhedge.com/2014/05/what-health-behavior-analysis-can-new.html>

**What's new?**

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### Hospital Campus and Urban Transect Theory



	T1 NATURAL	T2 RURAL	T3 SUB-URBAN	T4 GENERAL URBAN	T5 URBAN CENTER	T6 URBAN CORE	SO URBAN
Urban Form	-	-	-	-	-	-	-
Activity	-	-	-	-	-	-	-
Population	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-
Land Use	-	-	-	-	-	-	-

University of Miami Healthcare Transect  
Dina Dajani, Shalini Persaud, CNU 22 (2014)  
Developed by: Dina Dajani, Johnathan Hrazer, Xiaoyu Huang, Cynthia Mills, Joselyn Ojeda, Jared Payne, Raymond Peters Ahedo, Lilibeth Valdes, Zhe Wen, Shalini Persaud, Xuwen Xing

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### Healthcare Planning, Community Building & Wellness

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**Conventional Planning Process**



Exec. Committee & Professionals  
Internal Feedback  
External Reactions

**Participatory Planning Process**



Community, Committee & Professionals  
External Feedback  
Public Participation

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### Healthcare Planning, Community Building & Wellness

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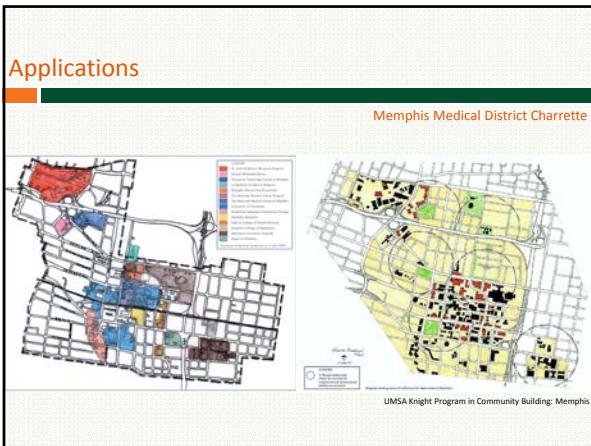
Photos: University of Miami Knight Program in Community Building charrette, Memphis

- ❖ Increased public engagement
- ❖ Greater sense of shared responsibility
- ❖ Encourages listening
- ❖ Engages diversity of ideas
- ❖ Promotes mutual understanding (although not necessarily agreement)
- ❖ Provides greater legitimacy to decision-making

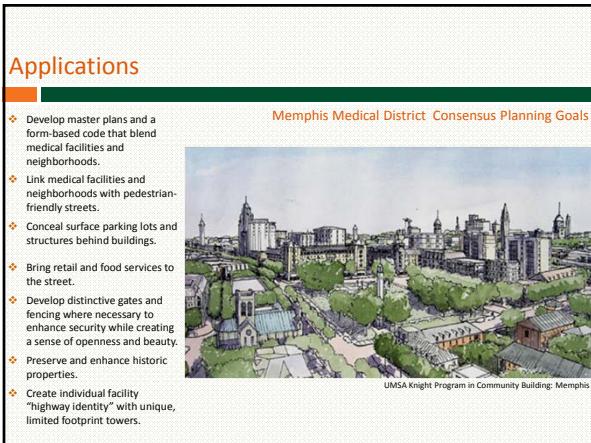
(Ank et al. 2010)

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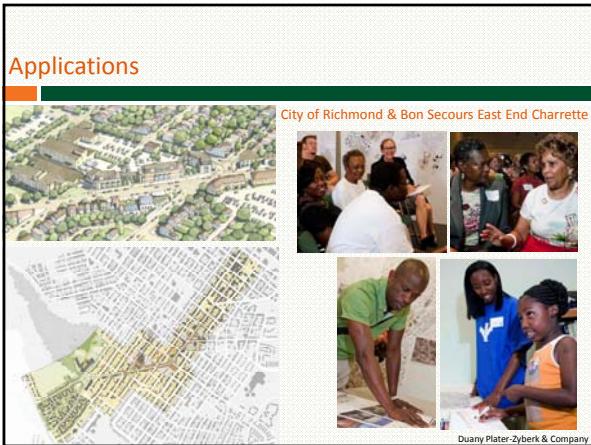
## Applications



- ## Applications



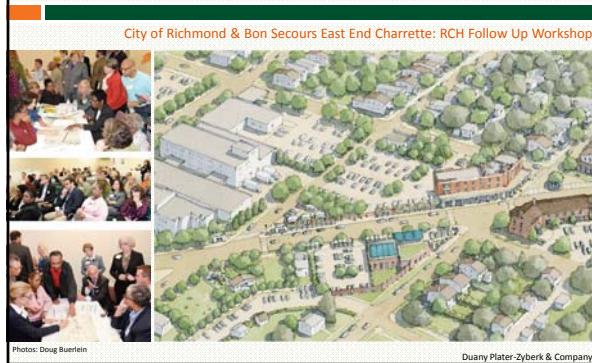
## Applications



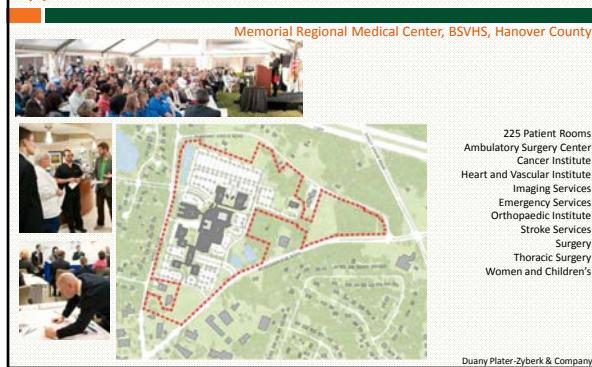
## Applications



## Applications



## Applications



## Applications



## Hospital Campus Design Goals

**Process**

- Engage constituents in a participatory planning process.

**Campus Planning**

- Develop an overall strategic plan for community building and town planning for each location that contributes to the quality of life in the facility, neighborhood, and region.
- Develop resilient infrastructure responsive to local ecology, resources, and hazards.
- Model a healthy community through design for effective communication, social interaction and walkability.

**Architecture & Landscape**

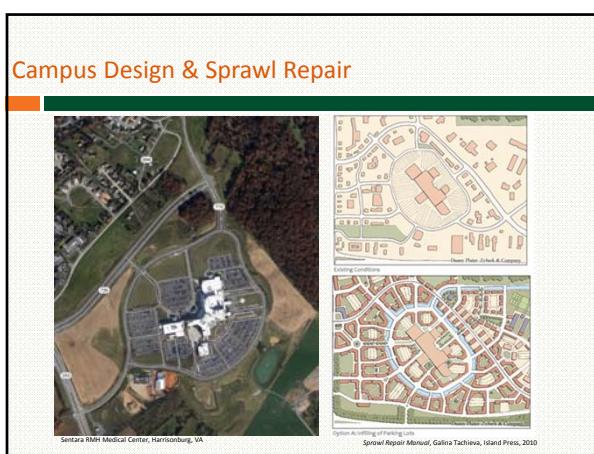
- Identify unique aspects of community identity and history.
- Develop strategy for distinctive institutional identity in relation to community.
- Build healthy and resilient structures responsive to local climate and materials.
- Establish consensus values on priorities- aspects such as daylight to all habitable spaces, opportunity for beauty, gathering and respite.

**Youth Workshop, Richmond Community Hospital East End Charrette**

**St. Francis Cancer Center Garden, Higgins & Gerstenmaier Landscape Architects**

## Healthy Campus Design Resources:

<p><b>Campus Design Checklist</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1. Identifiable centers &amp; edges</li> <li><input type="checkbox"/> 2. 5-minute walks</li> <li><input type="checkbox"/> 3. Integration of Mixed Use</li> <li><input type="checkbox"/> 4. Connectivity &amp; Navigability</li> <li><input type="checkbox"/> 5. Defined streetscapes</li> </ul> <p><a href="http://www.nyc.gov/html/ddc/html/active_design.shtml">http://www.nyc.gov/html/ddc/html/active_design.shtml</a></p>	<p><b>Campus &amp; Neighborhood Walkability Checklist</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1. Connectivity (4-way intersections/roundabouts)</li> <li><input type="checkbox"/> 2. Block Size (1000-2000 foot perimeter)</li> <li><input type="checkbox"/> 3. Mixed Use</li> <li><input type="checkbox"/> 4. Proximity of Transit (within 2500')</li> <li><input type="checkbox"/> 5. Pedestrian Safety</li> <li><input type="checkbox"/> 6. Sidewalks</li> <li><input type="checkbox"/> 7. Residential Density</li> <li><input type="checkbox"/> 8. Parks</li> </ul> <p>Checklists adapted from Florida Department of Health / University of Miami Built Environment, Behavior &amp; Health Team</p> <p><a href="http://www.cdc.gov/healthplaces/toolkit/">http://www.cdc.gov/healthplaces/toolkit/</a></p> <p><a href="http://www.charretteinstitute.org">www.charretteinstitute.org</a></p>
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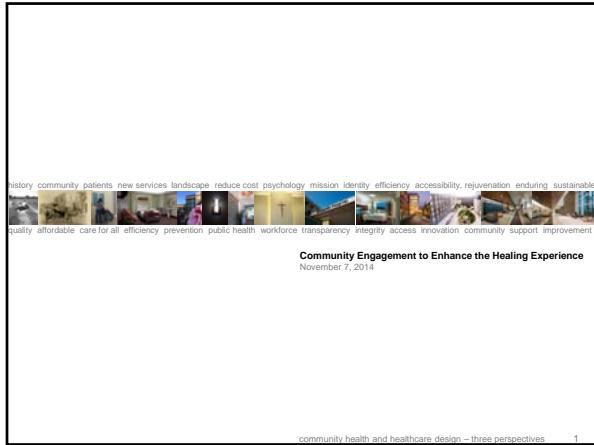
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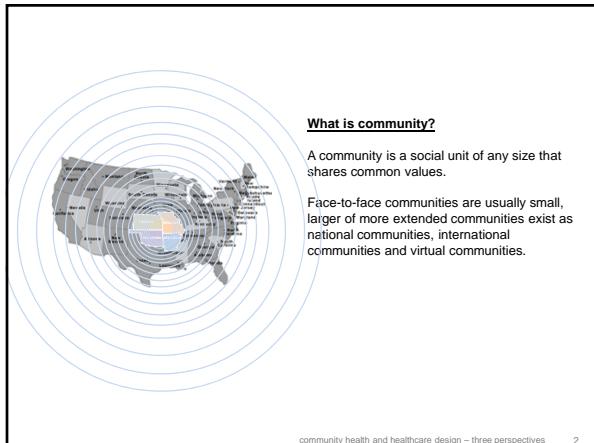
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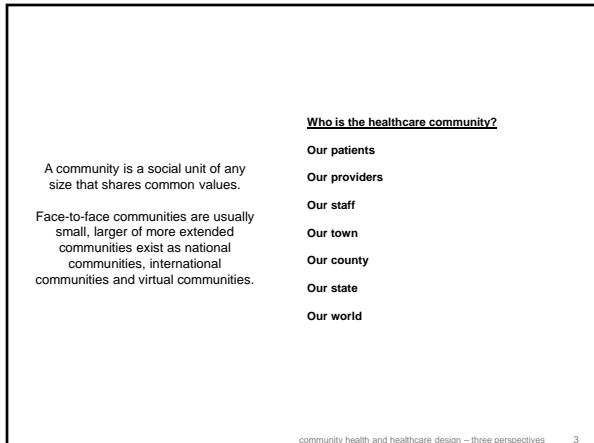
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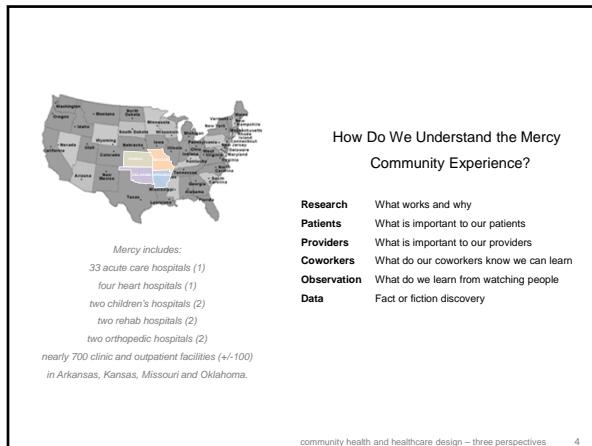
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## What is meaningful to our patient community?

**Honest and open communication**  
*"Candor is so helpful – it relieves stress."*

**The experience should be easy**  
*"Even before you enter the building, impressions are important. How easy is it to park? Is it close to where I need to be? What about signage? The building or the interiors match what they're about."*

**Convenient parking**  
*"While I was receiving chemo, I was very weak. I had no handicapped parking placard, so I had to park away from the facility. It was a difficult walk at times for me because of the medication and bad weather."*

**Technology should be used where you can**  
*"Having a kiosk or card with your information on it would make the process easier when you move from department to department."*

**Unexpected accommodations**  
*"Nurses got my phone charged for me – they had a charger available and made sure I was taken care of."*

**Keep the process simple and efficient**  
*"Having the work area at the front of the office makes sense if it is a single doctor, but group practice requires efficiency. Move the work area to the back."*

**Privacy is a huge concern**  
*"It is good to move all the backstage stuff to the back of the office."*

**Inpatients need accessible staff**  
*"Having the doctors and nurses available is important in the inpatient setting because they are always accessible and able to help you find things. That isn't same in the doctor's office."*

**Curtains in the exam room are not desirable**  
*"Those curtains are always ugly."*

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What is meaningful to our patient community?

**Windows in the exam room are desirable**  
*"You could charge extra for the rooms with windows!" (said jokingly)*

**Consult room is important, but so is the location**  
*"They should be up close to the exit. It would be nice to have a room with a small window, some chairs and maybe a computer where the doctor can show you things."*

**Access to nature and natural light**  
*"The windows make me want to get better, so I can get out there and live."*

**Family is a large part of the experience**  
*"There should be groupings of furniture where you can talk as a family. You may have to make important decisions."*

**Functions for the Sick**  
*"Just having things like Kleenex and water close by, especially if you're feeling sick, and the restrooms, are they close to where you are?"*

**Give patients control of their environment**  
*"Well, it's never the same. Sometimes I don't feel good and don't want to be just another. Sometimes there is laughter and that's always nice. Sometimes I just want to sit and pray for others that look like they are really having a bad day."*

**One stop shopping**  
*"The more you incorporate into the center the better such as resource room, support groups, getting your labs and imaging studies done, registration, etc."*

**Design for convenience**  
*"The bathrooms would be better closer to the bed because I got sick a lot and needed to get there fast."*



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**What is meaningful to our provider community?**

**Project Goal:** Commitment to enhance healthcare in the community, plan for the future and drive 30% improvement in operations overall.

Easing Square Foot Distribution

Category	Square Feet	Percentage
Support Services	6,000	14.9%
Public	10,800	26.4%
Direct Patient Care Services	24,000	58.7%

Concept Reallocation of Square Foot

Category	Square Feet	Percentage
Support Services	7,000	10%
Public	18,000	25.7%
Direct Patient Care Services	45,000	64.3%

**Summary:**

- 9.2% of support service area will be transitioned to direct patient care, enhancing the utilization of our existing space
- Locates support services in lower cost setting
- Build time efficiency into the process for our patients and our providers

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What is meaningful to our staff community?

Area	Old Unit (min)	New Unit (min)
Nurse Station	64	56
Patient Room	58	48

**Specific Nursing Improvements (time savings)**

- Trips from the nurse station to patient room has decreased by 22.2%, likewise trips to and from alcoves has replaced trips to nurse stations
- Trips to supply/utility has decreased by 29.7% due to in-room supply distribution
- Trips to the medication room have decreased by 51.6% due to in-room medication distribution
- Trips to the nutrition room have not changed, even with room service

**Overall 32% Time Savings per Day per Nurse**

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What is meaningful to our hospital campus community?

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What is meaningful to our hospital campus community?



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What is meaningful to our individual regional communities?



**Project Goal:** To create a warm and passionate health and wellness care model for the system that will serve as a new standard of excellence in terms of patient experience, technology, ease to access, efficiency of time and cost. The facility should be designed as a place that can easily deliver care to our patients with a team approach to healing patients within their own community.

**Summary:**

- Measured walking loop created on site and organized around enhanced site amenities
- Signage in parking to inform patients of calories burned from parking choice to facility entry

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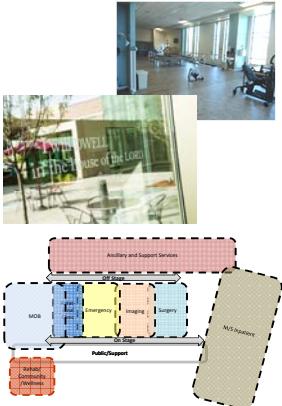


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What is meaningful to our individual regional communities?



**Project Goal:** To create a warm and passionate health and wellness care model for the system that will serve as a new standard of excellence in terms of patient experience, technology, ease to access, efficiency of time and cost. The facility should be designed as a place that can easily deliver care to our patients with a team approach to healing patients within their own community.

**Summary:**

- Combine rehabilitation services and community wellness, utilizing the same space but coordinated through scheduling
- Utilize the central public circulation to serve as waiting and an indoor fitness track to serve the aging community population
- Locate the rotating specialty clinic adjacent to the Emergency Department allowing ED to overflow into the clinic at peak times

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