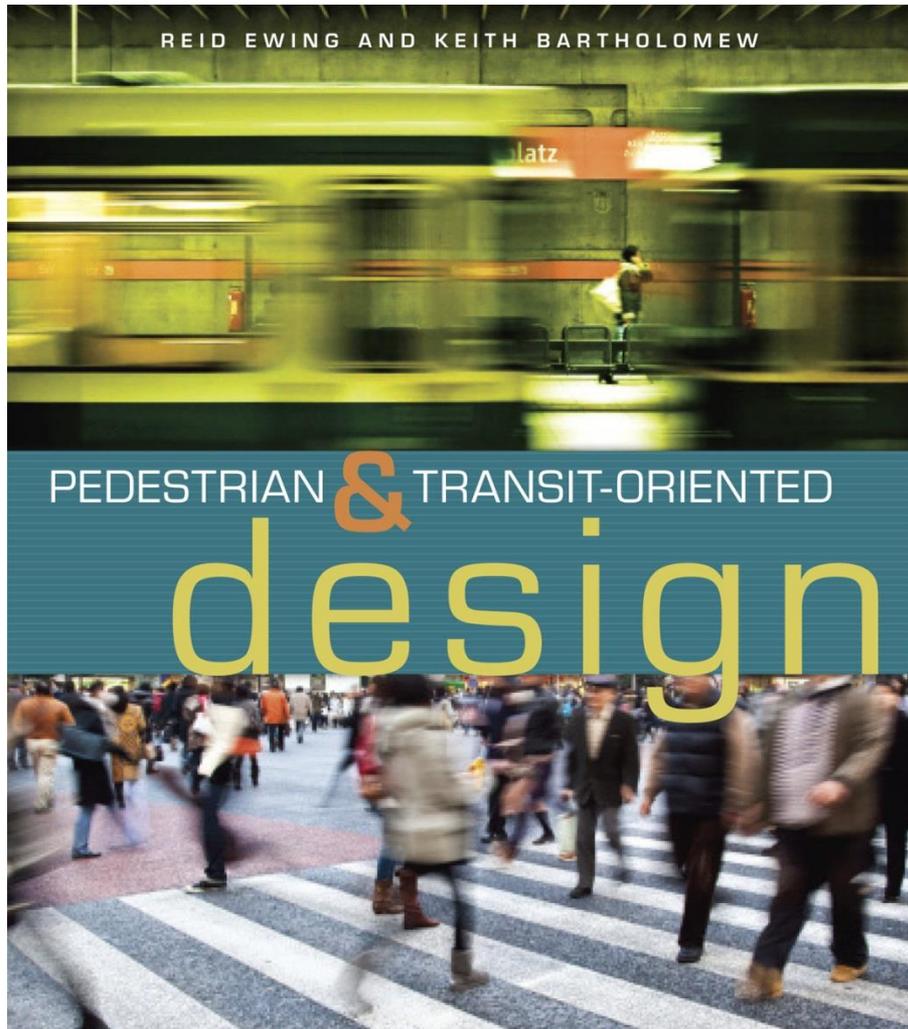


# PEDESTRIAN – & TRANSIT-ORIENTED DESIGN

**Reid Ewing and Keith Bartholomew**



REID EWING AND KEITH BARTHOLOMEW



PEDESTRIAN & TRANSIT-ORIENTED  
**design**



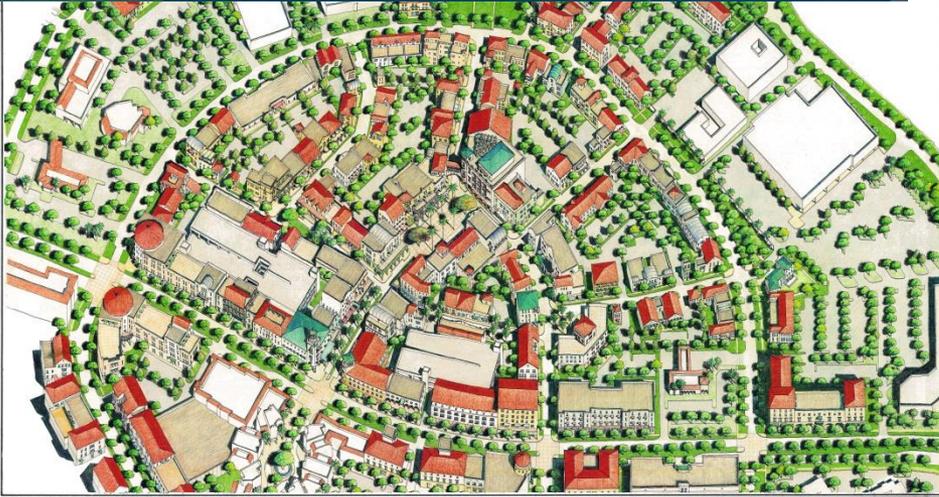
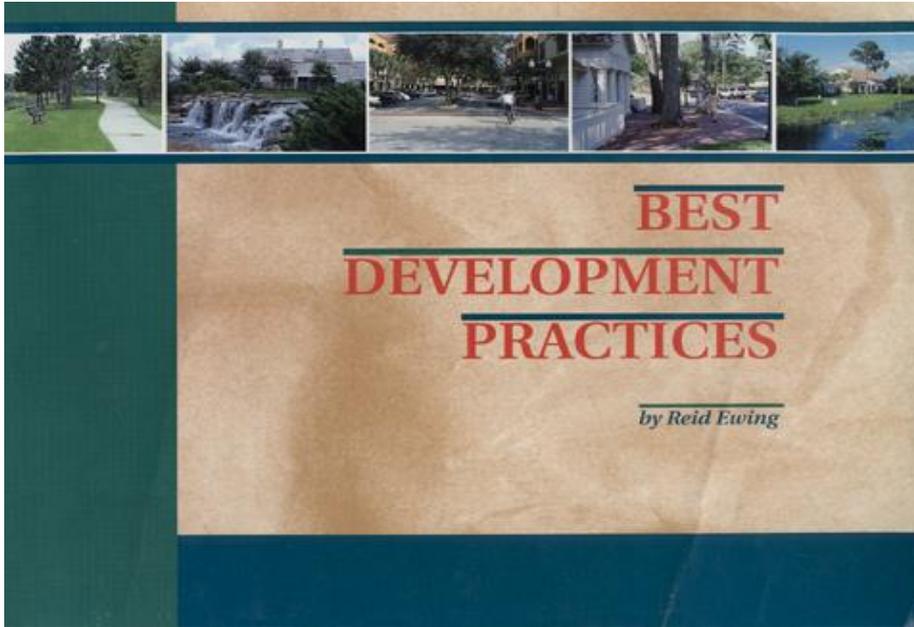
**Urban Land  
Institute**



**American Planning Association**

*Making Great Communities Happen*

# Design, Not Planning



# Decomposed Urban Design



# Evidence-Based

- Travel-Built Environment Studies
- Visual Preference Surveys
- Hedonic Price Studies
- Traffic Safety Studies
- Transit-Oriented Design Manuals



Table 4. Weighted average elasticities of walking with respect to built environment variables.

		Total number of studies	Number of studies with controls for self-selection	Weighted average elasticity of walking ( <i>e</i> )
Density	Household/population density	10	0	0.07
	Job density	6	0	0.04
	Commercial floor area ratio	3	0	0.07
Diversity	Land use mix (entropy index)	8	1	0.15
	Jobs-housing balance	4	0	0.19
	Distance to a store	5	3	0.25
Design	Intersection/street density	7	2	0.39
	% 4-way intersections	5	1	-0.06
Destination accessibility	Job within one mile	3	0	0.15
Distance to transit	Distance to nearest transit stop	3	2	0.15

# Bonuses

- Photos by Dan Burden
- Code Examples by Sara



## LOCAL CODE

## EXAMPLES

### Street-Oriented Buildings

Both Fort Worth, Texas, and Louisville, Kentucky, have encouraged street-oriented buildings by ensuring that buildings can be accessed from the streets they abut. These requirements counter the common situation in which retail stores can be entered only from their parking lots, which may be located to the side or rear of the building. Fort Worth's code requires that primary entrances face the street, except where a public space adjoins a building. Louisville's code also requires that the primary entrance be oriented toward the street or public open space. Where the primary entrance faces a public space other than the street, Louisville requires doors and windows also to appear on the primary street. Moreover, a building located on a corner must have either an entrance on both streets or a corner entrance. This same provision of Louisville's code also encourages buildings to create a sense of enclosure by forming a *street wall*, bringing in another element of pedestrian-friendly design.

#### FORT WORTH, TEXAS

#### Near South Side Development Standards

Primary pedestrian building entrances shall be located on the street frontage of the building. For buildings fronting other public spaces, the primary pedestrian entrance shall be oriented to and accessible from the public space.

Fort Worth, Tex., Near Southside Dev. Standards and Guidelines § 5.C(3) (2008) (adopted as part of the city code by Fort Worth, Tex., Code appendix A, ch.4, § 4.909(D) (2009)).

Primary entrances should be oriented to public sidewalk (Fort Worth, Texas).



#### LOUISVILLE, KENTUCKY | LAND DEVELOPMENT CODE

#### Building Location and Orientation

**A.** Principal building entrances shall face the primary street serving the development or shall be oriented toward a focal point such as a landscaped public square, plaza or similar formal public open space. All structures that are located along the primary street serving the development shall also have doors or windows facing the primary street (see B., below for lots with more than one street frontage). Principal buildings shall be parallel to the primary street. If the prevalent (more than 50%) orientation of buildings on the block is at an angle to the street, the new building's orientation shall be the same as other buildings. The walls of buildings on corners should be parallel to the streets.

**B.** Retail and office uses within buildings facing two or more streets shall have at least one customer entrance facing the primary street and one customer entrance facing the second street or instead of two entrances, a corner entrance.

Louisville, Ky., Land Dev. Code § 5.5.1 (A)(1) (2009).

# Chapter 1 - Introduction



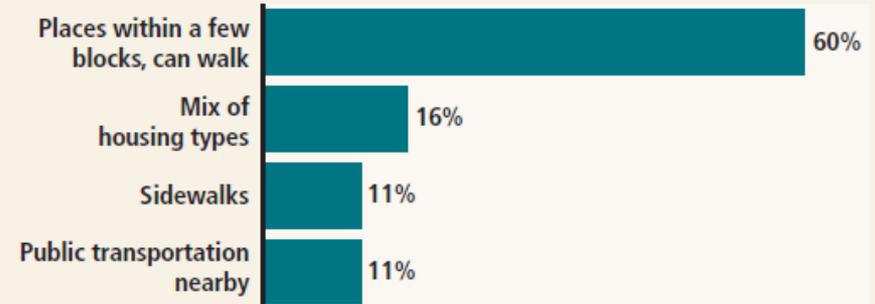
**FIGURE 1-2**  
Americans Want to Walk More

Source: Belden Russonello & Stewart 2003.

Note: The question was, "Please tell me which of the following statements describes you more: A) If it were possible, I would like to walk more throughout the day either to get to specific places or for exercise, or B) I prefer to drive my car wherever I go."



## Most Appealing Aspects of a Smart Growth Community



Source: Belden Russonello & Stewart 2011, p. 24.

Note: The question, asked of people who had chosen to live in a smart growth community, was: "Look at the community you selected and choose the ONE most appealing characteristic of that community for you" list."

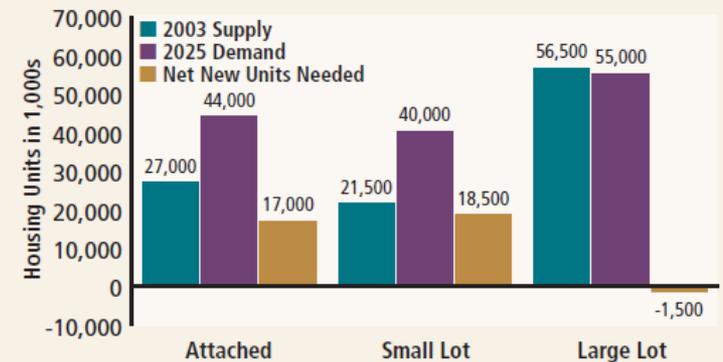


# Demand for Walkable, Transit-Oriented Development Will Only Increase



**FIGURE 1-5**

2003 Housing Supply versus 2025 Housing Demand



Source: Nelson 2006, pp 393–407.

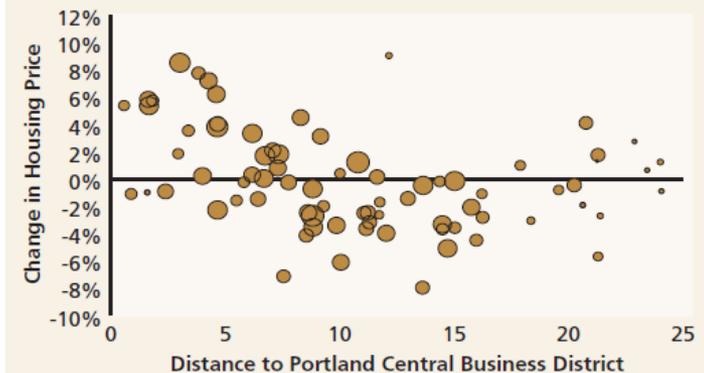
**FIGURE 1-3**

Americans Want to Age in Place

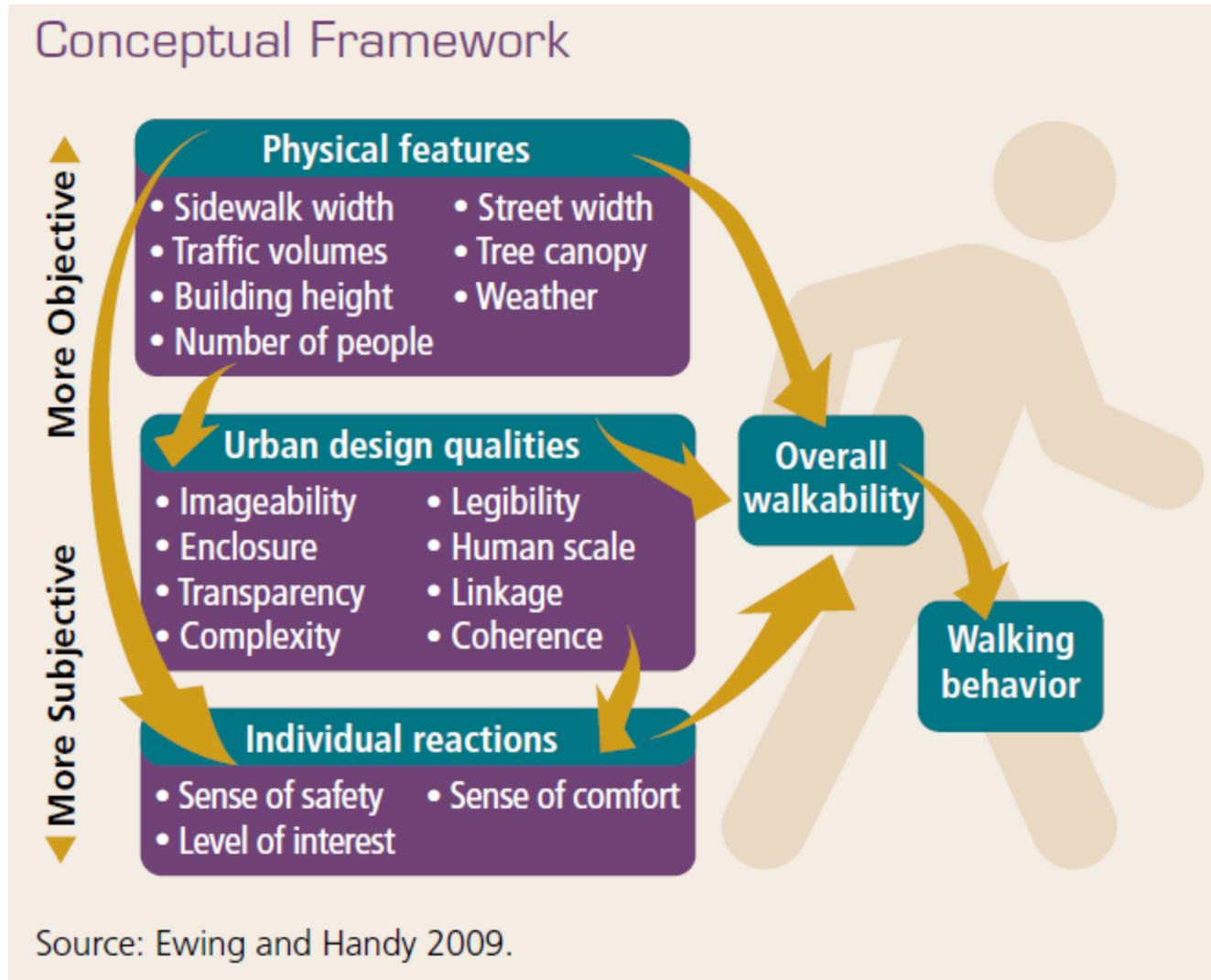


Source: Bayer and Harper 2000.

Housing Price Declines Greatest at the Suburban Fringe (2006 Q4 to 2007 Q4)



# Chapter 2 - Urban Design Qualities

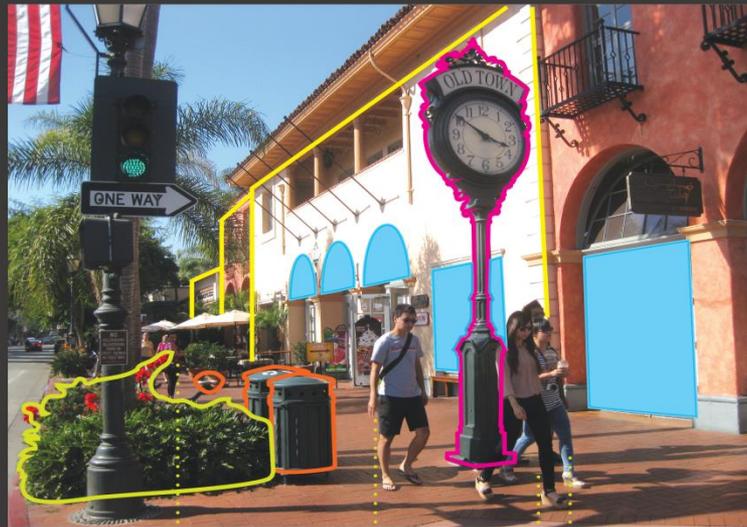


# Quantifiable Relationships

## Measuring Urban Design



Metrics for Livable Places

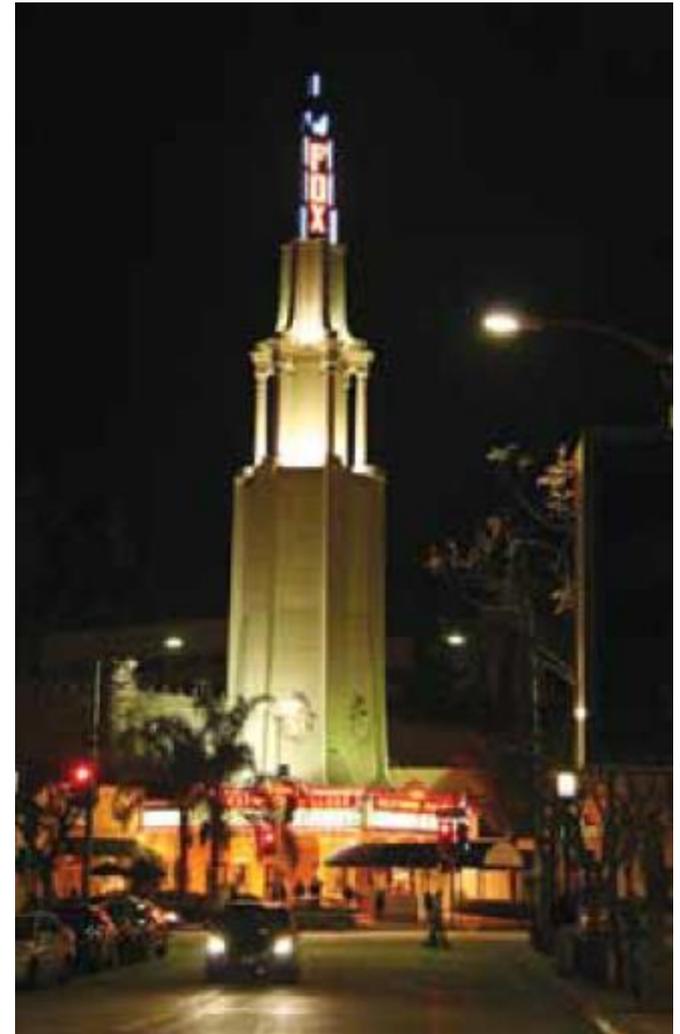


REID EWING AND OTTO CLEMENTE

# Imageability



- Imageability is the quality of a place that makes it distinct, recognizable, and memorable. A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression.



# Enclosure



- Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other vertical elements. Spaces where the height of vertical elements is proportionally related to the width of the space between them have a room-like quality.



# Human Scale



- Human scale refers to a size, texture, and articulation of physical elements that match the size and proportions of humans and, equally important, correspond to the speed at which humans walk. Building details, pavement texture, street trees, and street furniture are all physical elements contributing to human scale.

# Transparency

- Transparency refers to the degree to which people can see or perceive what lies beyond the edge of a street or other public space and, more specifically, the degree to which people can see or perceive human activity beyond the edge of a street or other public space



# Complexity

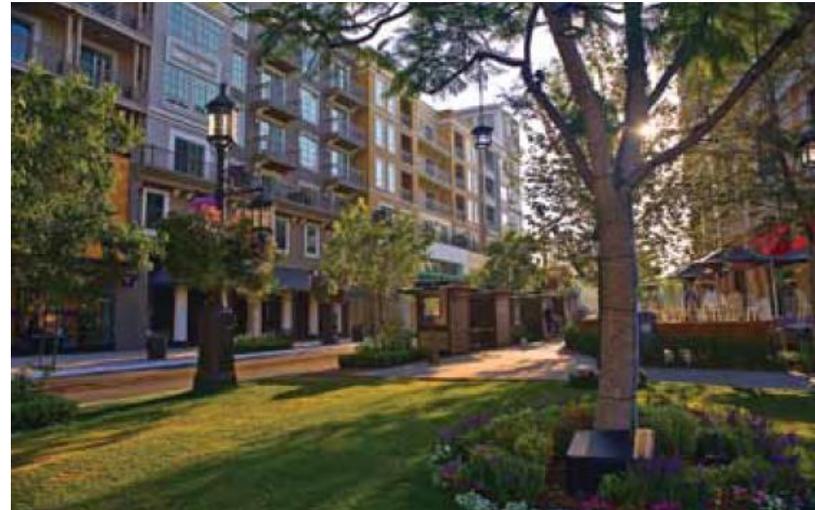


- Complexity refers to the visual richness of a place. The complexity of a place depends on the variety of the physical environment, specifically the numbers and kinds of buildings, architectural diversity and ornamentation, landscape elements, street furniture, signage, and human activity.

# Coherence

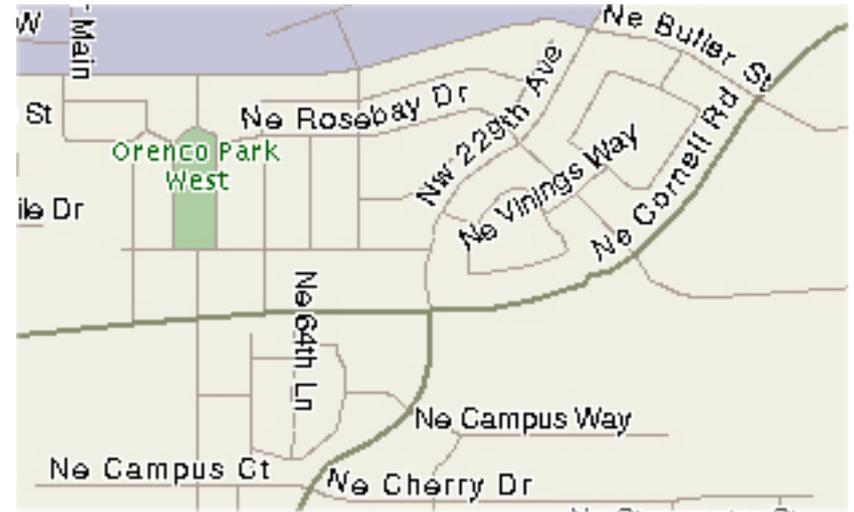


- Coherence refers to a sense of visual order. The degree of coherence is influenced by consistency and complementarity in the scale, character, and arrangement of buildings, landscaping, street furniture, paving materials, and other physical elements.



# Legibility

- Legibility refers to the ease with which the spatial structure of a place can be understood and navigated as a whole. The legibility of a place is improved by a street or pedestrian network that provides travelers with a sense of orientation and relative location and by physical elements that serve as reference points.



# Linkage

- Linkage refers to physical and visual connections from building to street, building to building, space to space, or one side of the street to the other which tend to unify disparate elements. Tree lines, building projections, marked crossings all create linkage.

