Lighting & Urban Placemaking
Part 1 - How Light Drives Urban Vitality
Lighting & Placemaking in the Urban Environment

Randy Burkett, FIALD, IES, LC
Randy Burkett Lighting Design, Inc.
St. Louis, MO USA
Human Behavior

Human Behavior is the range of actions and mannerisms exhibited by humans in conjunction with their environment, responding to various stimuli or inputs, whether internal or external, conscious or subconscious, overt or covert, and voluntary or involuntary.
Influential Work

**William Whyte**

American urbanist, organizational analyst, journalist and people-watcher.

Study of human behavior in urban settings. New York City Planning Commission in the late 1960’s.


**Jane Jacobs**

Urban Environment Activist

Editorial staff of Architectural Forum in 1952. Activist against the movement to modernize urban areas by tearing down established neighborhoods.

Influential Work

Jane Jacobs

*The Death and Life of Great American Cities* (1961)

“Four principal generators of diversity that create effective economic pools of use…”

- Mixed primary uses, activating streets at different times of the day
- Short blocks, allowing high pedestrian permeability
- Buildings of various ages and states of repair
- Density
Influential Work

William Whyte


- The social life in public spaces contributes fundamentally to the quality of life of individuals and society
- Design should start with a thorough understanding of the way people use spaces, and the way they would like to use spaces.
- We can learn a great deal about what people want in public spaces by simply observing and putting this knowledge to work in creating places that shape livable communities.
Current Work

Jack Nasar, FAICP, PhD
Professor, Knowlton School of Architecture
Ohio State University

Relationship of Physical Form to Spatial Knowledge in Large-Scale Virtual Environments,
*Environment and Behavior*, 2005

Influence of physical characteristics of routes on distance cognition in virtual environments,
*Environment and Planning*, 2005

Landscapes of Fear and Stress
*Environment and Behavior*, 1997
Fear in the urban nighttime environment?

90% of fearful responses come from issues involving:

- Prospect (Low)
- Refuge (Concealment)
- Escape (Blocked or entrapped)

**Low prospect**: Lack of extensive, un-occluded view

**Concealment**: Situations that afford someone else visual access without exposure may arouse fear

**Blocked escape / entrapped**: Inability to safely flee or become secure from danger

Factors are accentuated among females and after dark
Does light impact behavior in the urban environment?
Processing visual cues in the nighttime environment?

The impacts of physical features and personal factors in urban public space;
Blobaum & Hunecke
*Environment and Behavior*, 2005

The development of urban night tourism based on nightscape lighting projects;
Guo, Lin, Meng & Zhao

How movement pattern is affected with the concept of night city;
Zaki & Ngesan
*Procedia - Social and Behavioral Sciences*, 2011

Nighttime social behavior in urban outdoor spaces;
Ngesan & Karim
*Procedia - Social and Behavioral Sciences*, 2012
What about light’s role in the nighttime environment?

• Complying with design practice standards for light quantity
• Enhancing visibility
• Constructing visual cues with luminance & chromatic contrast
• Creating appealing and inviting space
• Reinforcing spatial program

• All of which impact human behavior!
What aspects of human behavior might be influenced by lighting conditions in the urban nighttime environment?

- Wayfinding
- Orientation
- Preference
- Perceptions of safety and security (including fear)
Wayfinding in the nighttime environment?

Primary Physical Cues

- Vertical differentiation or contrast
- Horizontal differentiation or contrast
- Simplicity
- Order
**Orientation** in the nighttime environment?

**Primary Physical Cues**

- Identifying spatial boundaries
- Visual hierarchy
- Reinforcement of visual cues
- Simplicity
- Order
Preference in the nighttime environment?

Primary Cues

• Coherence
• Complexity
• Comprehension order
• Visual legibility
• Mystery
Perceptions of safety and security (including fear) in the nighttime environment?

Primary Physical Cues

- Lack of extensive, un-occluded view
- Excessive contrast, especially in peripheral vision
- Lack of defined egress or path
The Gateway Foundation, Client
Nelson Byrd Woltz Landscape Architects
Studio Durham Architects

Lighting Design:
Randy Burkett Lighting Design, Inc.
Fisher Marantz Stone, Inc.

Urban Land Institute’s
2011 Urban Open Space Award Winner

CityGarden
Saint Louis Missouri
It is unlike anything else in the United States. The combination of world-class public art with magnificent landscaping in a completely open, accessible downtown setting is simply unique among cultural attractions throughout the country.
CityGarden
Saint Louis Missouri
Placemaking

CityGarden
Saint Louis Missouri
Placemaking
CityGarden
Saint Louis Missouri
CityGarden
Saint Louis Missouri
CityGarden
Saint Louis Missouri
CityGarden
Saint Louis Missouri
Wayfinding
Orientation
Preference
Perception of safety and security

CityGarden
Saint Louis Missouri
Pondering light’s role in enhancing human behavior
CityGarden - making a difference?

Space Use

+615%  Daytime Weekday Pedestrian Traffic (users)
+225%  Daytime Weekend Pedestrian Traffic (users)
+380%  Nighttime Weekday Pedestrian Traffic (users)
+165%  Nighttime Weekend Pedestrian Traffic (users)

Retail Engagement/Sales

Prior to CityGarden: (1) Food Truck and (0) restaurants
After CityGarden: (4 to 7) Food Trucks and (3) restaurants

Minimal crime; the Foundation employs a security guard

Has it been a catalyst for further development?

CityGarden
Saint Louis Missouri
Spurring Development

CityGarden
Saint Louis Missouri
Peabody Plaza

CityGarden
Saint Louis Missouri
CityGarden
Saint Louis Missouri

Spurring Development

Old Courthouse Plaza
Old Courthouse Plaza

CityGarden
Saint Louis Missouri
Old Courthouse Plaza: Lighting “Moonlighting”

Location of adjustable precision area floodlighting equipment

Old Courthouse Plaza Development

CityGarden
Saint Louis Missouri
Old Courthouse Plaza: Lighting “Moonlighting”

Metropolitan Square Building Roof

Light fixtures positioned between existing floodlights at roof

Target area

Old Courthouse Plaza Development

Downtown St. Louis Ariel
Moonlighting distribution from roof of Met Square

Old Courthouse Plaza: Lighting
“Moonlighting”

Bryant Park, NYC

CityGarden
Saint Louis Missouri
How can we come to understand the impact and relative importance of the lighted environment’s component elements?
Clock Tower Beach
Montreal
Gilles Arpin, Eclairage Public
Clock Tower Beach
Montreal
Gilles Arpin, Eclairage Public
Clock Tower Beach
Montreal
Gilles Arpin, Eclairage Public
Clock Tower Beach
Montreal
Gilles Arpin, Eclairage Public
Clock Tower Beach
Montreal
Gilles Arpin, Eclairage Public
Slide 1

Slide 3

Organized  Bright  Safe  Distinct  Certain

- 1  2  3  4  5  6  7

Yellow: Slide 1
Cyan: Slide 3
Pleasant?
Safe?
Safe?
Thank you

Randy Burkett, FIALD, IES, LC
Randy Burkett Lighting Design, Inc
St. Louis, MO USA