The Value of Urban Design

Value of Urban Design Primer

The State of Place™ Index

Brookings Report: “Walk this Way”

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Presentation to SCAG
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Design Matters

50+ years of Environment Behavior Research

Variety of Settings/Environments

Multiple Behaviors, Attitudes, Perceptions & Feelings

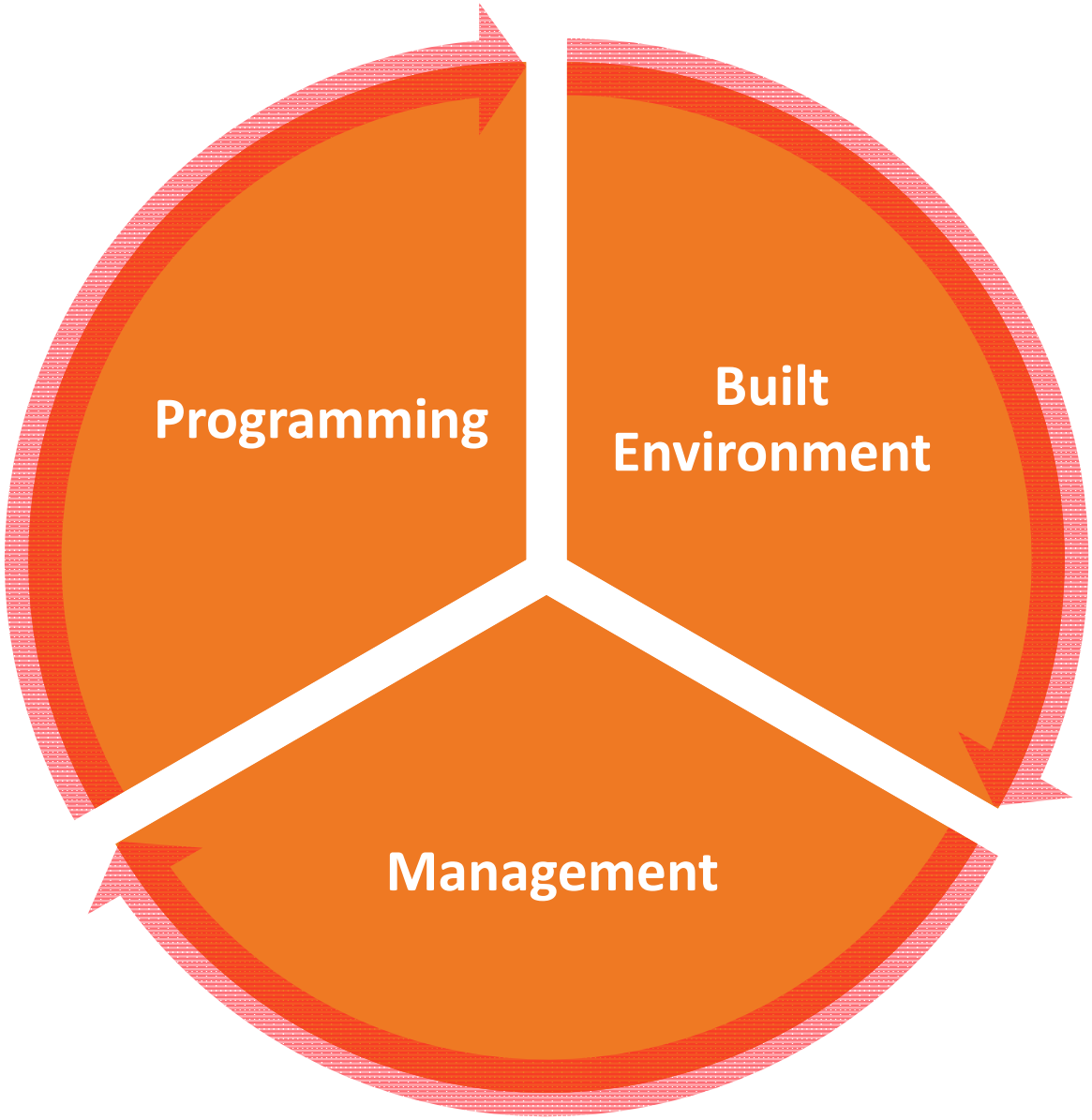
Built Environment ←→ Behavior

Moving toward Evidence-based Design

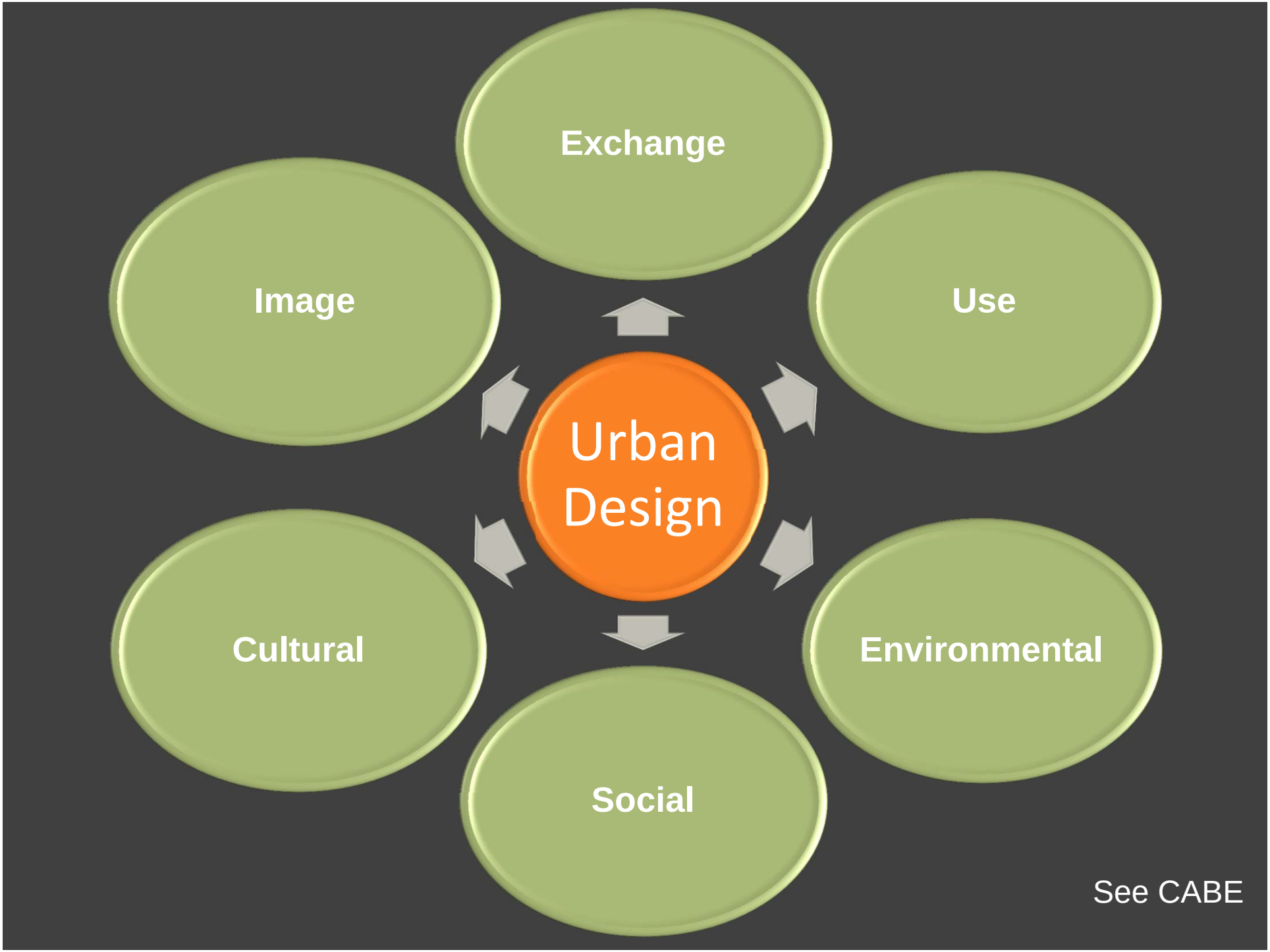
What *IS* Urban Design?

- The Art and Science of Making Places
- Process of creating and managing the physical setting for life in cities, towns & villages
- Involves the design of buildings, groups of buildings, spaces and landscapes
- The establishment of frameworks and processes which facilitate successful development
- Applied to BOTH the private and public realms

Urban Design



How Can Urban Design Add Value?


Exchange
Image
Use
Urban Design
Cultural
Environmental
Social
See CABE

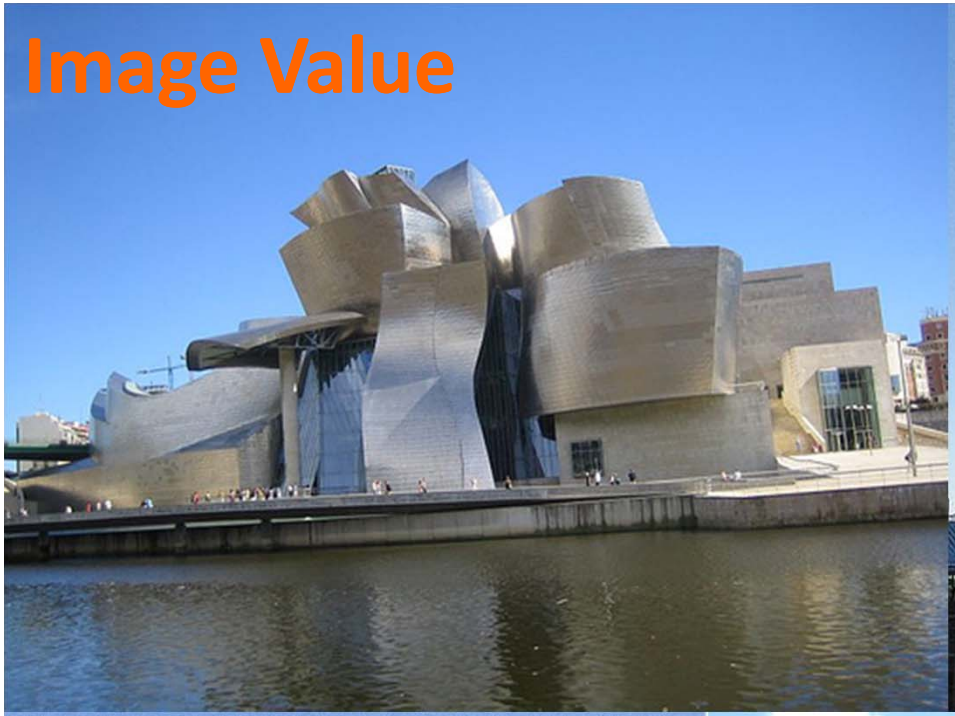
Exchange Value

Use Value

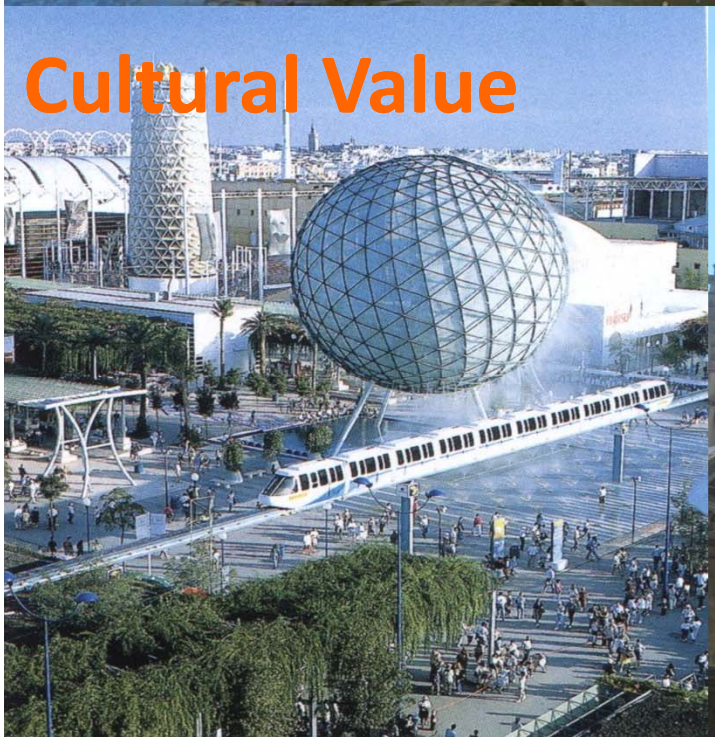
Social Value

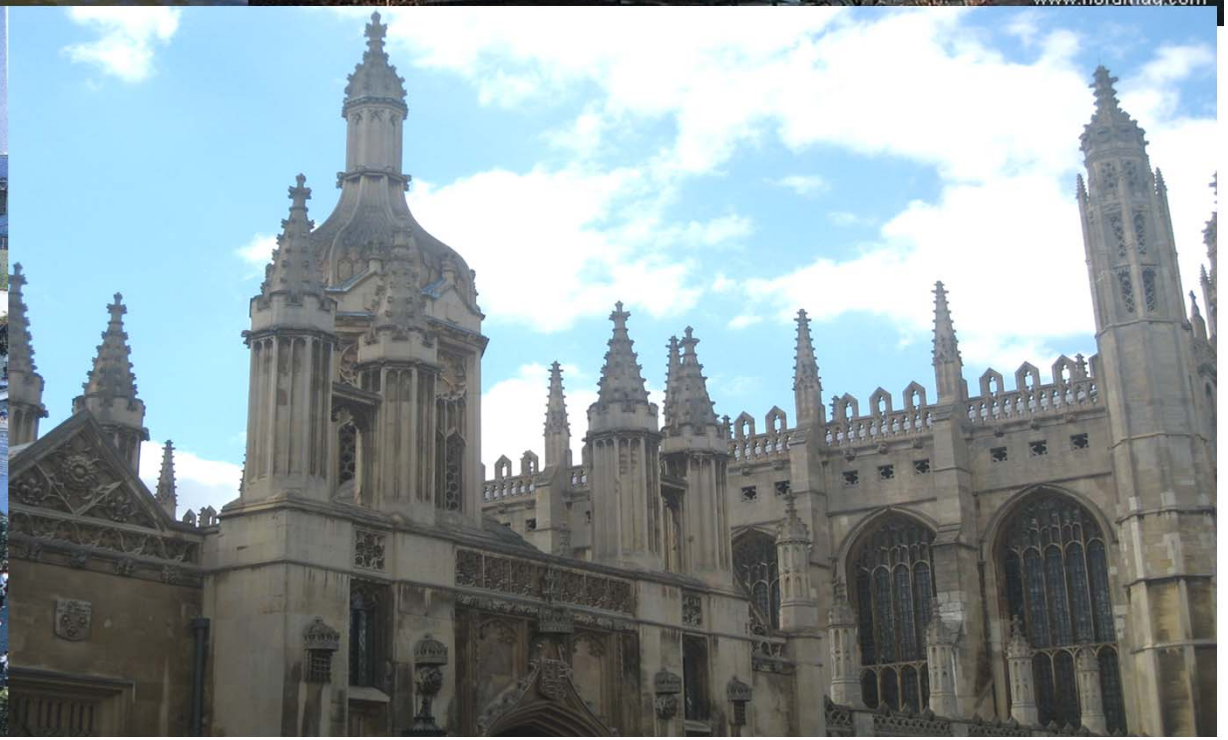
Environmental Value

Image Value

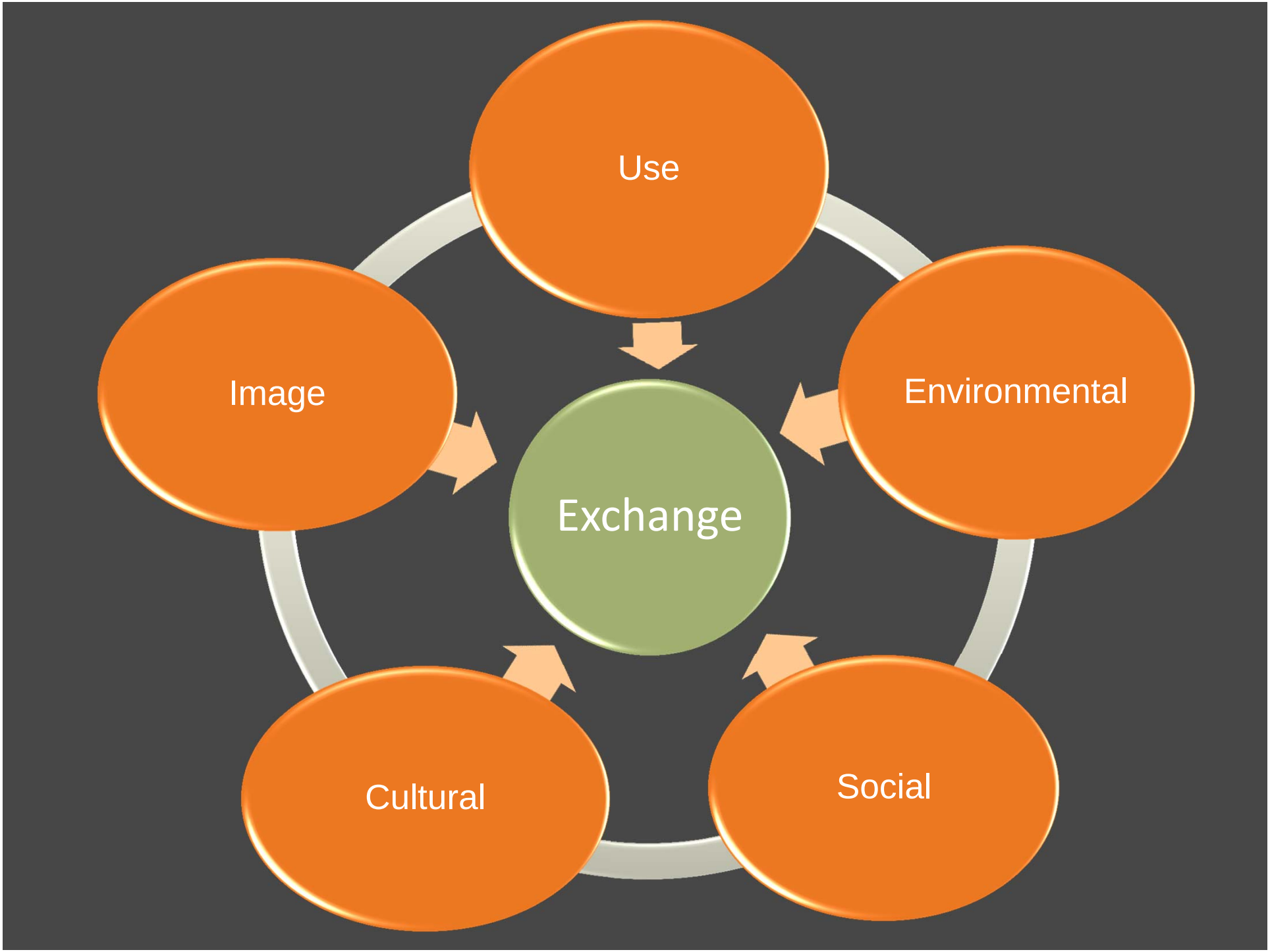


Cultural Value





Category	Stakeholders	Value	Outcomes
Finance	Financiers, Banks, Developers, Government	Exchange	ROI, Profitability, Long-term Value, Commercial Rents
Design & Construction	Architects, Engineers, Designers, Contractors	Exchange, Image	Profitability, Business Retention, Awards, Prestige
Occupant Organization	Chief Executives, Project Directors, Facilities Managers, Workforce	Use, Exchange, Image, Social	Productivity, Image & Identity, Brand, Corporate Social Responsibility, Staff Health
Public Realm	Local/Regional Government, BIDs, Local Community	Social, Use, Exchange, Cultural	Investment, Property Values, Health, Civic Pride, Crime, Neighboring
Visitors/Users	Retail Customers, Hotel Guest, Hospital Patients, Students, Public	Use, Social, Cultural	Retail Footfall, Educational Attainment, Access, Recovery Rates


Use
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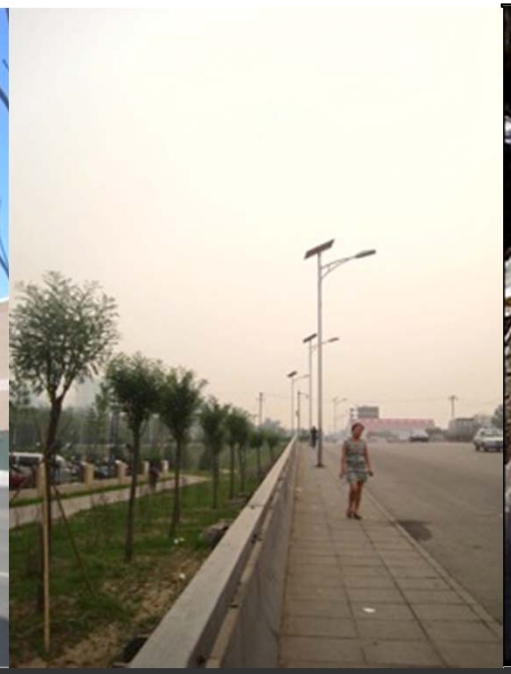
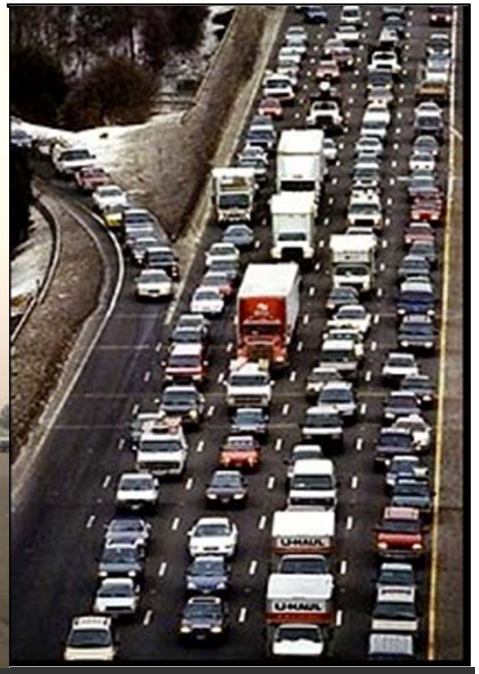
Exchange

Lack of walkability = Societal problem

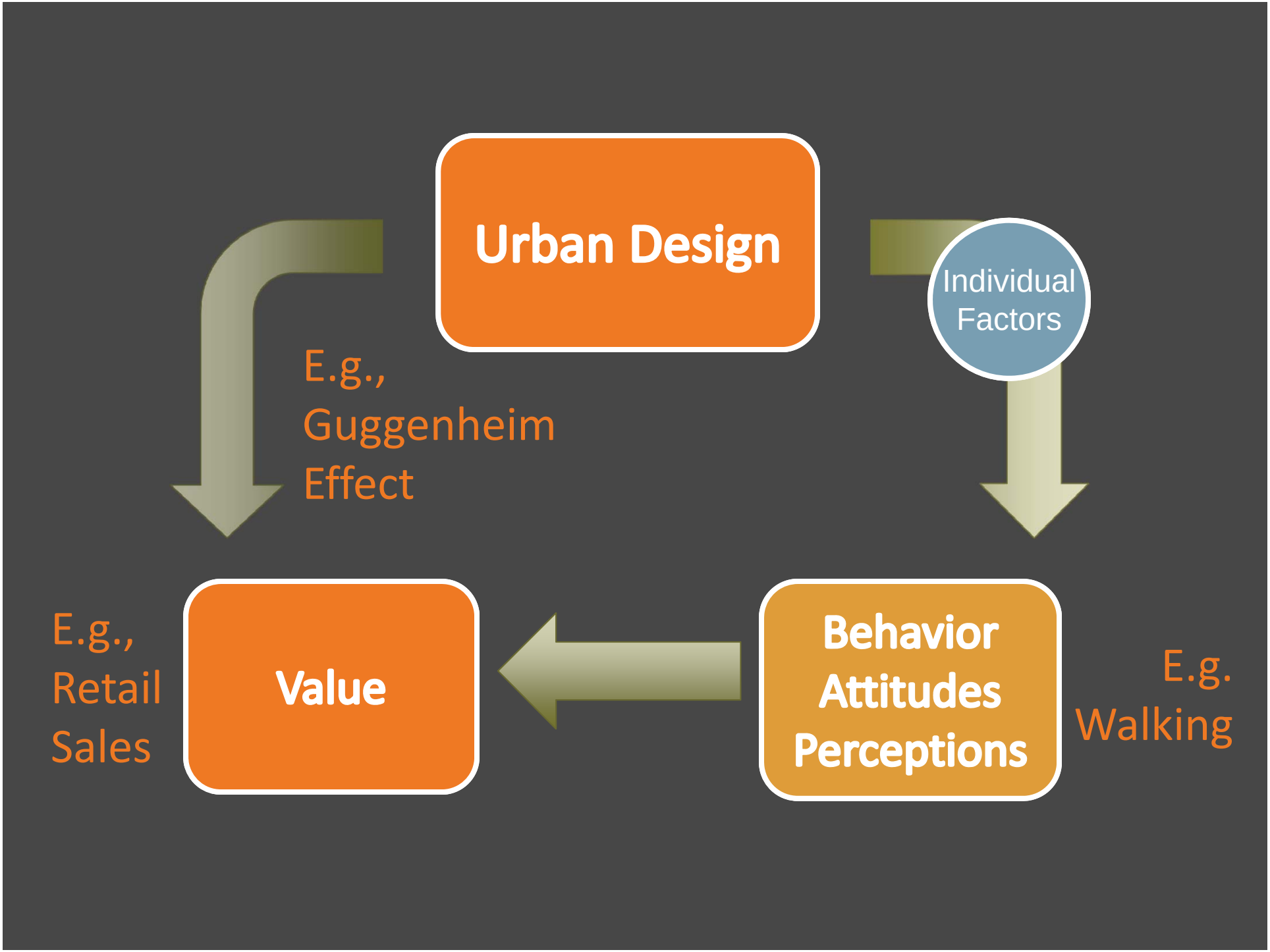
Tied to obesity & chronic diseases:

- In 2010, 35.7% of adults, 16.9% children = obese

Creates pedestrian safety issues + social equity problems

Linked to quality of life concerns

Related to decreased air quality


Urban Design
Individual Factors
E.g., Guggenheim Effect
E.g., Retail Sales
Value
Behavior Attitudes Perceptions
E.g. Walking

Residential values more stable in walkable neighborhoods

Have experienced less than half the average decline in value from the housing peak

A 10pt increase in Walk Score linked to 5-8% increase in commercial values

A 1pt increase in Walk Score linked to $700-$3000 for-sale residential premiums

Urban mixed-use developments generate 25-59x revenue/acre than suburban counterparts

Avg. operating cost /yr., Bike: $308
Avg. operating cost/yr. Car: $8,220

1% rise in urban sprawl index increases obesity risk by 0.5%
In 2008, medical $$ to treat obesity in US, approx. $147B

The Power of *PLACE*

"**Places**" have become **products**

Their "sellers" **compete** with each other **for resources**

- Educated residents
- Talent
- Businesses
- Investment

Americans are **choosing** which locations to "consume" based on **place quality**

Increasing demand for Walkability = Proxy for place quality

- 58% of Americans prefer to live in a neighborhood where you can easily walk to stores and businesses (NAR, 2012)
- Two-thirds factor walkability into their home purchase decisions
- Demographic trends pushing preferences for walkable places
- But “walkable” housing undersupplied by 19%; “drivable” housing oversupplied by 18%

In this stiff competitive place "marketplace" – walkability is no longer an "intangible luxury"

So…why the shortage of walkability?

Public policy hurdles +

Legal issues +

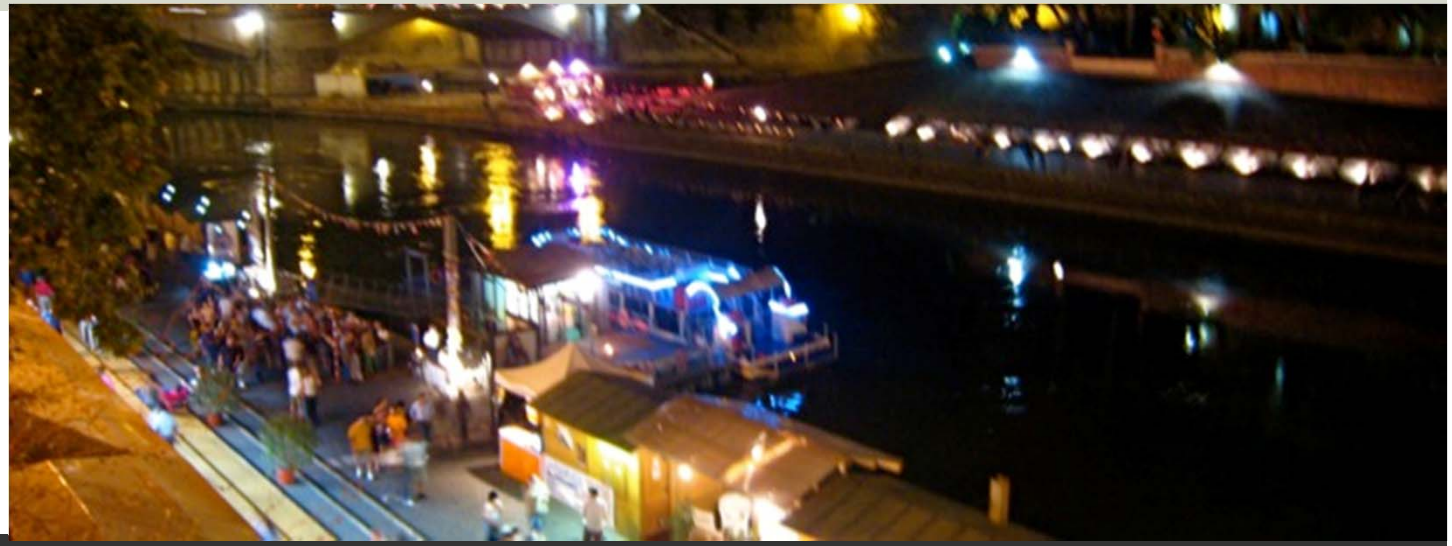
NIMBYism +

Lack of benchmarks and metrics

= More difficult to finance/underwrite

So…why the shortage of walkability?

Lack effective, cost efficient methods that demystify the process of identifying, differentiating, and creating the quality places people want.



State of Place™ Index = solution

Art → Science

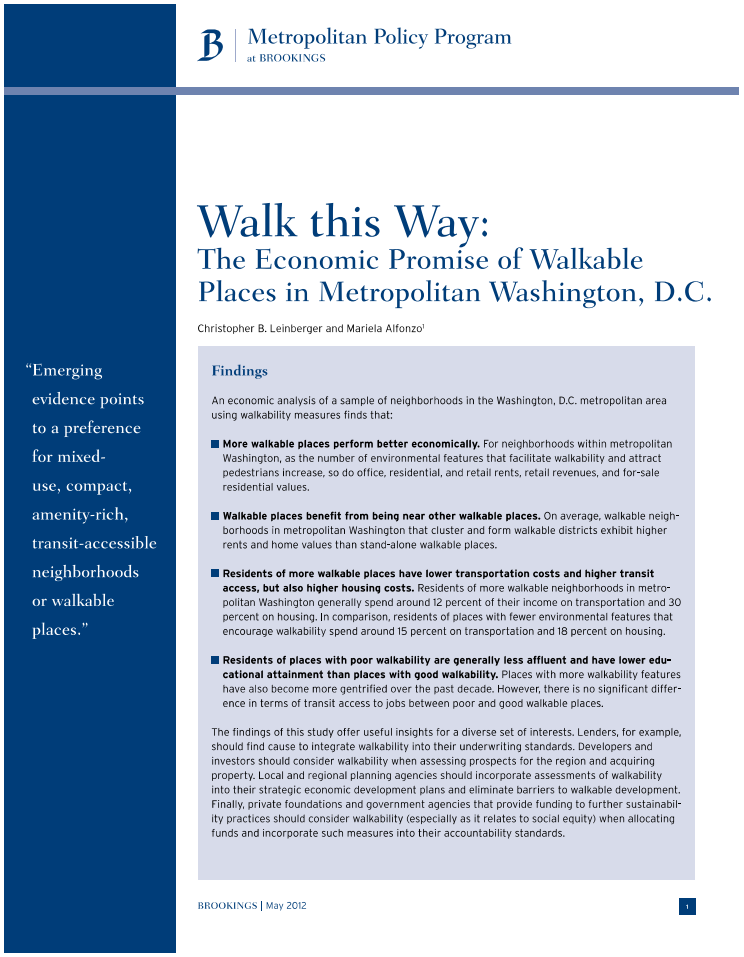
Quantified walkability (place quality) & its economic impact

Empirically-based rating & diagnostic tool

Easier and more cost effective to:

Identify quality places & Make them better

Boost the triple bottom line (people, planet, and profit)



Metropolitan Policy Program at BROOKINGS

Walk this Way:
The Economic Promise of Walkable Places in Metropolitan Washington, D.C.

Christopher B. Leinberger and Mariela Alfonzo[1]

"Emerging evidence points to a preference for mixed-use, compact, amenity-rich, transit-accessible neighborhoods or walkable places."

Findings

An economic analysis of a sample of neighborhoods in the Washington, D.C. metropolitan area using walkability measures finds that:

- **More walkable places perform better economically.** For neighborhoods within metropolitan Washington, as the number of environmental features that facilitate walkability and attract pedestrians increase, so do office, residential, and retail rents, retail revenues, and for-sale residential values.
- **Walkable places benefit from being near other walkable places.** On average, walkable neighborhoods in metropolitan Washington that cluster and form walkable districts exhibit higher rents and home values than stand-alone walkable places.
- **Residents of more walkable places have lower transportation costs and higher transit access, but also higher housing costs.** Residents of more walkable neighborhoods in metropolitan Washington generally spend around 12 percent of their income on transportation and 30 percent on housing. In comparison, residents of places with fewer environmental features that encourage walkability spend around 15 percent on transportation and 18 percent on housing.
- **Residents of places with poor walkability are generally less affluent and have lower educational attainment than places with good walkability.** Places with more walkability features have also become more gentrified over the past decade. However, there is no significant difference in terms of transit access to jobs between poor and good walkable places.

The findings of this study offer useful insights for a diverse set of interests. Lenders, for example, should find cause to integrate walkability into their underwriting standards. Developers and investors should consider walkability when assessing prospects for the region and acquiring property. Local and regional planning agencies should incorporate assessments of walkability into their strategic economic development plans and eliminate barriers to walkable development. Finally, private foundations and government agencies that provide funding to further sustainability practices should consider walkability (especially as it relates to social equity) when allocating funds and incorporate such measures into their accountability standards.

BROOKINGS | May 2012 1

Practice

Research

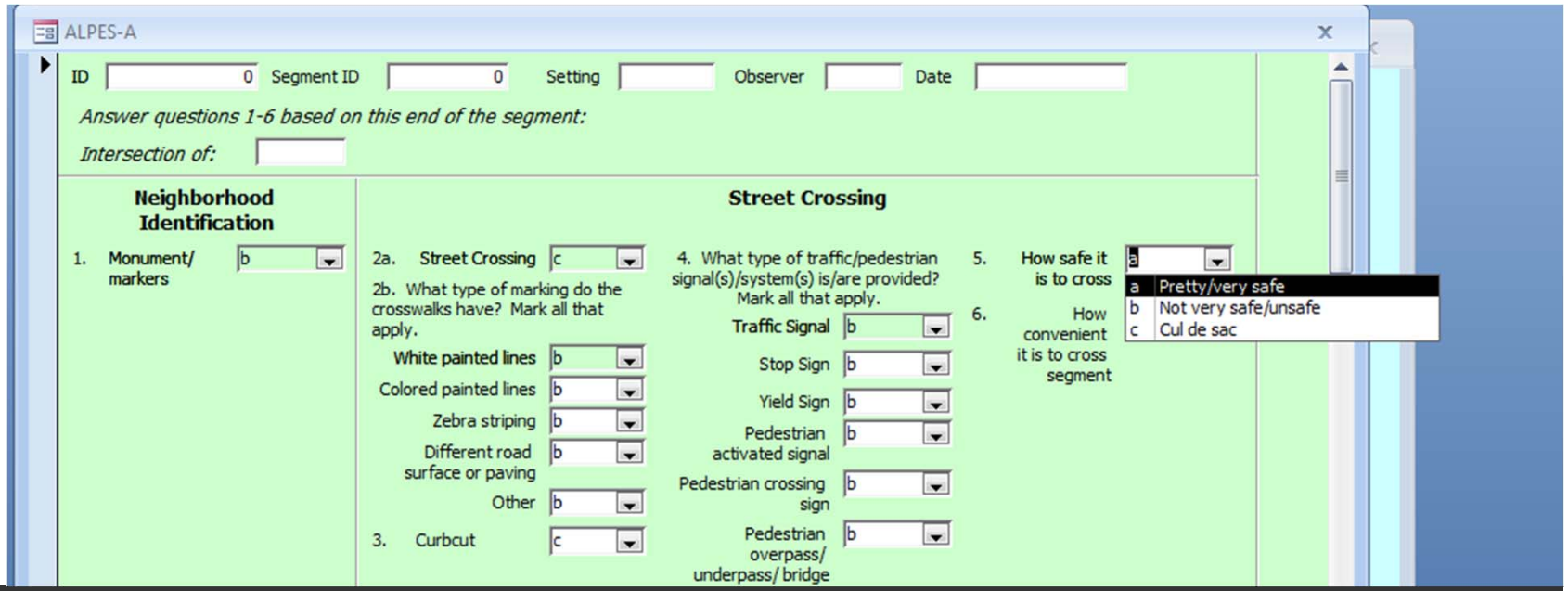
"Walk this Way: The Economic Promise of Walkable Places in Metropolitan Washington DC

The Walk This Way Study

- Brookings study – I co-authored with Chris Leinberger – sought to establish an operational definition of and performance metrics for walkable urban places
- Used DC as test case
  - Building upon 2007 Brookings report, Footloose and Fancy Free, which ranked DC as metro with most walkable urban places

Research Design

- Collected data on a sample of 61 places in the DC Metro region
  - Identified 202 potential places
    - Criteria for inclusion:
      - Near a metro
      - OR Had an approved "walkability" plan in place (mixed-use, compact, pedestrian friendly)
      - AND in urbanized blocks within DC metro region
  - Selected "stratified random sample"
    - Based on Walkscore
- Collected walkability (IMI) data; CoStar, REIS, ESRI, Zillow, Tax Assessor; CNT; Brookings Transit; and WMATA Ridership



Measuring Walkability: The Irvine Minnesota Inventory

Uses street-level built environment data

Collected using the Irvine Minnesota Inventory (IMI)

162 micro-scale features

- Sidewalk presence, street trees, street benches, parks, street facades, land uses, etc.

Reliable, used widely in research

Measuring Walkability: The Irvine Minnesota Inventory

Raters receive full day training; tested for accuracy/reliability

Data collected for sample of blocks in a neighborhood

- 7-10 min/block
- Avg. 40-50 blocks/neighborhood

Neighborhood defined based on existing boundaries

App in development! (for use in US & China!)

Neighborhood Identification		
1. Are there **monuments or markers** including neighborhood entry signs that indicate that one is entering a special district or area?	1	yes = 1; no = 0
Street Crossing		
2a. Consider the places on the segment that are **intended** for pedestrians to cross the street. Are these places marked for pedestrian crossing?	2	all = 3; some = 2; none = 0; NA = 8
2b. What type of **marking** do the crosswalks have? Mark all that apply.		
White painted lines	3	yes = 1; no = 0
Colored painted lines	4	yes = 1; no = 0
Zebra striping	5	yes = 1; no = 0
Different road surface or paving (e.g. tiles, colored concrete, marble, etc)	6	yes = 1; no = 0
Other	7	yes = 1; no = 0
3. Are there **curb cuts** at all places where crossing is expected to occur?	8	all = 3; some = 2; none = 0; NA = 8
4. What type of **traffic/pedestrian signal(s)/system(s)** is/are provided? Mark all that apply.		
Traffic signal	9	yes = 1; no = 0
Stop sign	10	yes = 1; no = 0
Yield sign	11	yes = 1; no = 0
Pedestrian activated signal	12	yes = 1; no = 0
Pedestrian crossing sign	13	yes = 1; no = 0
Pedestrian overpass/underpass/bridge	14	yes = 1; no = 0
5. For an individual who is on this segment, how **safe (traffic wise)** do you think it is to cross the street from this segment?	15	pretty/very safe = 1; not very safe/ unsafe = 0; cul de sac = 8
6. For an individual who is on this segment, how **convenient (traffic wise)** do you think it is to cross the street from this segment?	16	pretty/very convenient =1; not very/inconvenient= 0; cul de sac = 8
Answer questions 7-11 while standing at the beginning of the segment		
Neighborhood Identification		
7. Does the segment have **banners** that identify the neighborhood?	17	some/a lot = 3; few = 2; none = 0
Street Characteristics		
8a. Is this a **pedestrianized** street?	18	yes = 1; no = 0
8b. Is the street a …	19	one way = 1; two way = 2
9. Is this segment an **alley**?	20	yes = 1; no = 0
10. How many **vehicle lanes** are there for cars? (Include turning lanes).	21	six or more = 6; five = 5; four = 4; three = 3; two = 2; one = 1; NA (no lanes for car travel) = 8
Views		

State of Place™ : The IMI Scoring Algorithm

Dimensions	Description/Example Items
Density	Measure of enclosure based on building concentrations and height
Proximity	Presence of non-residential land uses
Connectivity	Measure of disconnectivty; Potential Barriers (e.g., six-lane roads)
Form	Measure of streetscape discontinuity (e.g. drive-thrus)
Parks and Public Space	Parks, Playgrounds, Plazas, Playing Fields
Pedestrian Infrastructure/Amenities	Curbcuts, Sidewalks, Street Furniture, Bike Racks
Personal Safety	Graffiti, Litter, Windows with Bars
Traffic Measures	Traffic Signals, Speed Limit, Traffic Calming
Aesthetics (Pleasurability & Maintenance)	Attractiveness, Open Views, Outdoor Dining, Maintenance
Physical Activity Facilities	Gym/Fitness Facilities, Other Recreational Uses

The State of Place™ Index: Walkability Levels

- Identified five levels of walkability (based on scores within DC region)
  - Ranging from level 1 (very poor walkability) to level 5 (very good walkability)
- Levels 4 & 5 were classified as "walkable urban places"
- Examples:
  - Level 5: Downtown
  - Level 4: Bethesda
  - Level 3: White Flint
  - Level 2: New Carrolton
  - Level 1: Naylor Road

The State of Place™ Index: Very good walkability

The State of Place™ Index: Good walkability

The State of Place™ Index: Average walkability

The State of Place™ Index: Poor walkability

The State of Place™ Index: Very poor walkability

State of Place™ & Economic Performance: Walkability Premiums

	+1 pt	+10pts	Moving to Next Level of IMI (+20pts)
Average Office Rents***	$.444	$4.44	$8.88
Average Retail Rents**	$.346	$3.46	$6.92
Retail Sales**	+4%	+40%	+80%
Residential Rents***	$15.88	$150.88	$301.76
Value/Sq.Ft. For-sale Residential***	$4.77	$40.77	$81.54

State of Place™ & Economic Performance: Walkability Cap Rates

	Below average State of Place™ (level 3 and below)	Above average State of Place™ (level 4 and above)
Average Cap Rate 2000 – 2007~	9.52	7.73
Average Cap Rate 2008- 2010**	9.22	6.39

walkable clusters nearby = better

Walkable neighborhood clusters that form walkable districts have higher rents and home values than stand-alone walkable places.

Walkability = Economic Indicator

Can quantify the value of place….

The State of Place™ index is linked to premiums of *up to*:

+74% residential rents/unit

+$1200/unit residential rent

+108% office rents

+84% retail rents

+23% premium valuation before recession;

+44% premium post

For DC, this translates into *up to*:

+$744 mill in residential property taxes/neighborhood

+$96 mill in retail taxes generated/neighborhood

State of Place™

A neighborhood credit rating and diagnostic tool

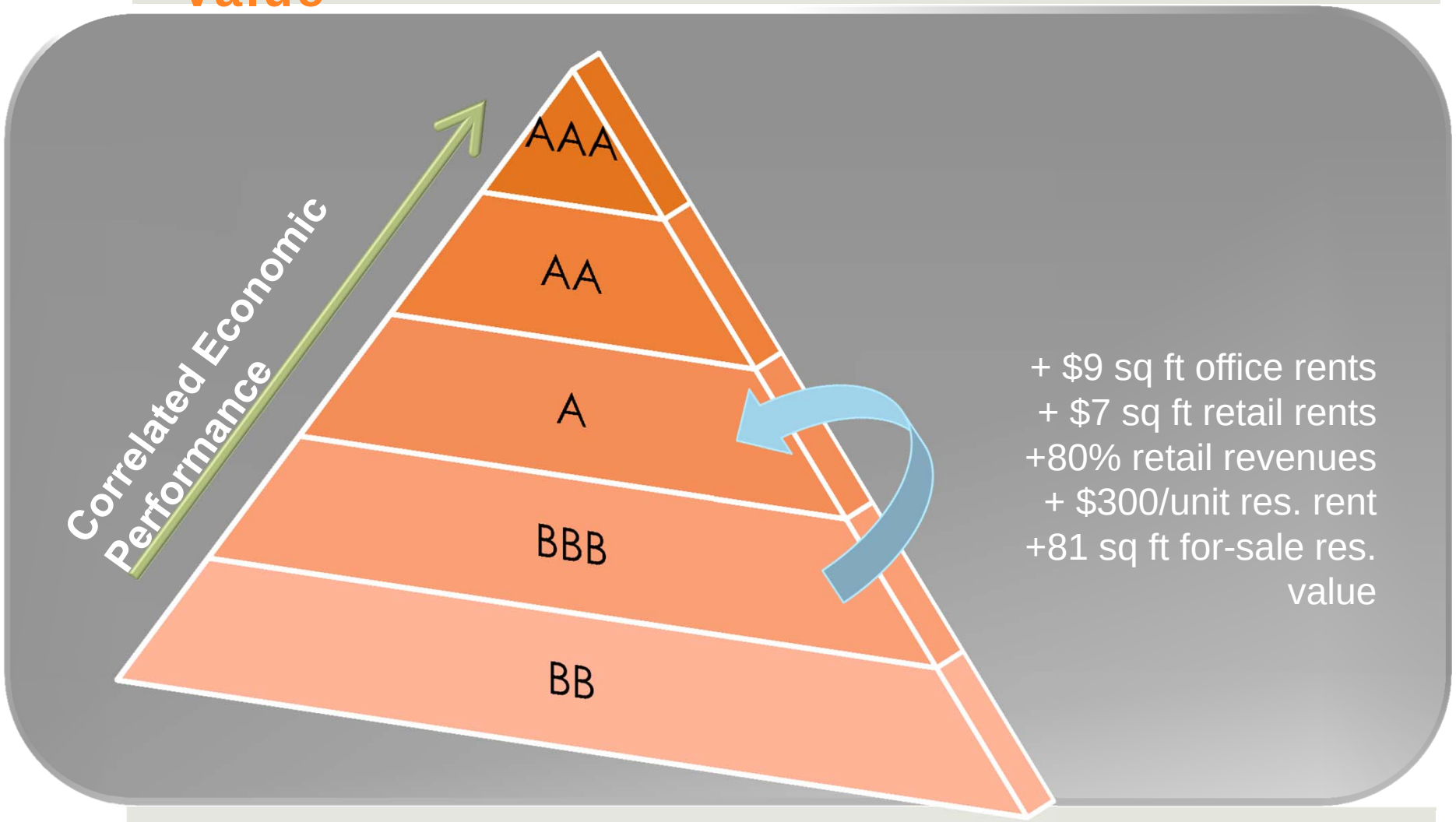
Enhancing the triple bottom line through urban design

what *is* State of Place™?

Works like an S&P rating for neighborhoods

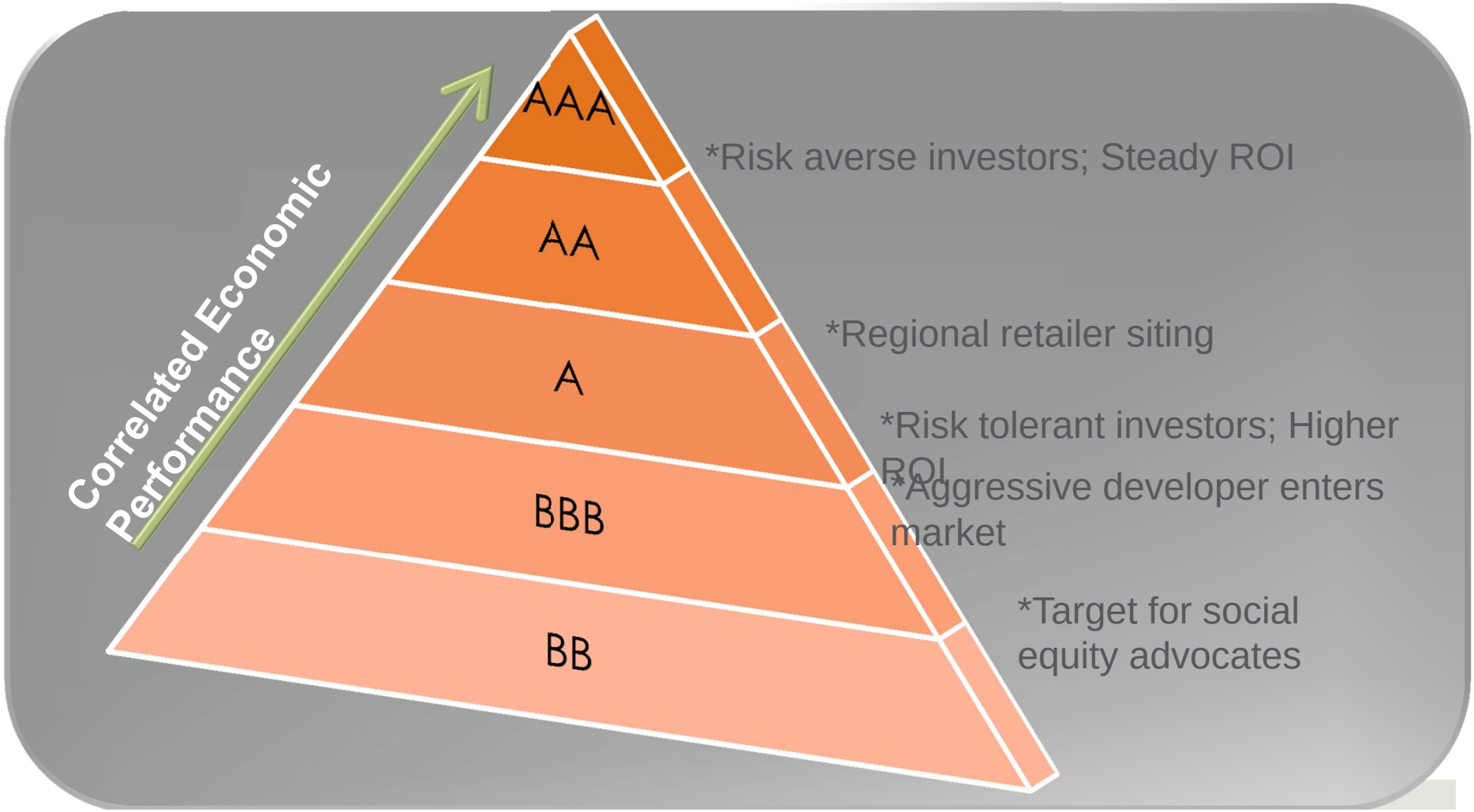
what *is* State of Place™?

That Ties Built Environment & Economic Value



what *is* State of Place™?

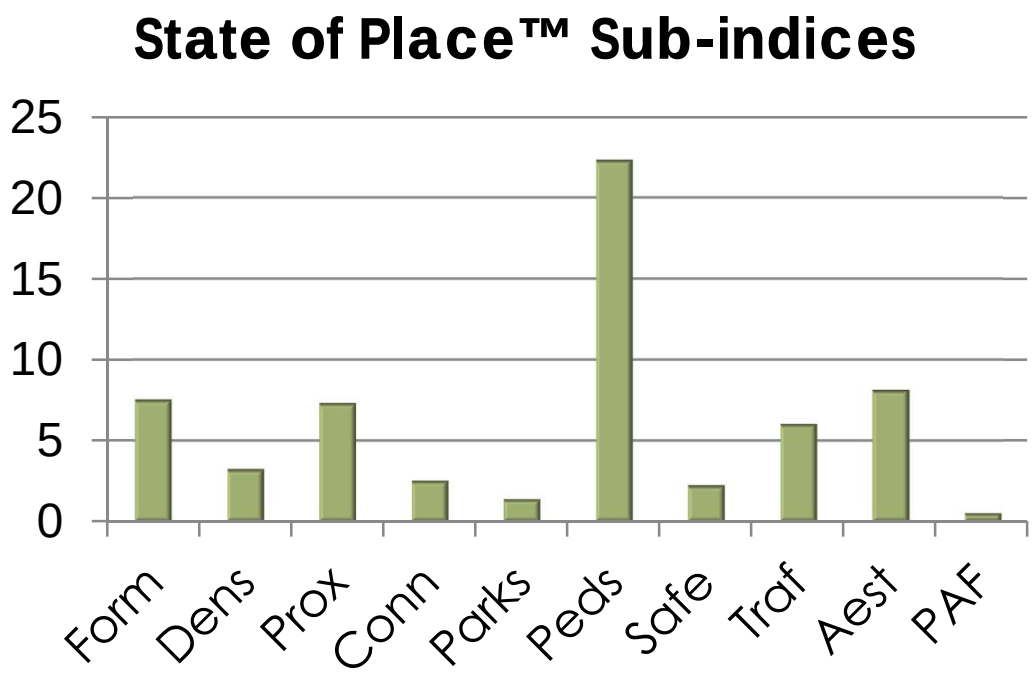
Helps guide investment & underwriting; Aids branding



what *is* State of Place™?

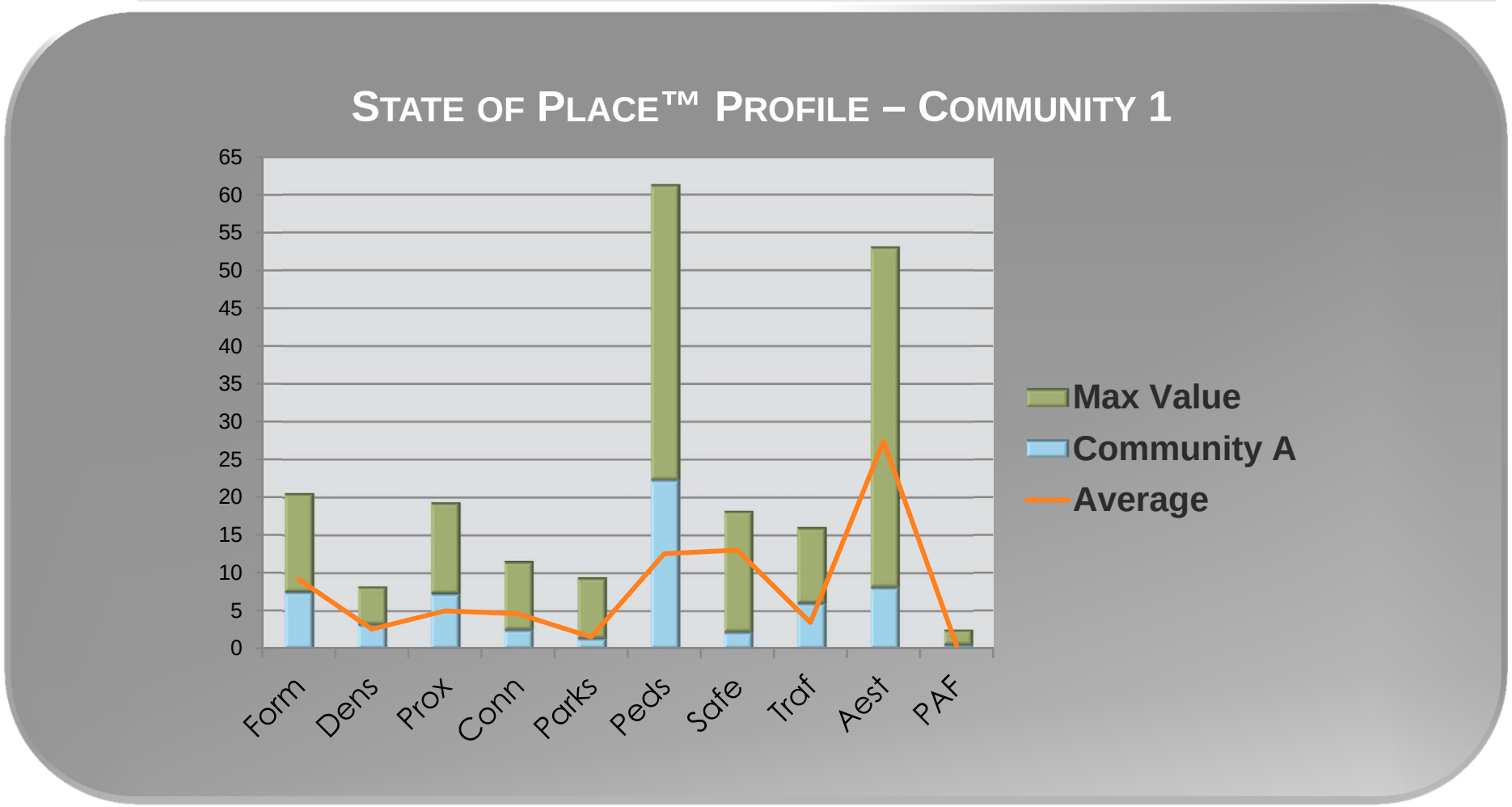
With diagnostic capacity

Sub Indices
Form/Layout
Density
Proximity
Connectivity
Public Space/Parks
Crime Safety
Traffic Safety
Aesthetics
Physical Activity Facilities



what *is* State of Place™?

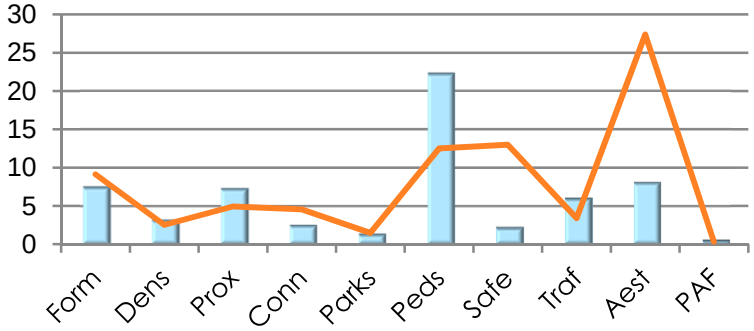
That Provides a Roadmap; Establishes Benchmark; Facilitates Accountability



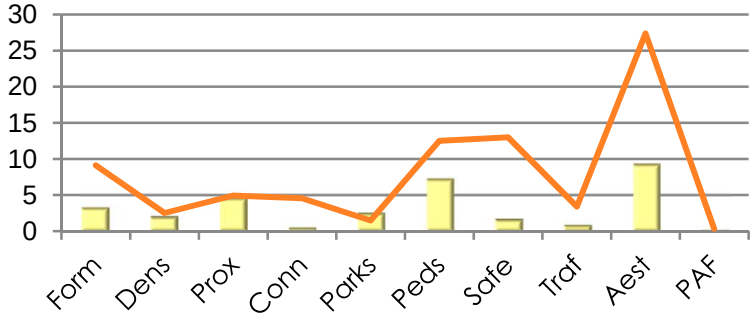
what *is* State of Place™?

Guides Customizable, Contextual Solutions

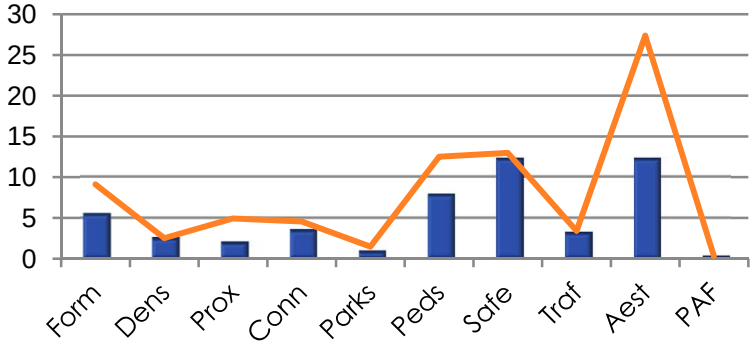
Community 1 –
Strong Form, Peds; Weak Aest.



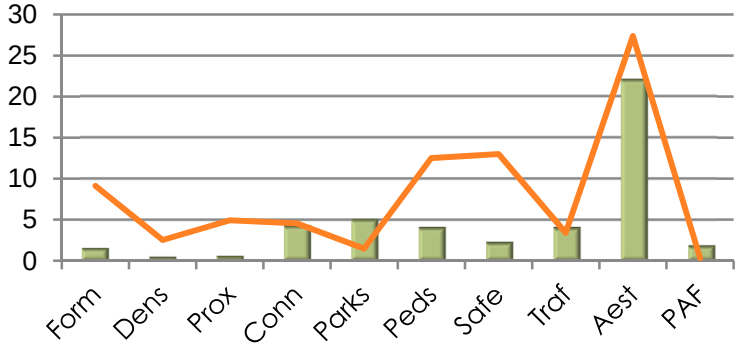
Community 2 –
Strong Prox., Weak Safety



Community 3 –
Strong Safe, Traf.; Weak Prox.

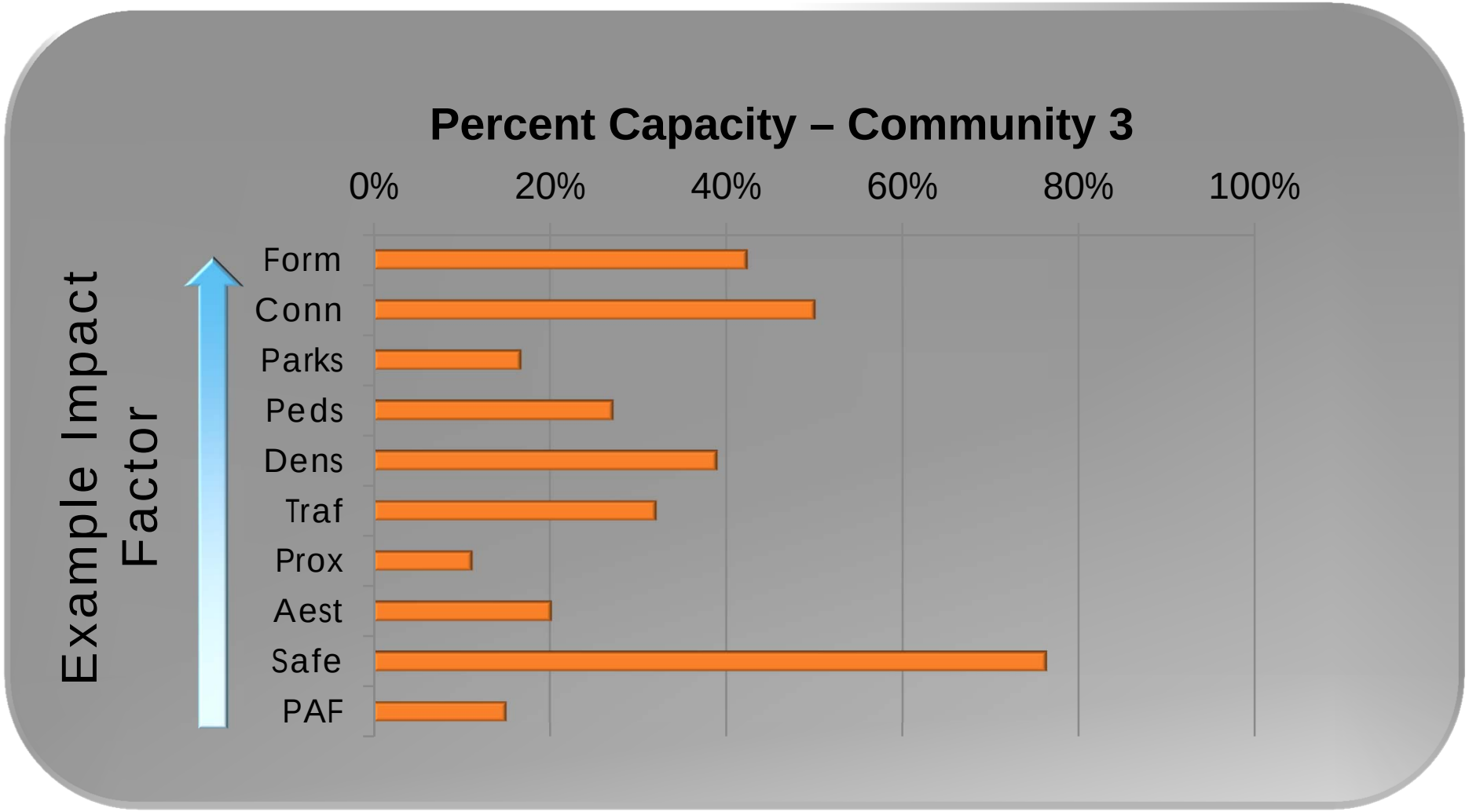


Community 4 –
Strong Aest., Weak Form, Peds.



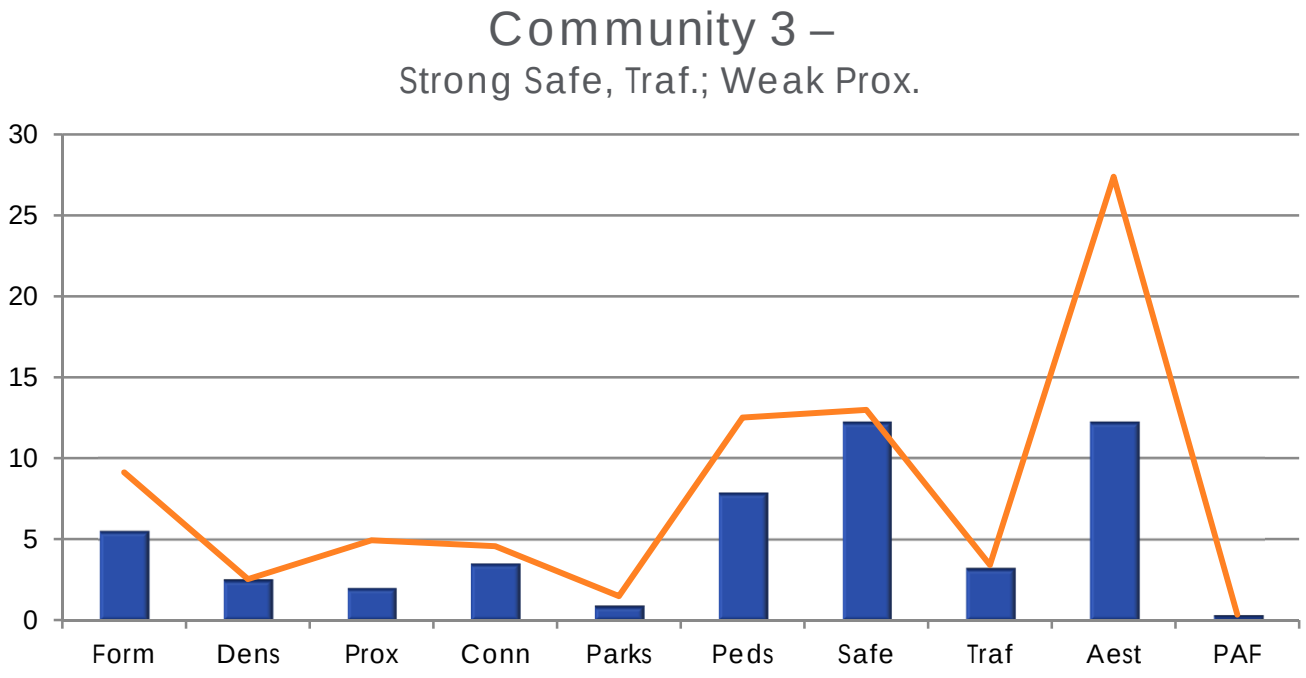
what *is* State of Place™?

Can prioritize investments based on impact + budget



what *is* State of Place™?

Guides Customizable, Contextual Solutions

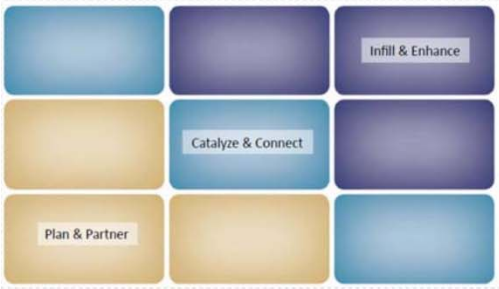


Budget = $150k
Priority foci:
Prox. (e.g. Zoning changes; Retail bonuses)
Aest. (e.g. Façade improvements)

Who can Benefit from State of Place™?

	Uses					
Users	**Funding Allocation**	**Investment Decisions**	**Policy guidance**	**Diagnostic**	**Siting**	**Branding**
Place Managers (Public, Quasi-public & Private Sector)		X	X	X	X	X
Investors (Debt/Equity)		X				
Funders (Non Prof, NGOs)	X		X			
Social Equity Advocates	X		X	X		
Businesses (Retailers, Corps)		X			X	X
Developers		X		X	X	X

Metropolitan Washington Council of Governments



Activity Center Strategic Investment Plan

The Region Forward Implementation Tool

Project Partners

Steering Committee

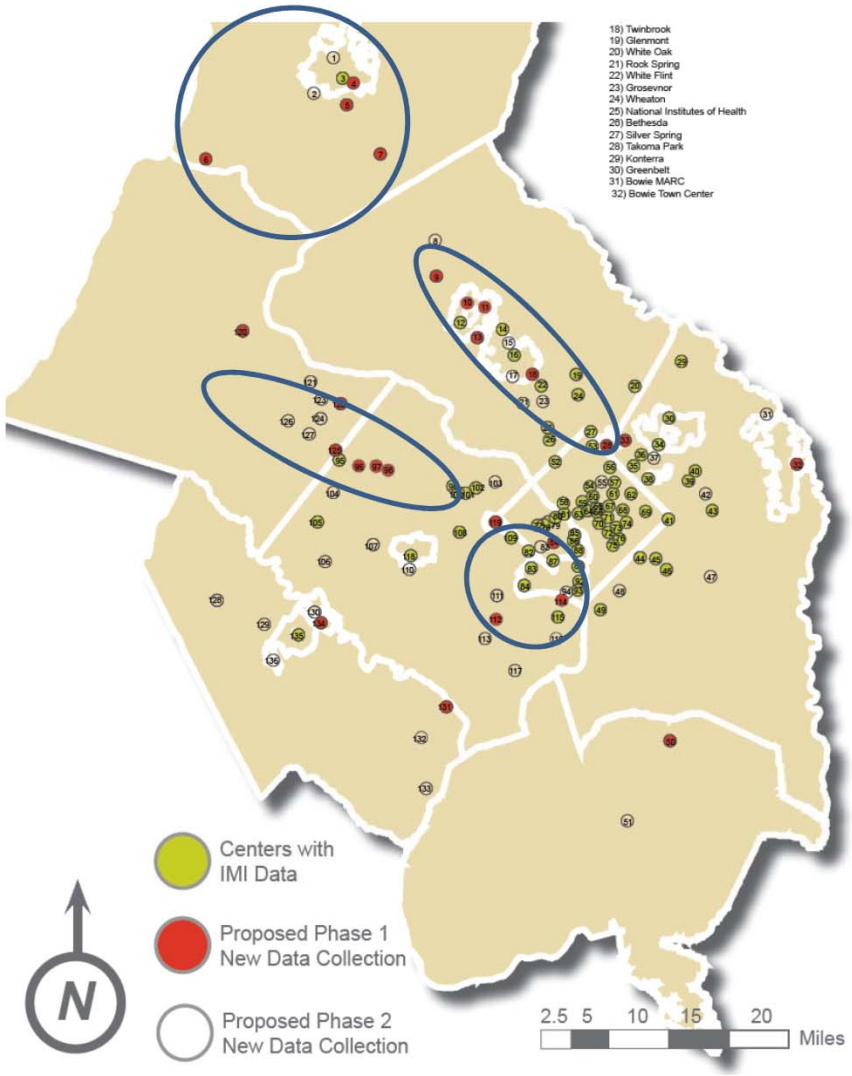
- Region Forward Coalition
- GSA
- National Capital Planning Commission
- Urban Land Institute Washington
- Institute for Public Health Innovation
- Prince Charitable Trusts
- Metro

Project Team

- RCLCO
- Mobility Lab
- Reconnecting America – People • Places • Possibility
- Urban imprint
- State of Place

1 Center Selection and Classification

Identify Centers for Data Collection

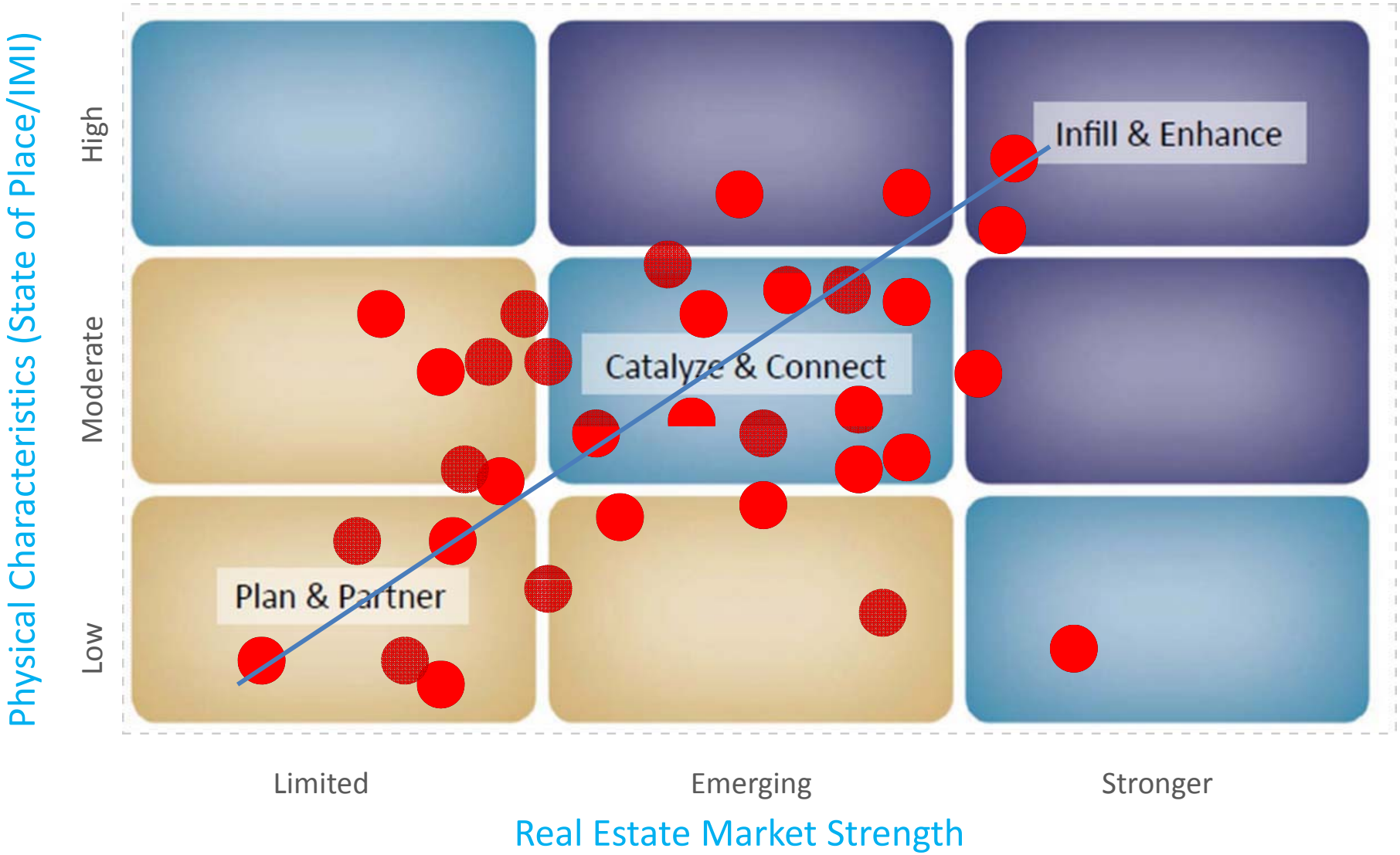


- Includes the 68 Activity Centers Surveyed as part of the Brookings *Walk This Way* Study
- Project includes 25 additional Activity Centers

4

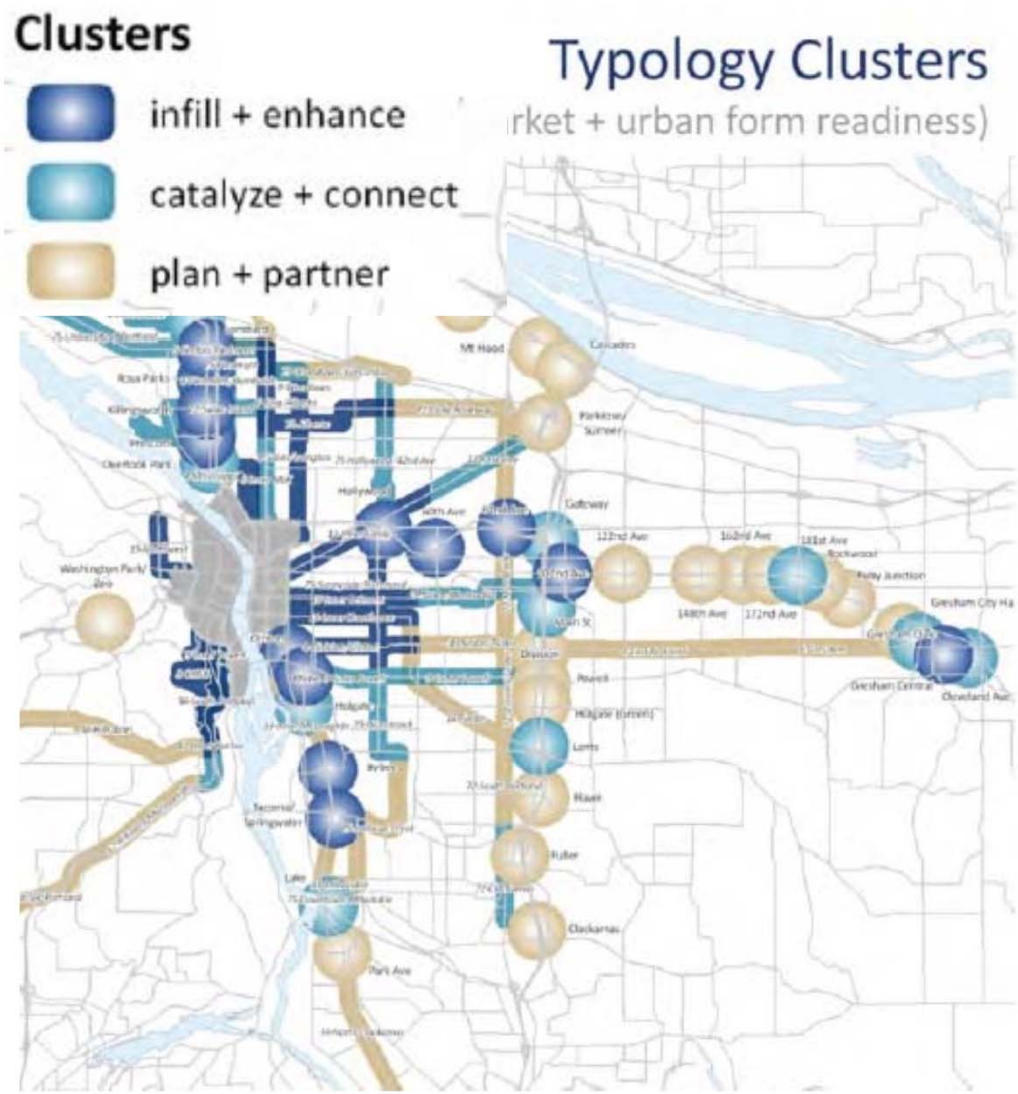
Typology Analysis

Create Typologies Based on Shared Characteristics



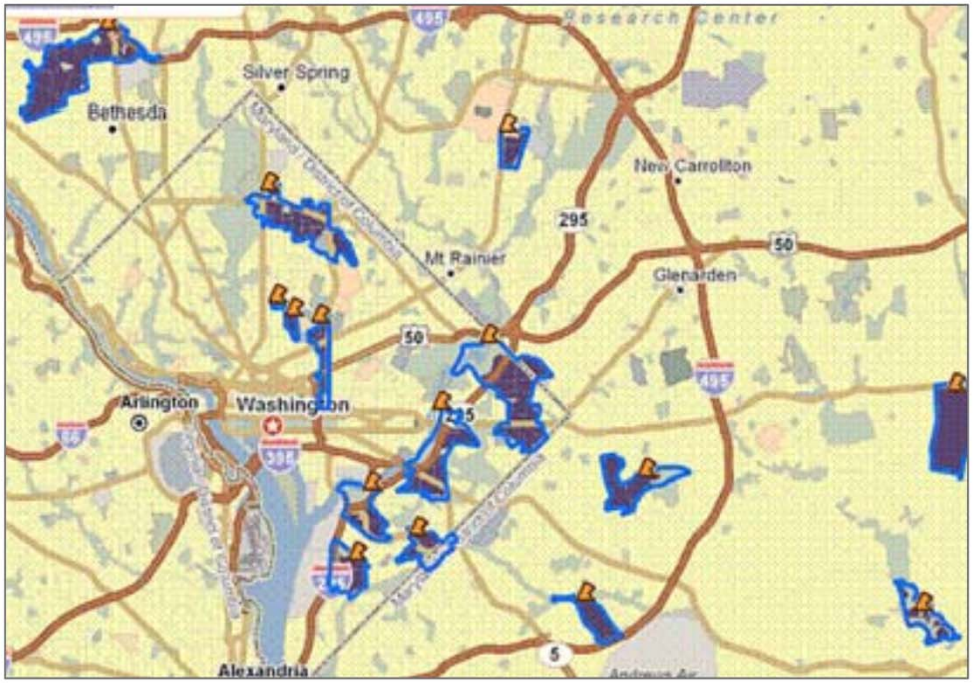
4 Typology Analysis - Mapping

Identify and Map Common Investment Needs for Activity Centers



- Identity/Branding
- Street or Traffic Enhancements
- Affordable Housing
- Retail and Sidewalk Amenities
- Physical Activity Facilities
- Street Trees or Parks

4 Equity Overlay



Collect Equity Indicators for Activity Centers

- *Income*
- *Educational Attainment*
- *Female Headed Households*
- *Vehicles Per Household*

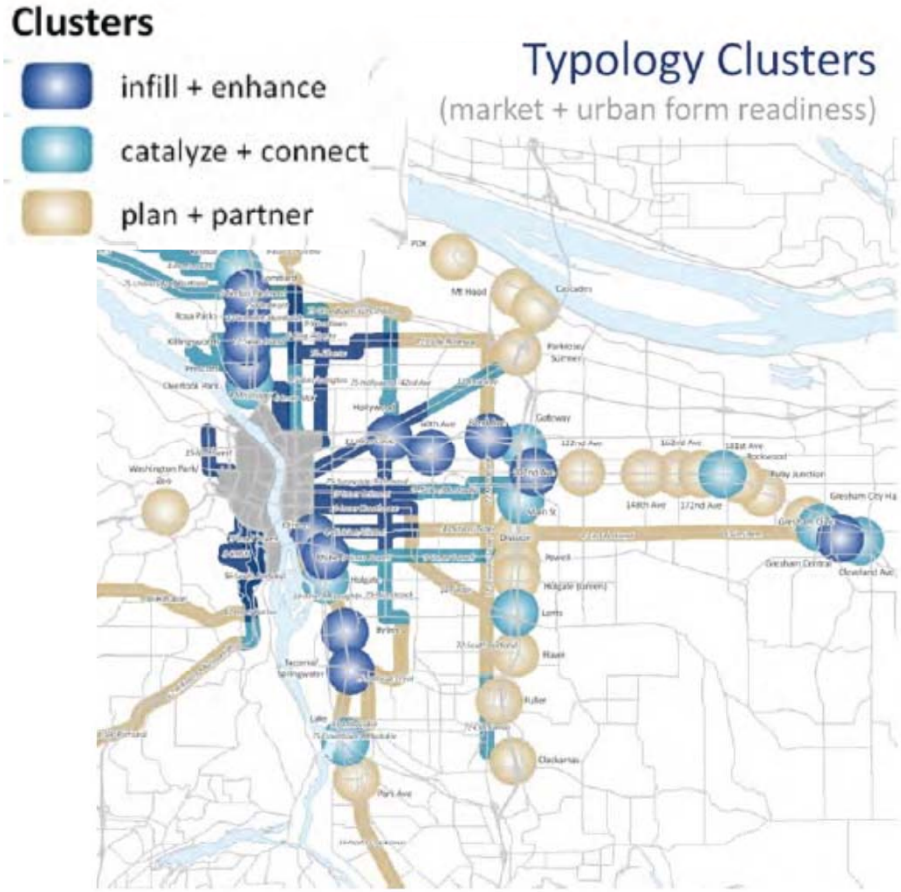
Purpose: Inform Investment Recommendations

Lead Partner: Reconnecting America

5

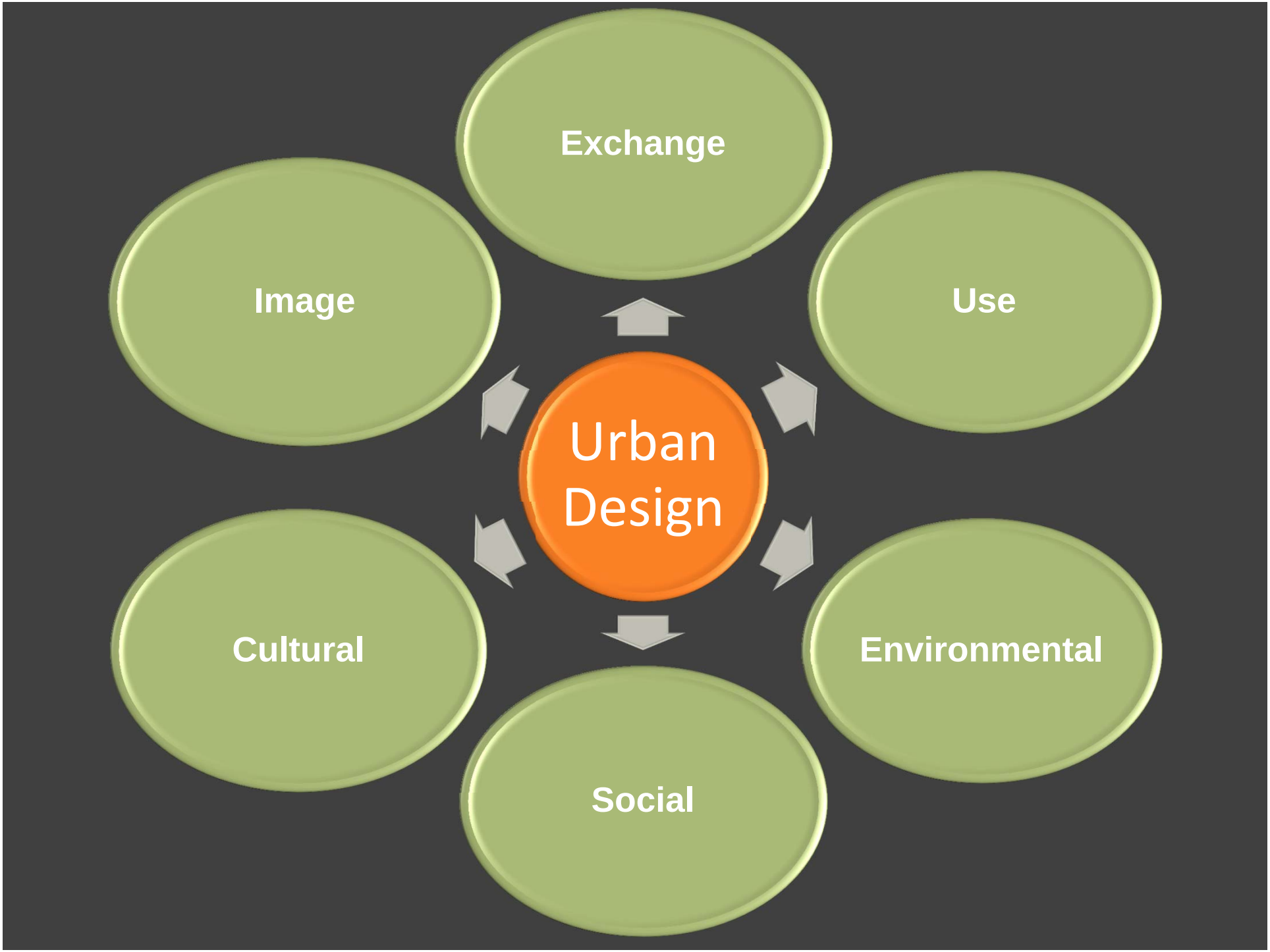
Implementation Strategies

Recommend Policies, Programs or Grants that can support place-based investments



- BID or Community-Based Partnership
- Planning or Infrastructure Grants
- Affordable Housing Programs/Policies
- Zoning/Form-Based Codes
- Urban Forestry Programs

And who Benefits from State of Place™ outcomes?


Exchange
Image
Use
Urban Design
Cultural
Environmental
Social

Increasing walkability = Sustainability

Better public health and reduced rates of chronic illness
Social well-being and mental and spiritual health
Decreased driving rates – tied to reduced CO2 emissions & GHGs
More thriving neighborhoods

Next Steps for State of Place™ …

- Roll out to other metros
  - San Francisco/Bay area, Houston, Boston, Phoenix…
- Incorporate a broader set of economic indicators
  - E.g. Job creation, retention, firm recruitment
- App – coming soon!
- Partner with other universities – involve planning students
- Work with underprivileged communities – NYU-Poly
- China – in progress!

Urban imprint

State of Place™

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Thank you!!