

Urban Design Dimensions: **Functional Dimension**



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Functional Dimension

The goal of Urban Design is making urban areas

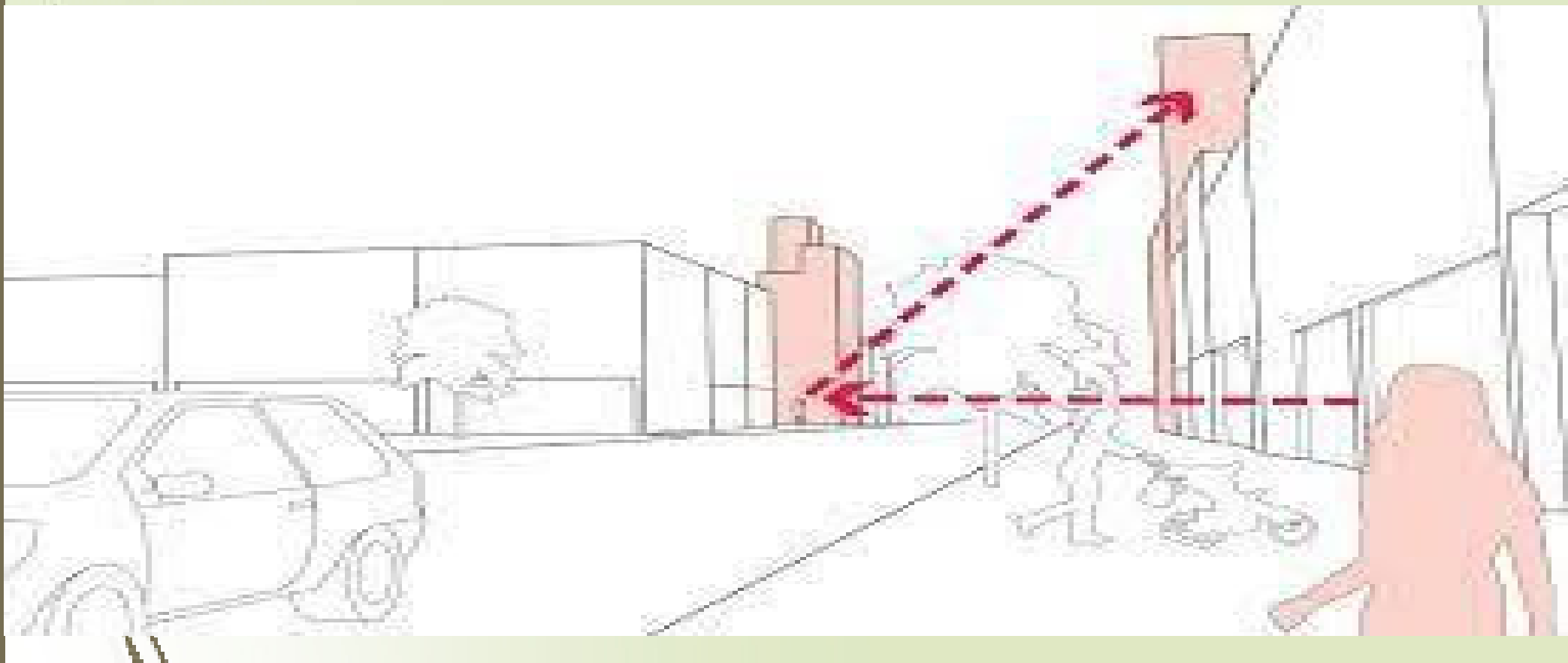
- ❖ **Functional,**
- ❖ **Attractive,**
- ❖ **And sustainable.**

WHAT IS FUNCTIONAL DIMENSION OF URBAN DESIGN?

Urban design's functional dimension relates to:

- ❖ How **places** work.
- ❖ How urban designers can make **'better' places.**
- ❖ Increase the **potential for them** to develop.

Movement



MOVEMENT:

Movement is fundamental to understanding how **places function**.
It is an important factor in generating **life and activity through public spaces**.

Vehicular and Pedestrian Movement:

Car-based movement is **pure circulation**
pedestrian movement is circulation but also permits **economic, social and cultural exchange**.

- **Nature of Vehicular Movement**



- **Nature of Pedestrian Movement**



Pedestrian Movement

Vehicular Movement



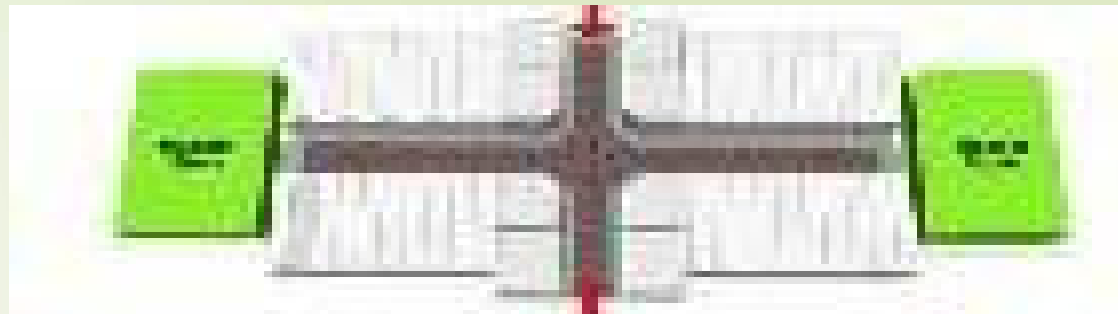


► For pedestrians,

- **the connection** between **places** is important.
- the key to a **successful people place** lies in encouraging people **to stop** and **spend time within the space**
- **Pedestrian** flows through **public space** where people choose to **sit or stay in public space** and are related to the **life and activity** within the space.
- Generating life and activity, **pedestrian movement** through public space lies at the heart of the urban experience
- **successful public spaces** are generally **integrated** within **local movement systems**, putting in mind that a **pedestrian journey** is rarely **single purpose**.

➤ The “by-product” of movement:

- **origin-destination studies** ignore a key component of the **movement experience**. Hillier (1996) terms this the ‘by-product’ of movement:
- **The potential for other (optional) activities** in addition to the basic activity of traveling from origin to destination.
- The impact and value of the by-product of movement can be illustrated by its development in shopping centre design.

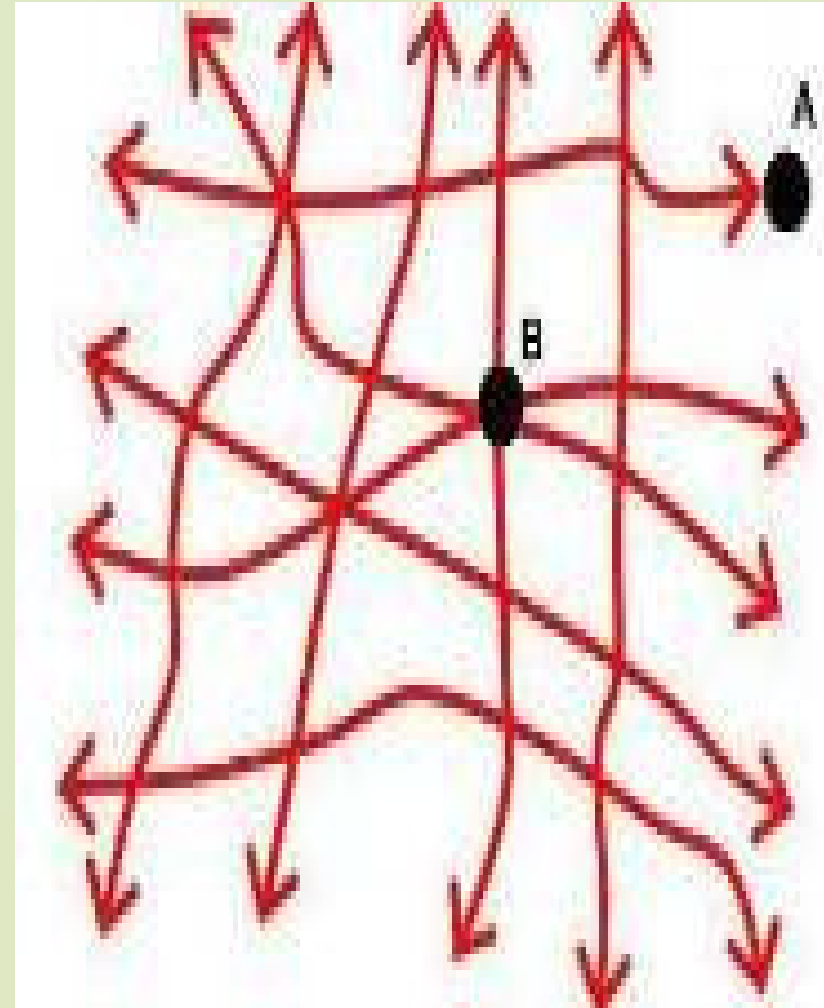


Movement-to and movement through.

Successful people places may be **destinations (go-to places)** in their own right but, more likely, they are also places on the way to many other places (**i.e. go-through places**).

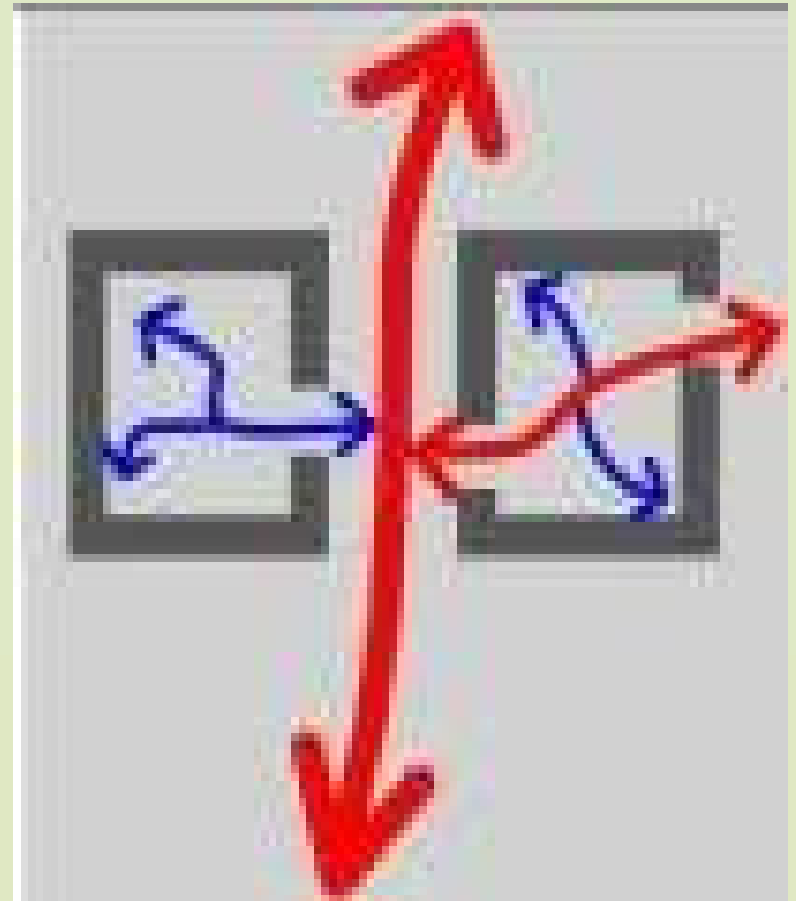
Point A only has movement directly to it (i.e. it is only a destination).

Point B is a destination, but it also benefits from movement through it to other points (i.e. it is on the way to many other places).



courtyards-that-live' are those with paths running through them (i.e. they are not cul-de-sacs or dead ends).

Thus, as well as being **destinations**, they are also **on the way to other places**.



TOOL FOR ANALYSING PLACES

Space Syntax:

- **Space syntax is a science-based, human focused** approach that investigates relationships between spatial layout and a range of social, economic and environmental phenomena.
- **Space Syntax** challenges urban designers to think critically about the relationship between the configuration of space, movement and land-use. It is widely used as an analytic and design tool, and the theories behind its use continue to be developed by Hillier and others.
- In space syntax terms, **spatial configuration** means, a set of relationships among parts (say, urban streets).



Design of 'people places'



DESIGNING BETTER 'PEOPLE PLACES'

- **public space** is an inadequate and not enough term and, rather than public spaces, the term '**people place**' is used here.
- **People places** are those proposed to be **used by people**, usually through **spontaneous, everyday** and **informal use**.



➤ Successful People Places:

➤ **These places are characterised by :**

➤ The presence of people, in an often self-reinforcing process.

➤ They typically have **liveliness and vitality** that bring people onto the street.

➤ Different places are, **activated in different ways.**

➤ Some are **louder, busier** and more **vibrant or lively**, active by **people and traffic;**

➤ others are **quieter**, perhaps animated **by nature** – the **wind in the trees, changing cloud formations** and so forth.



Successful People Places:




■ Activities in Public Space:

- **As successful places** support and facilitate the **activities of people**, their design should be informed by realization **how people use them**.
- **The use and design of public space**, as Carr *et al* (1992) argue that, *Public space should be:*
 - **Meaningful** – *allowing people to make strong connections between the place, their personal lives, and the larger world.*
 - **Democratic** – *protecting the rights of user groups,*
 - **accessible** to all groups and providing for freedom of action.
 - Public spaces should **be also responsive** – *that is, designed and managed to serve the needs of their users.*



Requirements of people satisfaction in public spaces:

- 1. Comfort
 - 2. Relaxation:
 - 3. Passive engagement
 - 4. Active engagement
 - 5. Discovery
- 

➤ Requirements of people satisfaction in public spaces:

➤ 1. Comfort

- **Comfort** is an essential requirement of successful public spaces.
- The length of time people stay in a public space is a function and an indicator of its comfort.
- **Dimensions of a sense of comfort include:**
 - **a) Environmental factors** (relief from sun, wind, etc).
 - **b) Physical comfort** (comfortable and sufficient seating, etc).
 - **c) Social and psychological comfort** (privacy, safe, etc).

Comfort in Public Place



2. *Relaxation:*

A sense of psychological comfort is essential for relaxation,

but **relaxation** is a more developed state of the **body and mind comfort or rest**

- **In urban settings**, natural elements- trees, greenery, water features .
- **separation from vehicular traffic** help emphasize the contrast with the immediate surroundings and make it easier to be relaxed.
- also **obstruct visual permeability**, creating safety problems and discouraging people from using it.
- Similarly, during low-occupancy times, **separation from traffic flows** may increase concerns about safety and security



But, as whole. in all aspects of design, it is necessary to achieve a balanced entire.



3. Passive engagement

- Passive engagement with the environment can lead to a sense of relaxation.
- The **prime form** of passive engagement is **people watching**.
- **It was found that what** attracts people is other people and the life and activity that they bring.
- **Opportunities for The most using sitting places** are generally adjacent to the pedestrian flow, allowing observers to watch people while avoiding eye contact.
- **passive engagement** are also provided by fountains, views, public art and activities going on in public spaces, ranging from formal lunch-time *al fresco* concerts to *informal street entertainment*.



Passive engagement



Rather than sitting with their backs to the pedestrian flow, people often choose to sit facing it.

Raised vantage points

(e.g. steps, balconies, upper levels, etc.) allow observers to watch people while avoiding eye contact



4. Active engagement

- Although some people find sufficient satisfaction in people-watching, others desire more direct contact, whether with friends, family or strangers.
- It involves more **direct experience** with a **place and the people within**.
- Design of the public realm can create **opportunities for contact**.
- In public spaces, the arrangement of different elements: **benches, telephones, fountains, sculptures, coffee carts** can be made more or less helpful to social interaction.



Street entertainment enhances the animation and vitality of public spaces as Active engagement .



**The arrangement of different elements:
benches, sculptures, seating places**



Play

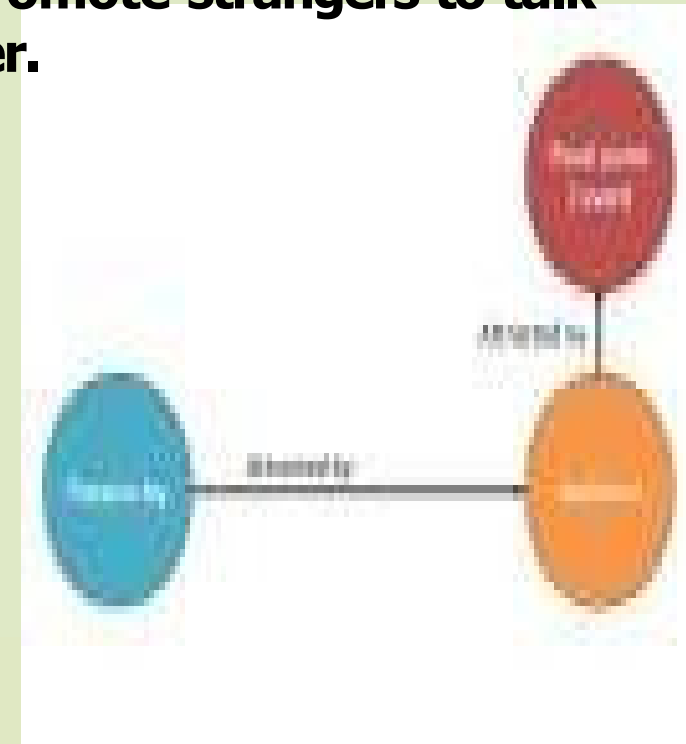
- ▶ in all its countless forms, is an important part of **active engagement**.
- ▶ the presence of playful behavior is a good indication of place quality.
- ▶ **three of Lynch's elements** have a dual role in **both practical cognition** for **way finding**
- ▶ and in the diverse, unplanned activities of play – **paths, nodes (intersections) and edges (boundaries)**.
- ▶ **two further elements important for play are identified:**
 - **Props** cover the range of **small-scale physical components** – such as **public artworks, play equipment and street furniture** – placed in public space to meet aesthetic and functional needs.
 - ▶ **Thresholds** represent the points of transition between inside and outside, a place to focus attention and channel movement: **doorways, colonnades, porches, stairways, etc.**
 - ▶ **They are places of meeting and interaction** that encourage a wide range of playful behaviour: *Observation of playful behavior involving props and thresholds reveals a rich scope of interrelations between perception, memory, meaning, symbolism, human bodies, actions and spatial form.*

Public art helps the process of **triangulation** – providing a linkage between people, and prompting strangers to talk to other strangers



Thresholds represent the points of transition between inside and outside.

Triangulation: The process by which some external motivation provides a linkage between people and promote strangers to talk to other strangers as if they knew each other.



Play in public space



Escaping from a water-jet from a fountain

5. Discovery

- Representing desire for new **display or show** and **enjoyable experiences**.
- discovery depends on **variety and change**. Involving a **break** from the **routine** and the expected. These may come with the **cycle of seasons**, and they may also result from the **management and animation of public space**.
- Discovery might involves **lunch time concerts, art exhibitions, street theatre, live music festivals, carnival, markets, society events , fairs, trade promotions, etc.** across a range of times and places.





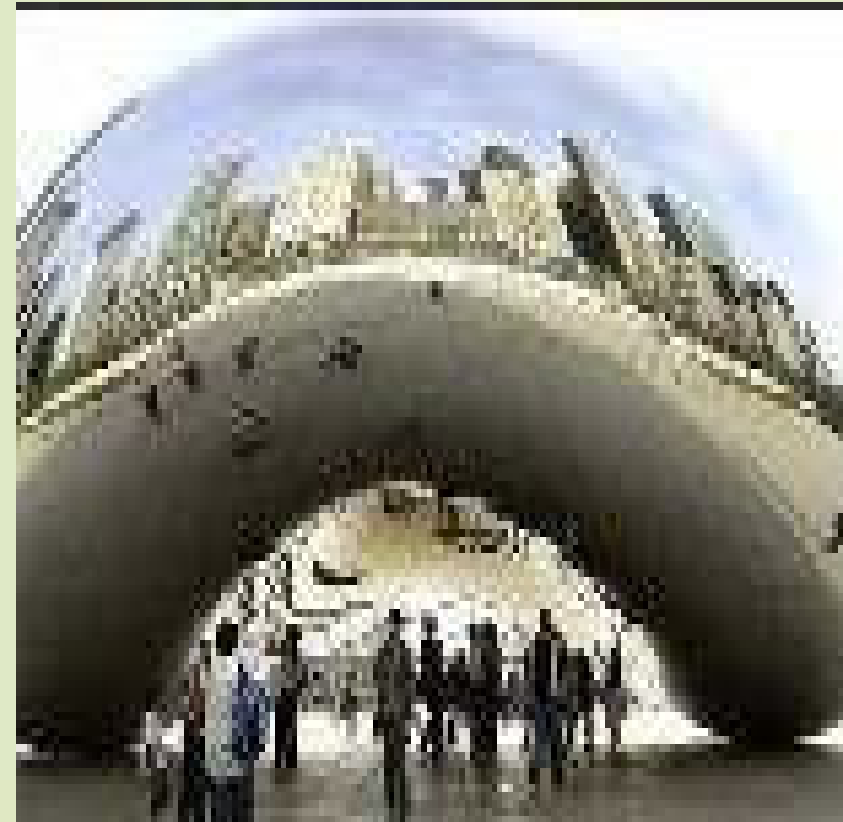
THE CENTRE AND THE EDGE OF THE PUBLIC SPACES.

- **The micro-design and use of successful people places can be measured in terms of the 'centre' and the 'edge'.**
- **The Center**
- Alexander et al (1977: 606) declare that **a public space** '... without a **middle** is quite likely to stay **empty**.'

The Center



- the **natural paths** which cross a public square choose something to stand roughly in the middle: a **fountain, a tree, a statue, a clock-tower with seats, a windmill, a bandstand.**
- the **'centre** also provide a sense of **identity and character,**
 - such features can also provide **encouragements for triangulation .**
- While something in the middle provides a **focus and a sense of visual completeness or unity.**



➤ **The Edge**

- what really matters for a successful people place is the **design of the edge**.
- *the life of a public square forms naturally around its edge, to **which people settle rather than remaining out in the open:***
- ‘If **the edge fails**, then the space never becomes **lively** ... the space becomes a **place to walk through**, not a **place to stop.**’
- Rather than treating the edge of the space as a ‘**line or interface with no thickness**’, Imagining it ‘... as a **“thing”**, a **“place”**, a **zone with volume** to it.



■ **The Edge**

- As a support for **people-watching**, the edge of a space can be **enhanced by providing places to sit**:
 - **formal** (seating, benches, etc.)
 - **informal** (stringcourses, column bases, low walls, steps, etc.)
- If the edge is set at a slightly higher level than the space itself, and partly protected from the weather (e.g. by an arcade), then both the view and the potential for people-watching are enhanced.
- **the most inviting spots are high enough** to provide a **Vantage point**, but low enough to be used.



The Edge



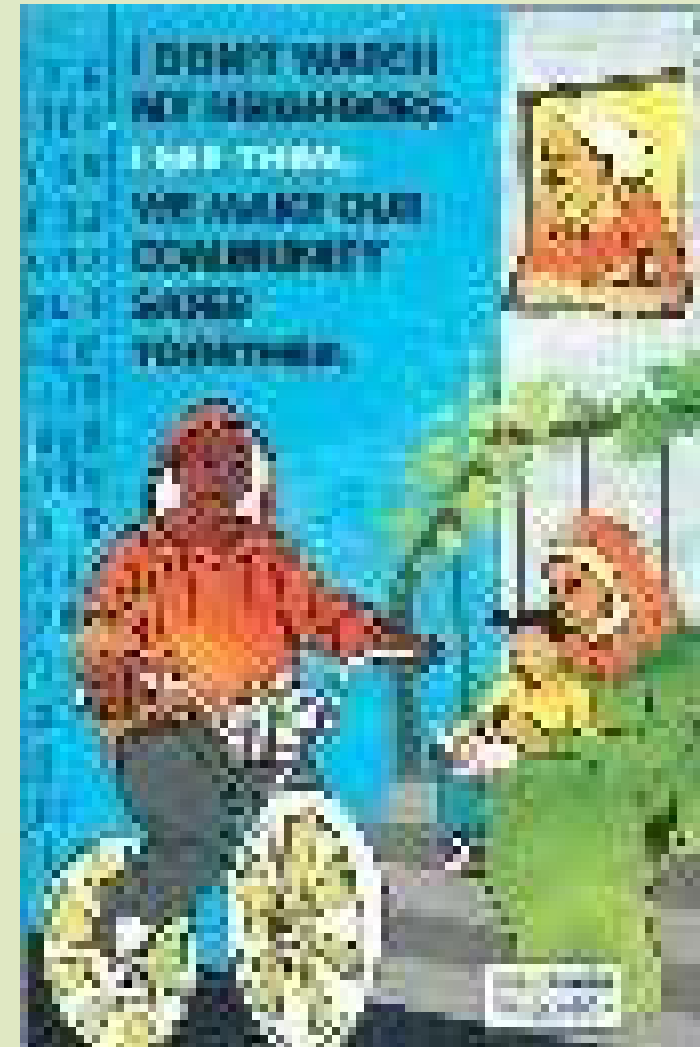
Active Frontages

- **Frontage** is how a building speaks (articulate) to the street.
- **Facades** can be designed so that buildings 'reach out' to the street, offering '**active frontage**' onto public space, adding **interest, life and vitality**.
- As **windows and doorways** suggest **human presence**,
- **the more doors and windows** onto public space, the more **active the frontage**.



Active Frontages

- **The frontages** also needs to be designed to enable a range of **indoor and 'private' activities** to live together which involve **physical proximity** with a range of **outdoor and 'public' activities**.
- **Views into buildings**, for example, **provide interest to passers-by**, while **views out put 'eyes on the street'**, contributing to its **safety**.
- The number of **doors/entrances**, with **activity directly visible from public space**, is a good indicator of **possible street life and activity**.



Blank frontage

- **Blank frontage** is the direct opposite of **active frontage**. Whyte (1988) criticized the blank walls,
- They designed as such, which he felt were becoming the dominant townscape feature of US cities:
- *'They are a **declaration of distrust of the city** and its streets and the undesirables who might be on them.'*
- **Blank frontages** not only deaden that part of the street, they also break the continuity of experience vital for the rest of the street.



■ **Example of Blank Frontage**

- Although **residential uses** bring life and activity to city centers, the configuration and integration of such developments affect **vitality in adjacent public spaces**.
- **In this instance**, the ground level consists of a parking structure providing the street edge and frontage with a residential tower above. Presenting a **blank frontage** to the street,
- **The parking structure** has a deadening effect on the **city centre**.
- **Spatial concentration** of such developments would further weaken **activity and vitality, and safety and security**



Scale of Active Frontages

Grade A	<ul style="list-style-type: none"> • 10-15% setbacks every 100m • More than 50% covered and no covered area every 100m • 50% of setbacks in line with 100m • No blank facade between and from positive front • No blank facade in front of or next to it • No blank facade more than 10m between setbacks
Grade B	<ul style="list-style-type: none"> • 10-15% setbacks every 100m • More than 10% covered and no covered area every 100m • 50% of setbacks in line with 100m • No blank facade in front of or next to it • No blank facade more than 10m between setbacks

Grade C	<ul style="list-style-type: none"> • 5-10% setbacks every 100m • More than 5% covered and no covered area • Less than half blank facade in front of setbacks • No blank facade more than 10m between setbacks • No blank facade more than 10m
Grade D	<ul style="list-style-type: none"> • 5-10% setbacks every 100m • Little or no coverage of functional facade • Predominantly blank facade in positive facade • No blank facade more than 10m • No blank facade more than 10m
Grade E	<ul style="list-style-type: none"> • 5-10% setbacks every 100m • No coverage of functional facade • Predominantly blank facade in positive facade • No blank facade more than 10m • No blank facade more than 10m

'LOCAL' TRANSACTIONS

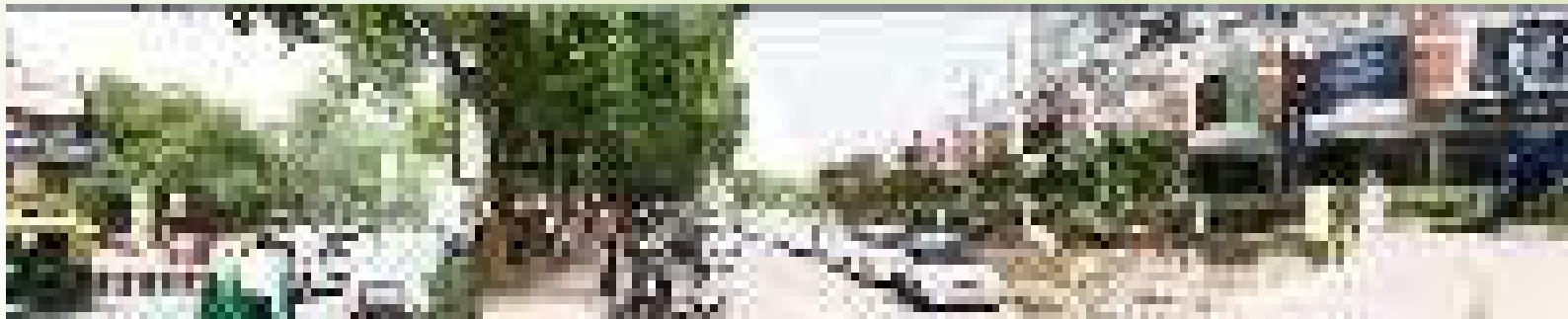


- **Peculiar (unusual)** to a place
- **Sensitive** to change
- Have **active frontages**
- **Significant** impact on **street life**



'FOREIGN' TRANSACTIONS

- Can Locate **any where**
- **Frontages** with very little impact on **street life.**



FOREIGN' TRANSACTIONS



The impact of local and foreign transactions:

Two sides of the same street illustrating the impact of **foreign transactions** on one side, and **local transactions** on the other



■ Coliseum Theatre, London

- *This theatre is a **foreign transaction**,*
- But it avoids causing a deadening effect on local street life by being embedded in the core of the street block.
- and (partially) surrounded by a **edge of local transactions**. While the theatre is a foreign transaction,
- The front of house, box office and its shop are all potentially **local transactions** that will benefit the street edge.
- As a **foreign transaction**, it gets civic presence through symbolism and iconography (visual images and symbols used in a work of art), and by appearing representatively on the skyline.





Thank You

**Any
Questions?**

