



# Parks & Playgrounds

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DESIGN GUIDELINES AND CHECKLIST



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**The Nurturing Neighbourhoods Challenge is hosted by the Smart Cities Mission, Ministry of Housing and Urban Affairs, Government of India, in collaboration with Bernard van Leer Foundation and with the technical support of WRI India.**

**This Challenge aims to incorporate a focus on neighbourhood-level improvements that promote healthy early childhood development (0-5-year-old children) in the planning and management of Indian cities.**

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## INTRODUCTION

Public open spaces in the neighborhood offer play and recreation for infants, toddlers, and caregivers. Children and their caregivers both need safe outdoor areas nearby to play, exercise, and connect with nature. Planning quality public open spaces at the neighborhood level is essential for easy access for young children and their families.

Parks and playgrounds serve as hubs for human interactions and community engagements, bringing people closer to nature. Successful ones are open to all, regardless of age, gender, or ability, playing a significant role in the brain development of children, contributing to their future health and success.

This document comprises of design guidelines for developing parks & playgrounds with a special focus on young children and their caregivers, to be used by government agencies and urban practitioners. These guidelines are in the form of suggestions collated from best practices implemented under Nurturing Neighbourhoods Challenge. However, these are not exhaustive and can be customized and used to suit the context of the selected area.



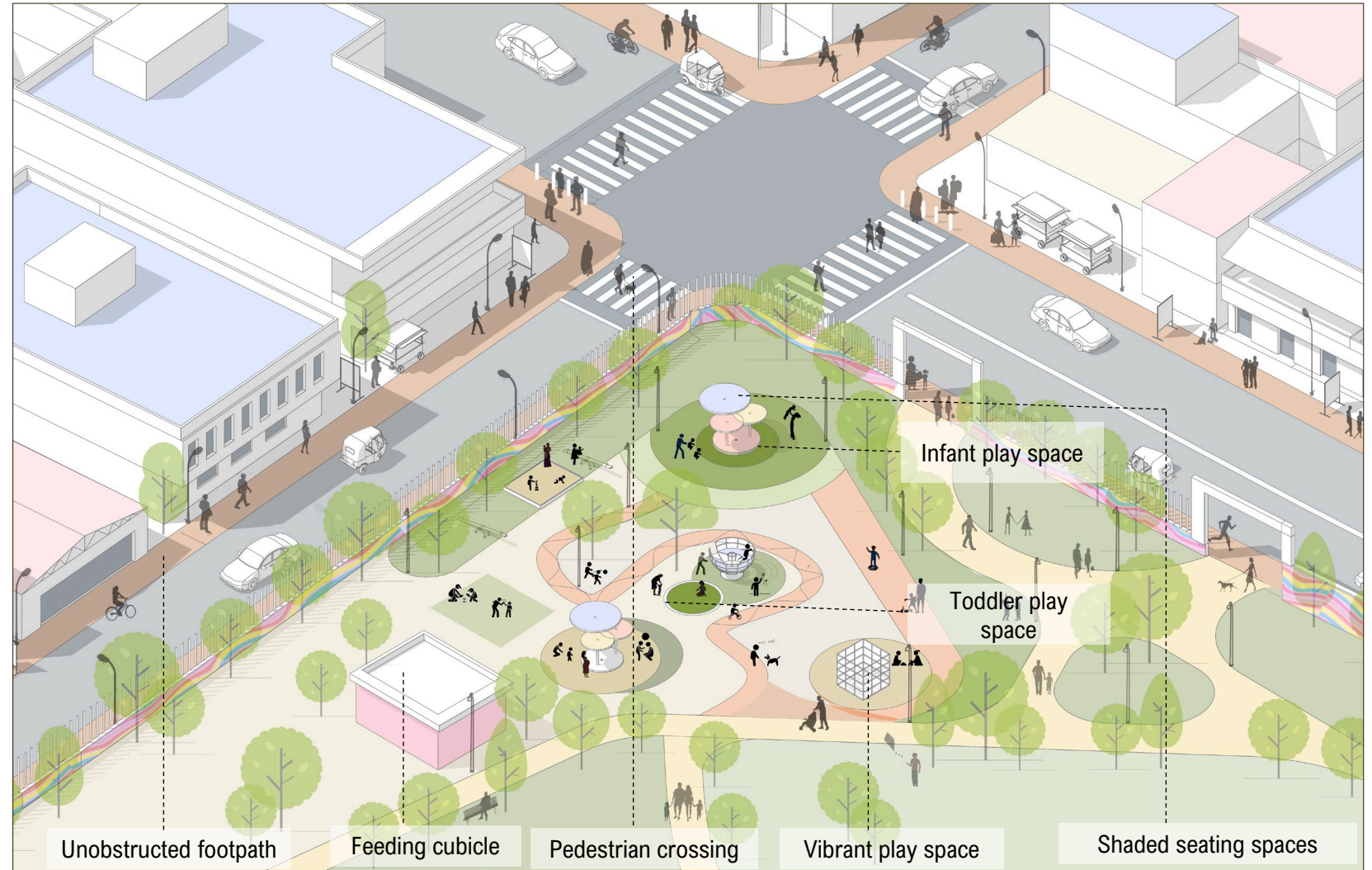
Graphics source: WRI India

These guidelines highlighting the five objectives of young children and caregiver-friendly neighbourhood i.e., **safe, green, accessible, playful, and inclusive**, can be applied to both existing and upcoming open green space developments for young families at both city and neighbourhood levels.

It provides guidance to **improve access around 500m radius** of parks and playgrounds, design seamless, and well-connected movement within park premises for all ages, and enhance the availability of amenities and facilities, especially for young children and their caregivers within parks & playgrounds. It also focuses on different approaches to designing child-friendly interactive landscapes and play space characteristics based on age-specific play activities best suited for their overall development.

The design guidelines in this document have been structured based on the five objectives of a young family-friendly neighbourhood as follows:

1. Improving access around 500m radius of parks & playgrounds
2. Circulation within parks & playgrounds
3. Amenities & facilities within parks & playgrounds
4. Young children-friendly landscape
5. Play space characteristics for young children (0-5 yrs)
6. Play space for age group 0-1yr
7. Play space for age group 1-3yr
8. Play space for age group 3-5yr



Graphics source: WRI India

# 1. IMPROVING ACCESS AROUND 500m RADIUS OF PARKS & PLAYGROUNDS

## A Young children and family-friendly walkways

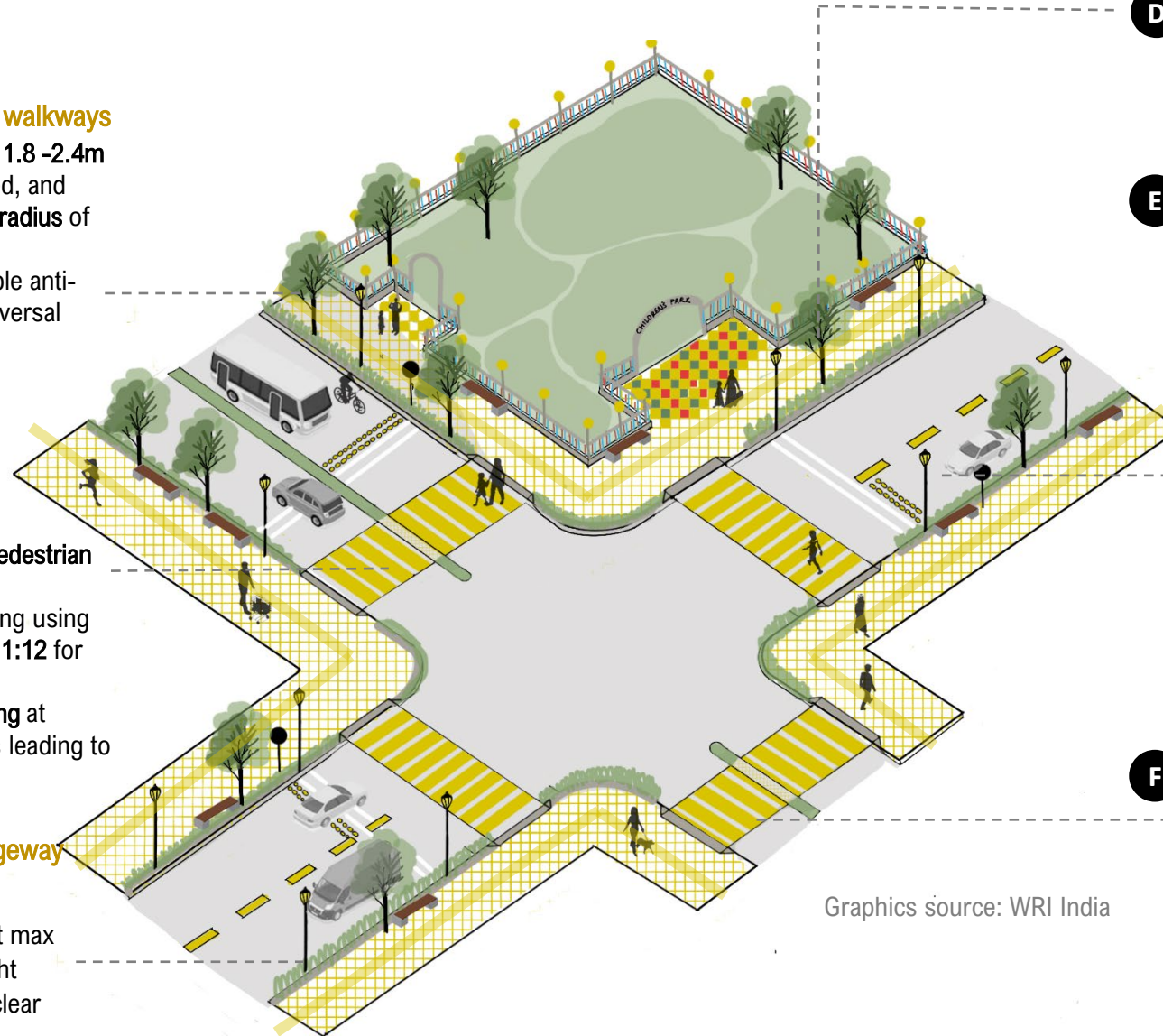
- Ensure **continuous network** of min. **1.8 -2.4m wide** unobstructed, at grade, shaded, and protected walkway around a **500m radius** of park/ playground
- Provide **tactile paving** strip of suitable anti-skid material along walkway for universal accessibility

## B Pedestrian crossing for young children and families

- Provide min. **3m wide dedicated pedestrian crossings**
- Connect the footpath to the crossing using **ramps** with a slope not exceeding **1:12** for safe access to parks/ playgrounds
- If feasible, provide **tabletop crossing** at junctions and mid-block crossings leading to parks/playgrounds with a slope

## C Safety buffer between street carriageway and pedestrian walkways

Provide **green buffer** (plantation height max **0.8m**) or **interactive railings** (max height **0.95m**) along footpath for safety and clear visibility



## D Park entry

Ensure **wide and legible, highlighted** entrance of park/ playground (atleast **3m wide**)

## E Wayfinding and safety

- Add signage indicating **speed limits, pedestrian crossings, slow vehicular speeds, bus stops, designated parking areas, important landmarks, and destinations** **20m** before pedestrian crossings along footpaths
- Provide low, attractive pedestrian lighting of height **3.5-5m** and of **6-8 lux level** to light footpaths and pavements at intervals of **12-15m**
- Ensure low-height boundary walls with a **colorful, and visually porous wall area** **between the height of 0.6-0.9m** for increased visibility and safety

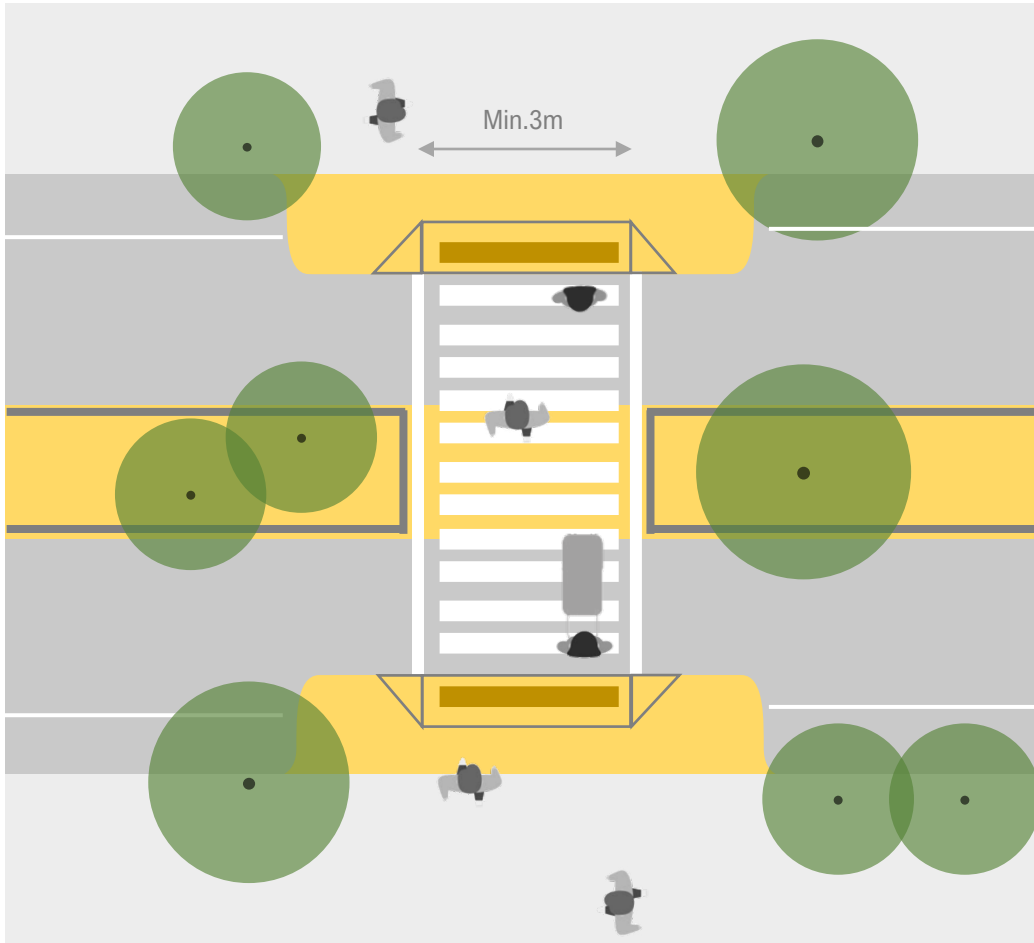
## F Traffic calming measures in adjoining streets

- Provide **slow traffic zones** in front of entry and exit points of parks/ playgrounds by **painting or providing different treatment with textures on the carriageway**
- Ensure traffic calming measures such as **rumble strips/ speed bumps/ speed hump/ cobblestones/ safety studs** or any other suitable material, **13m** before pedestrian crossings on all surrounding streets

Graphics source: WRI India

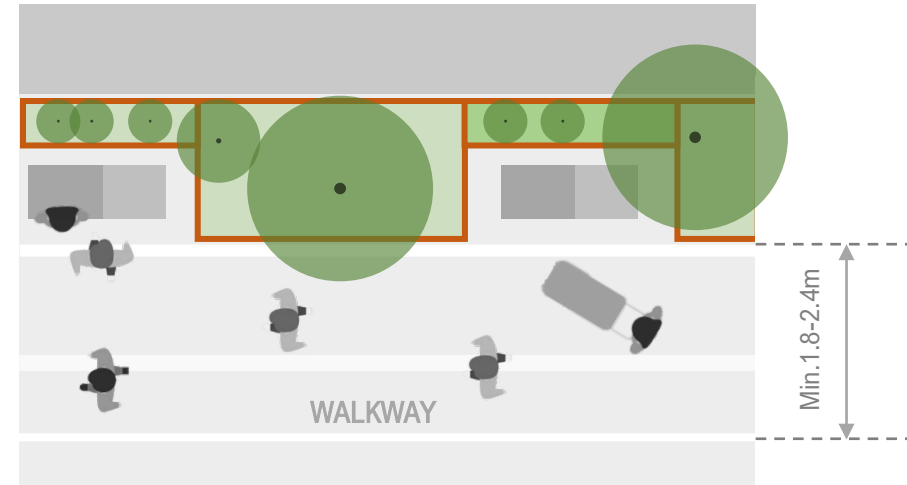
## DESIGN DETAILS\_ IMPROVING ACCESS AROUND 500m RADIUS OF PARKS & PLAYGROUNDS

Min. **3m wide** dedicated pedestrian crossings and ramps with slopes ranging from **1:12-1:15**

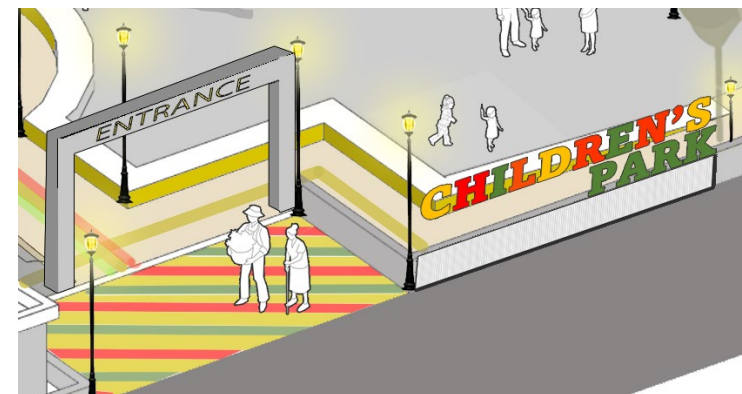


Graphics source: WRI India

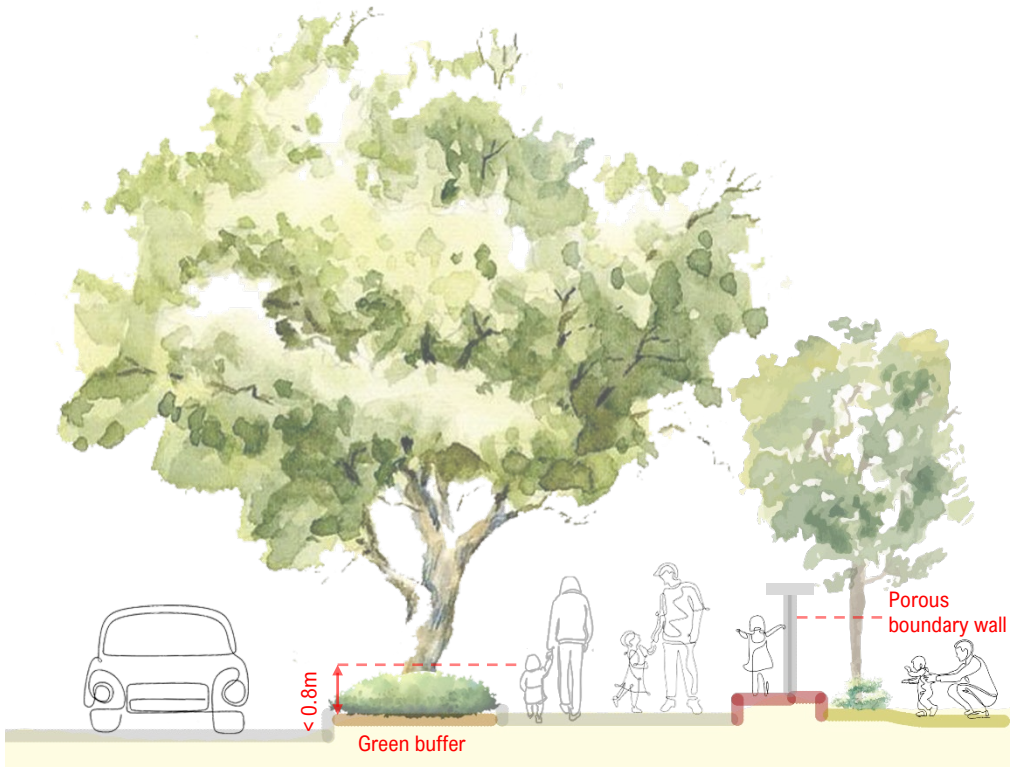
Continuous network of **min. 1.8-2.4 m wide unobstructed, at grade shaded walkway**



**Min. 3m wide** park entry with colored flooring pattern demarcating entrance

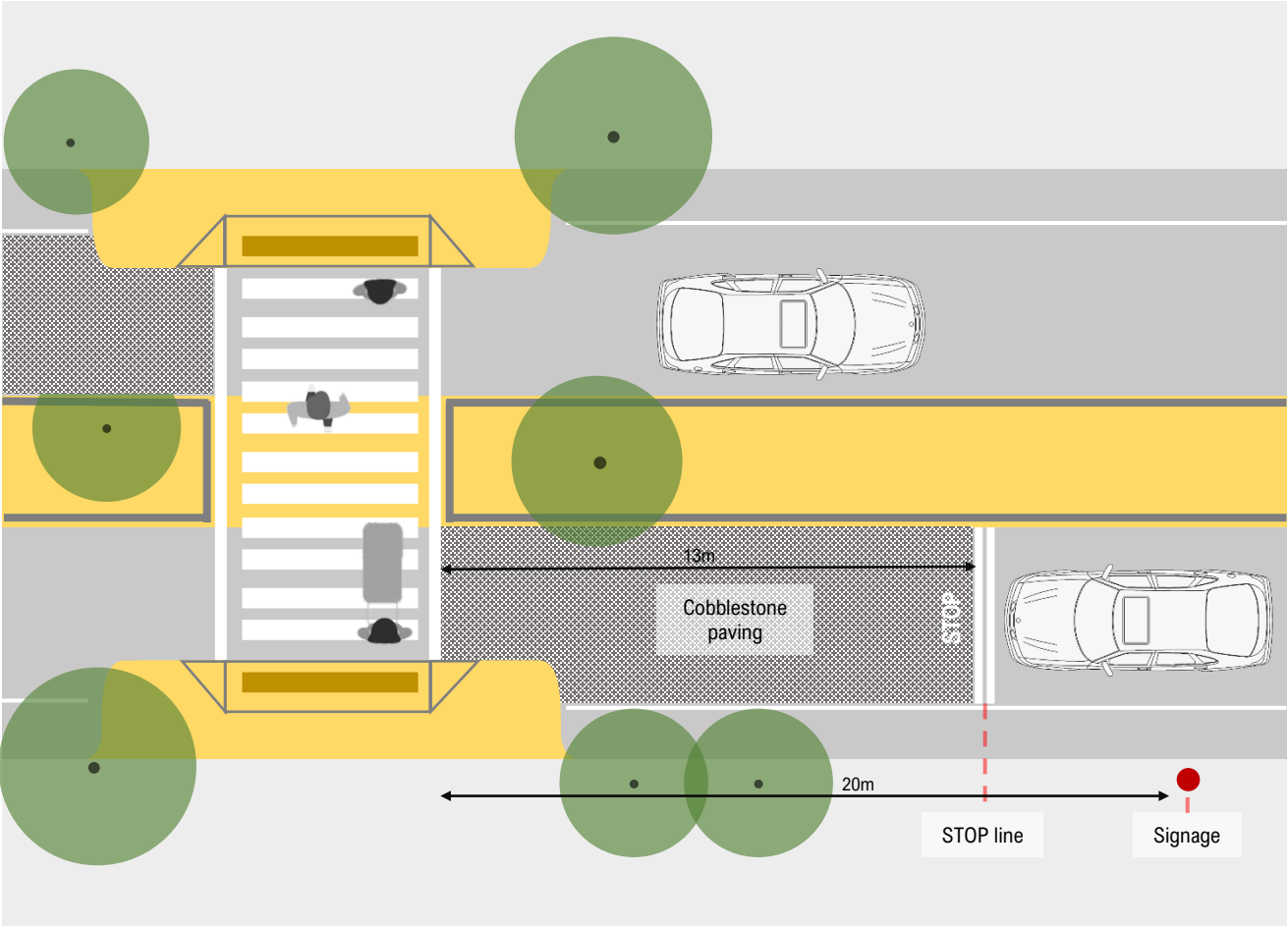


**Green buffer** (plantation height max **0.8m**) or **interactive railings** (max height **0.95m**) along footpath for safety and clear visibility; **low-height** boundary wall of parks/ playgrounds

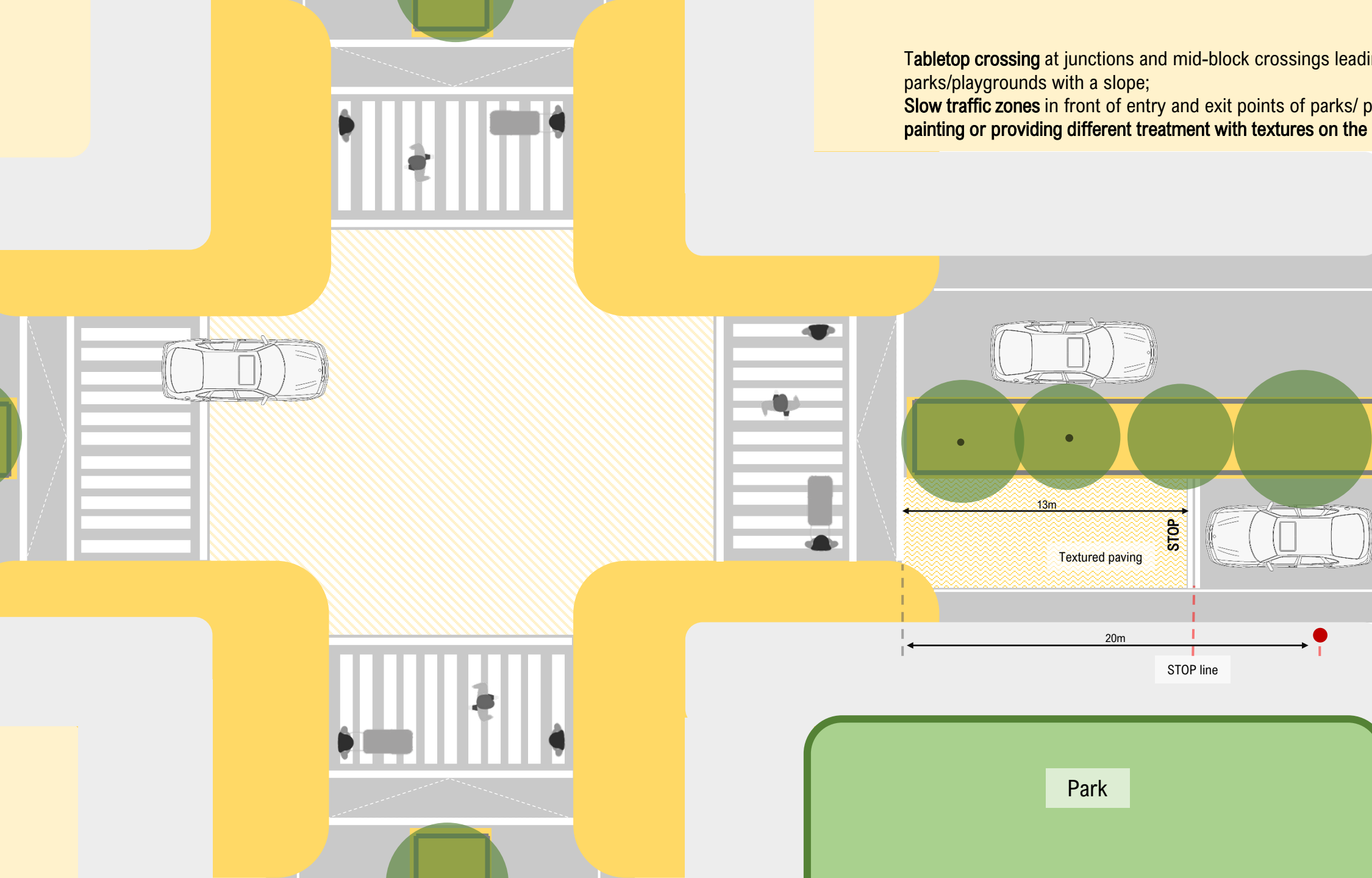


Graphics source: WRI India

Traffic calming measures such as **raised crossing/ rumble strips/ speed bumps/ speed hump/ cobblestones/ safety studs** or any other suitable material, **13m** before pedestrian crossings on all surrounding streets and signage **20m** before pedestrian crossings along footpaths



**Tabletop crossing** at junctions and mid-block crossings leading to parks/playgrounds with a slope;  
**Slow traffic zones** in front of entry and exit points of parks/ playgrounds by painting or providing different treatment with textures on the carriageway



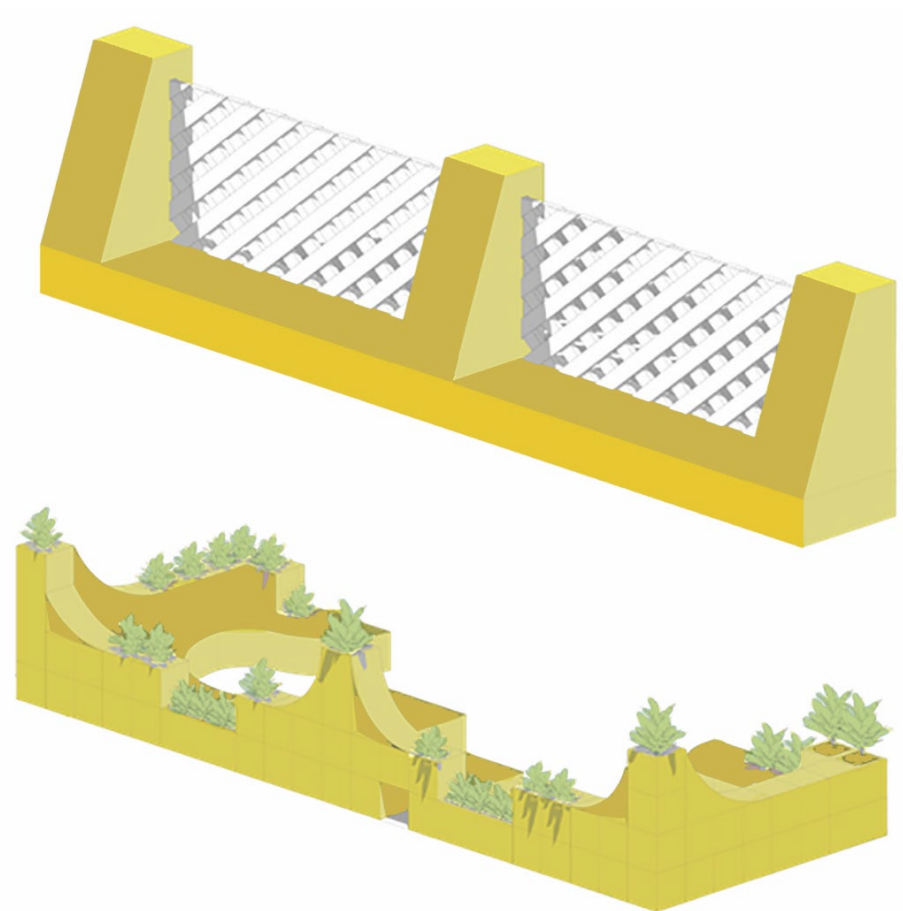


## DESIGN DETAILS\_ IMPROVING ACCESS AROUND 500m RADIUS OF PARKS & PLAYGROUNDS

Clear height of 2.1m between signage bottom and finished footpath level. Refer to IRC 67 for detailed design specifications.



Low-height boundary walls with a colorful, and visually porous wall area between the height of 0.6-0.9m for increased visibility and safety



## 2. CIRCULATION WITHIN PARKS & PLAYGROUNDS

### A Young children and family-friendly walkways

- Ensure play and pause spaces, facilities & amenities are connected via **wide, well-shaded, well-lit pedestrian walkways**
- Ensure gentle slope ranging from **1:15-1:20** at all level changes along pedestrian walkway
- Provide min. **2-3m wide** unobstructed walkway for comfortable movement of caregivers with pram/baby/ baby carrier
- Provide **tactile paving** strip of suitable anti-skid material along the walkway to ensure universal accessibility
- Provide **clear way-finding signages** along the walkways

### B Curved or figure-eight pathways

Design 'walking loops' or curved pathways which are **well-lit and shaded**, to promote physical activity while limiting risk of getting lost and to encourage children to walk along edges and explore spaces

### C Material selection

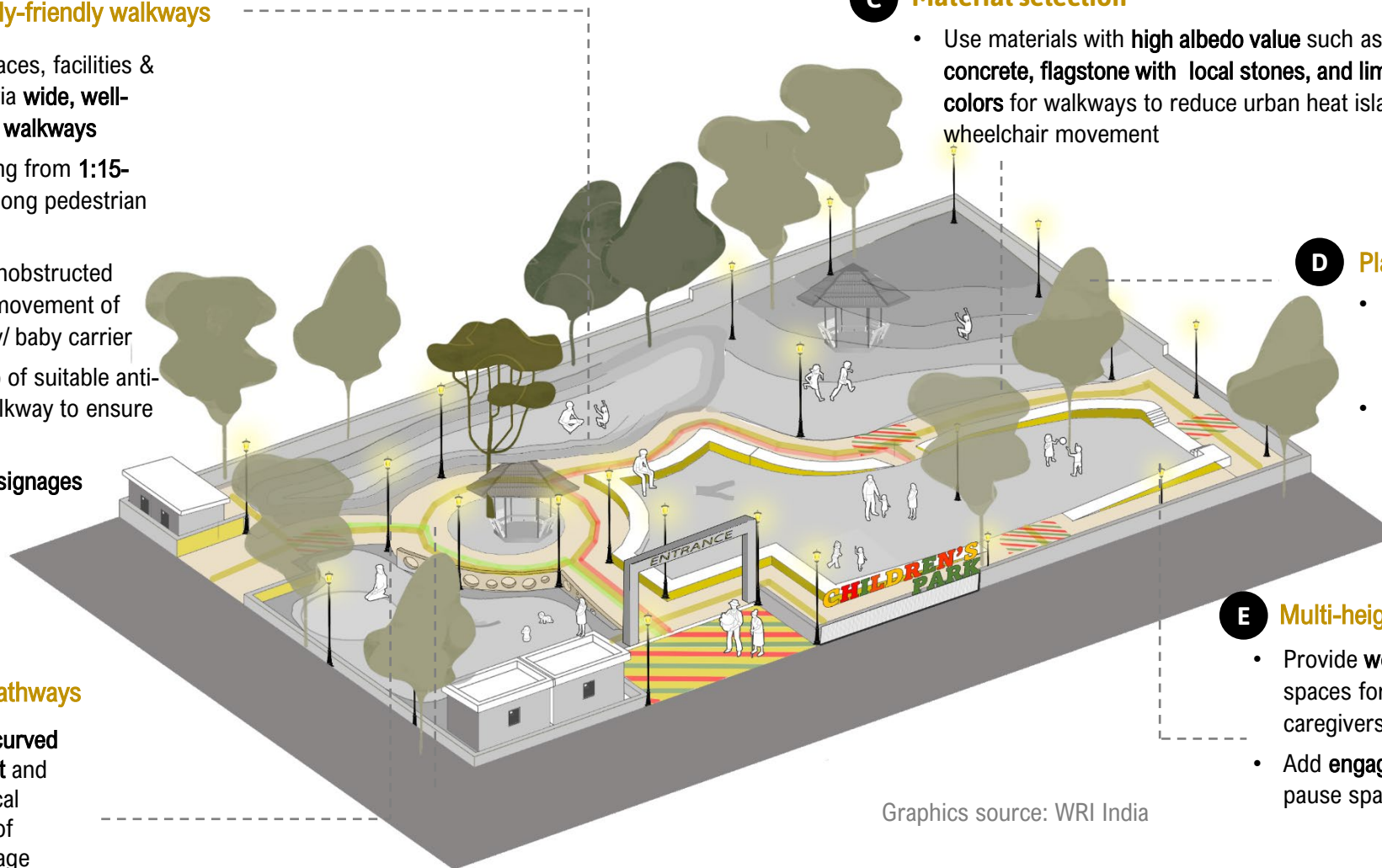
- Use materials with **high albedo value** such as **reflective concrete, tinted concrete, flagstone with local stones, and lime**, preferably in **white or bright colors** for walkways to reduce urban heat island effect and smooth stroller/ wheelchair movement

### D Plantation along walkways

- Ensure min. **clearance height of 2.1-2.4m** for trees with thick and wide canopies along walkways
- **Avoid planting rain trees** to prevent accidents

### E Multi-heighted seating spaces

- Provide **well-lit, multi-heighted seating spaces** for young children and their caregivers at intervals of 100m
- Add **engaging patterns/ play elements** near pause spaces to highlight seating areas



Graphics source: WRI India

## DESIGN DETAILS \_ CIRCULATION WITHIN PARKS & PLAYGROUNDS

Materials with high albedo value such as **reflective concrete, tinted concrete, flagstone with local stones, and lime**, preferably in **white or bright colors** for walkways, **permeable materials** such as **porous bricks, grass pavers or open-joint brick laying** can be considered



Reflective Concrete



Porous brick



Grass pavers



Lime



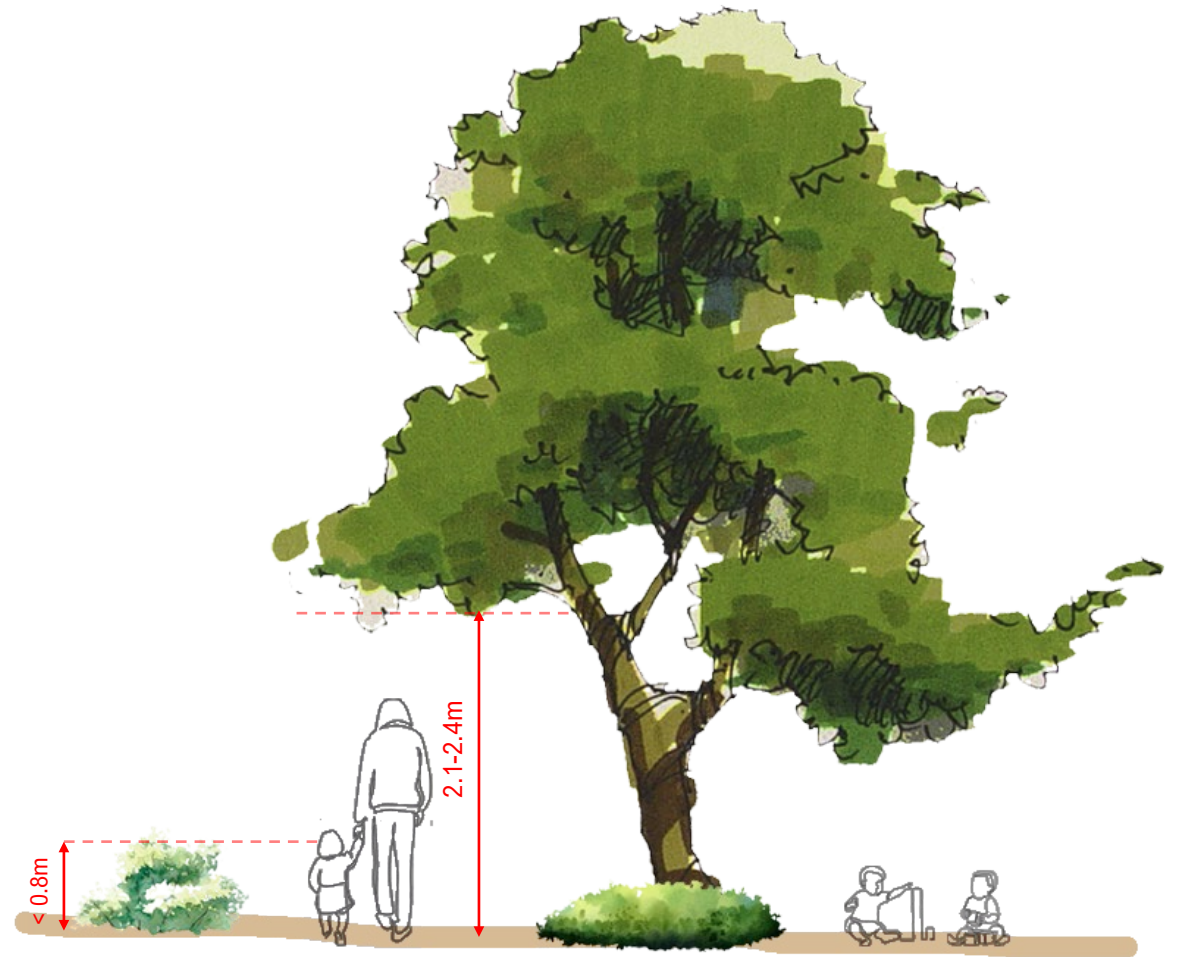
Flagstone



Open-joint bricks

\*This list is not exhaustive and it suggested to use suitable alternative local material

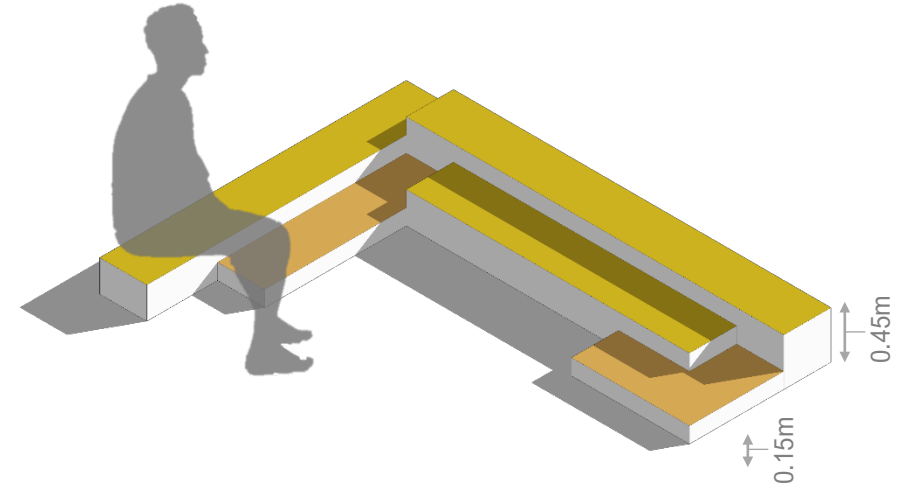
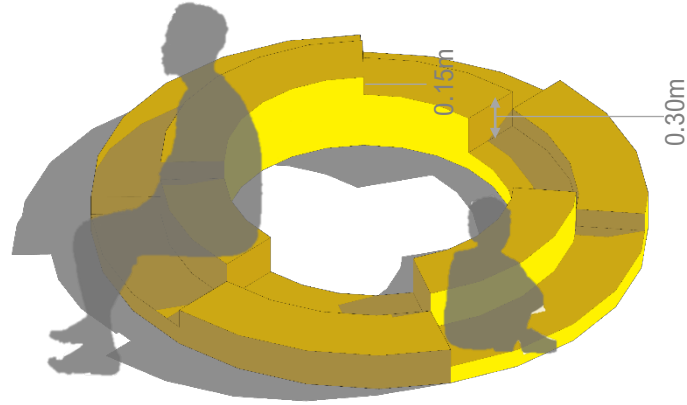
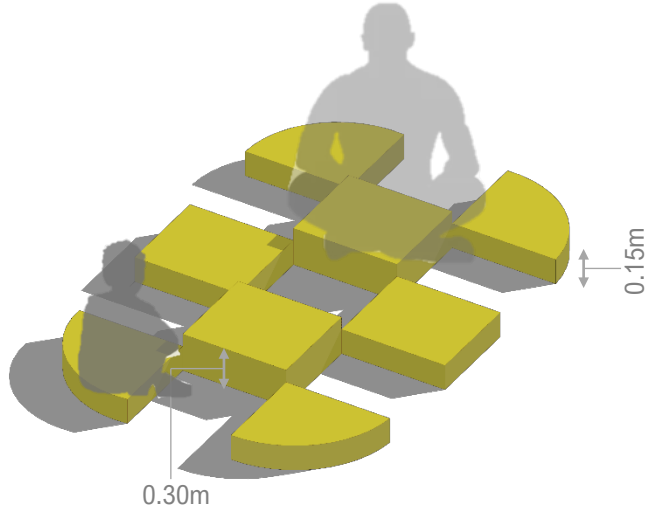
Min. clearance height of 2.1-2.4m for trees with thick and wide canopies along walkways



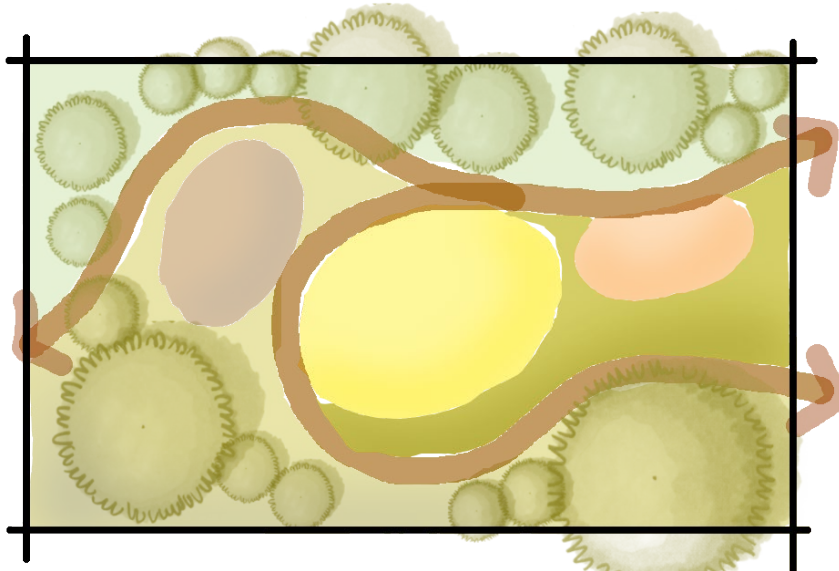
Graphics source: WRI India

## DESIGN DETAILS \_ CIRCULATION WITHIN PARKS & PLAYGROUNDS

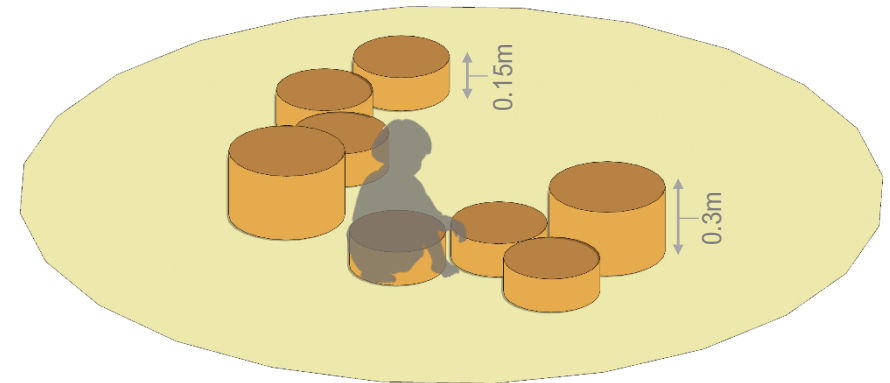
Multi-heighted seating spaces for young children and their caregivers

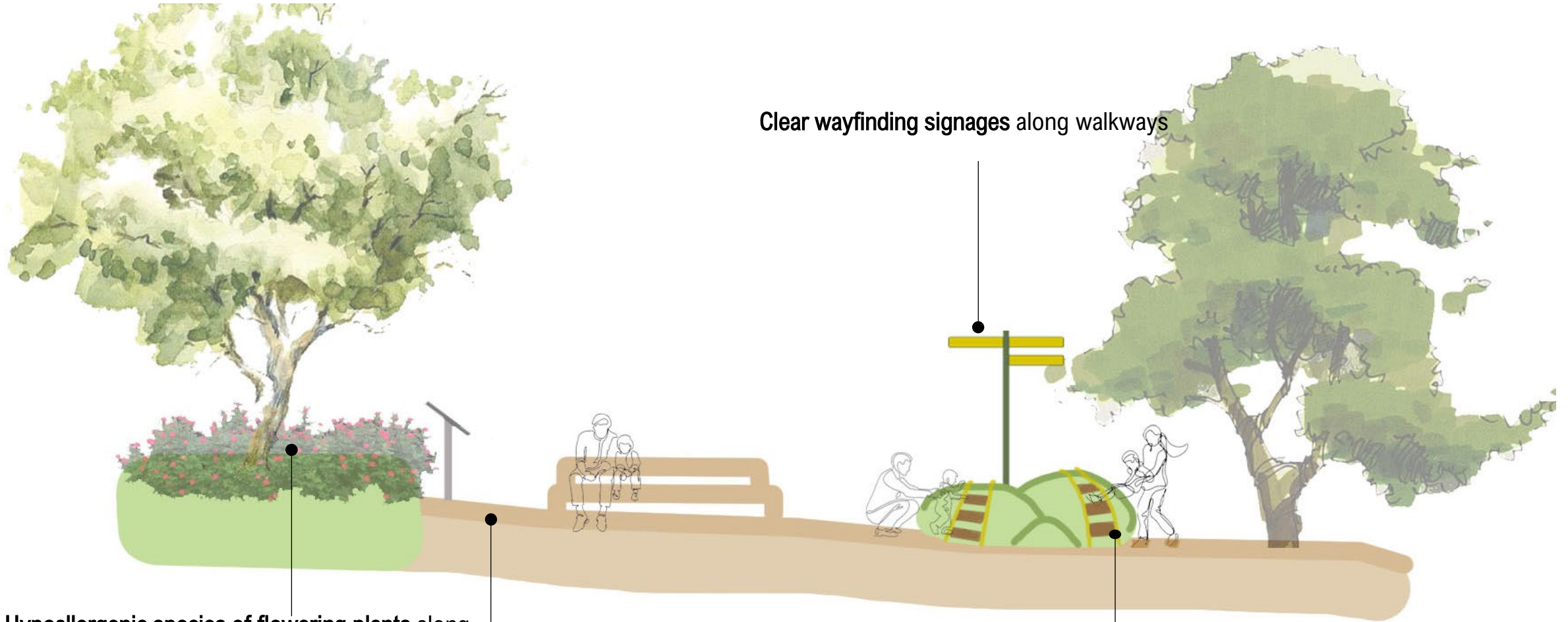


Well-lit walking loops or curved pathways for smooth circulation within park



Graphics source: WRI India





Hypoallergenic species of flowering plants along walkways

Gentle slope ranging from 1:15-1:20 at all level changes along pedestrian walkway

Clear wayfinding signages along walkways

Play elements to engage children near pause points

### 3. AMENITIES & FACILITIES WITHIN PARKS & PLAYGROUNDS

#### A Nursing station

Provide clean, well-lit, and ventilated feeding booths for nursing mothers with diaper changing tables (**2.1m X 2.4m nursing station**, provide for at least 2 nursing mothers)

#### B Garbage disposal bins

- Provide accessible garbage disposal bins and **child-heighted waste bins** at a height of **0.45-0.5m** at regular intervals (every 100m) and near seating spaces
- The bins could have attractive forms resembling animals, birds, etc.

#### C Drinking water and toilet facilities

- Provide clean drinking water facilities at both adult and child (**0.5-0.55m**) heights for easy access
- Provide clean toilets with separate cubicles equipped with toilet fixtures at child height; for young children, **max. toilet seat height** should be **0.25-0.3m** and **max. height of hand basin** should be **0.5-0.55m**

#### D Lighting design

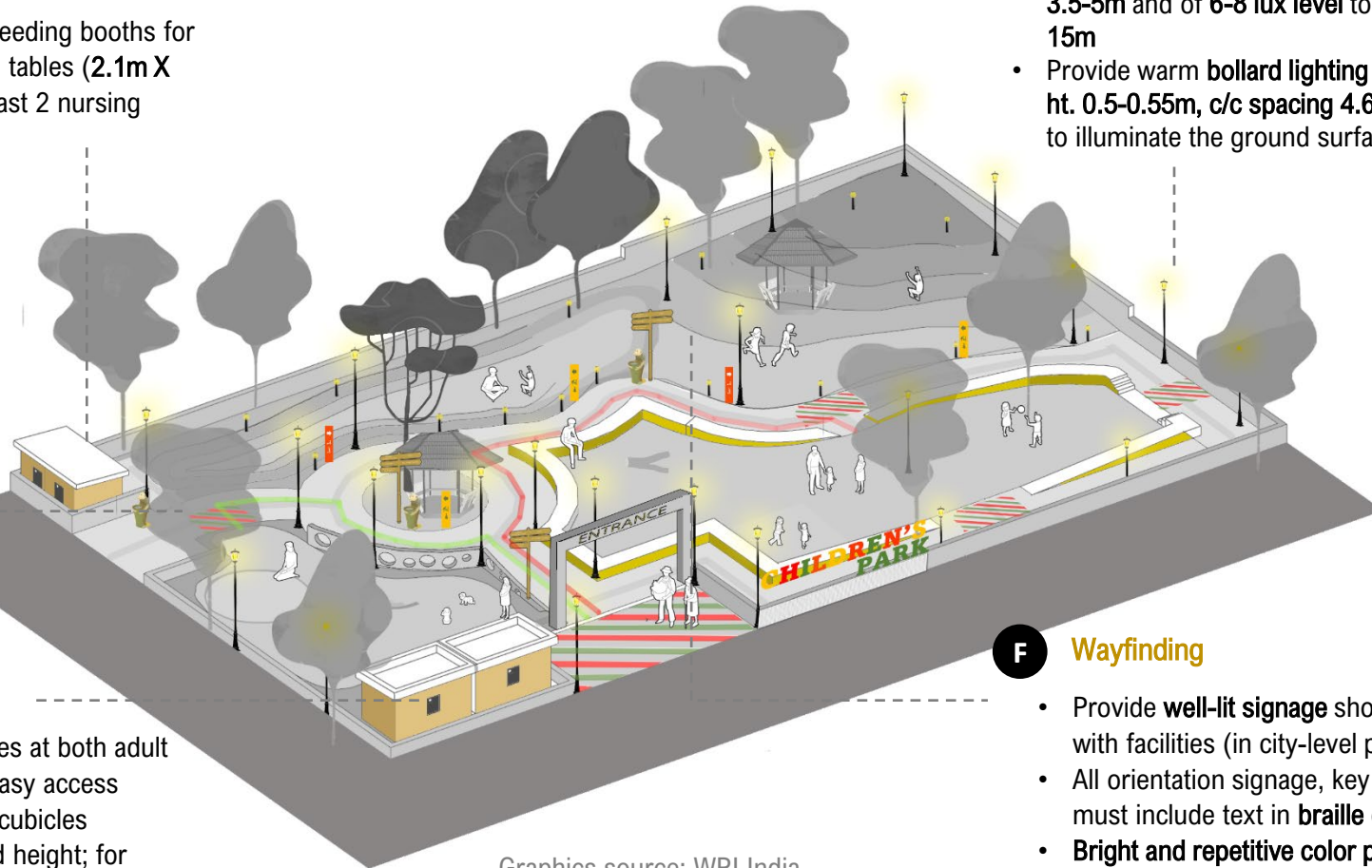
- Provide low, attractive, and warm pedestrian lighting of height **3.5-5m** and of **6-8 lux level** to light walkways at intervals of **12-15m**
- Provide warm **bollard lighting** of ht. **0.2-0.3m, c/c spacing 2.4m** or ht. **0.5-0.55m, c/c spacing 4.6m** or ht. **0.8-0.9m, c/c spacing 9m** to illuminate the ground surface without causing light pollution

#### E Rainwater harvesting

- Provide rainwater harvesting pits based on natural terrain of the site to use collected water for water play and watering plants

#### F Wayfinding

- Provide **well-lit signage** showing entry-exit points; park map with facilities (in city-level parks) at entrance/exit
- All orientation signage, key map, and information plaques must include text in **braille or relief**
- **Bright and repetitive color palette** must be used for all signage (identity, directional and informative)
- Provide **innovative, playful, and stimulative informational signage** at height of **0.5-0.55m** including interesting facts about trees or native plants and insects



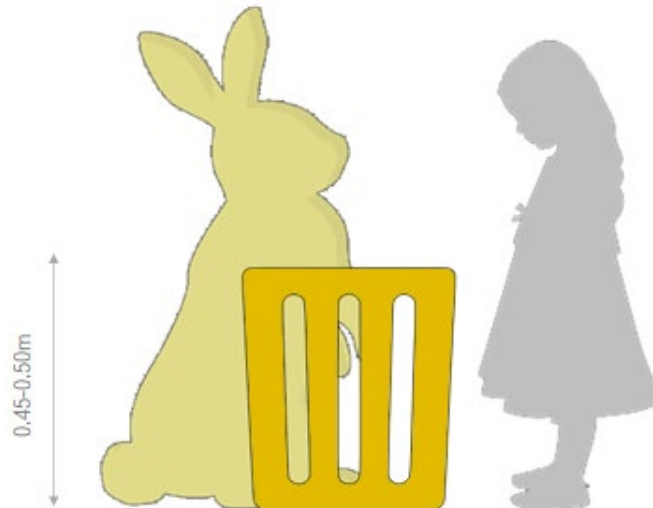
Graphics source: WRI India

## DESIGN DETAILS \_ AMENITIES & FACILITIES WITHIN PARKS & PLAYGROUNDS

### Toilet fixtures & drinking water fountain at child-height

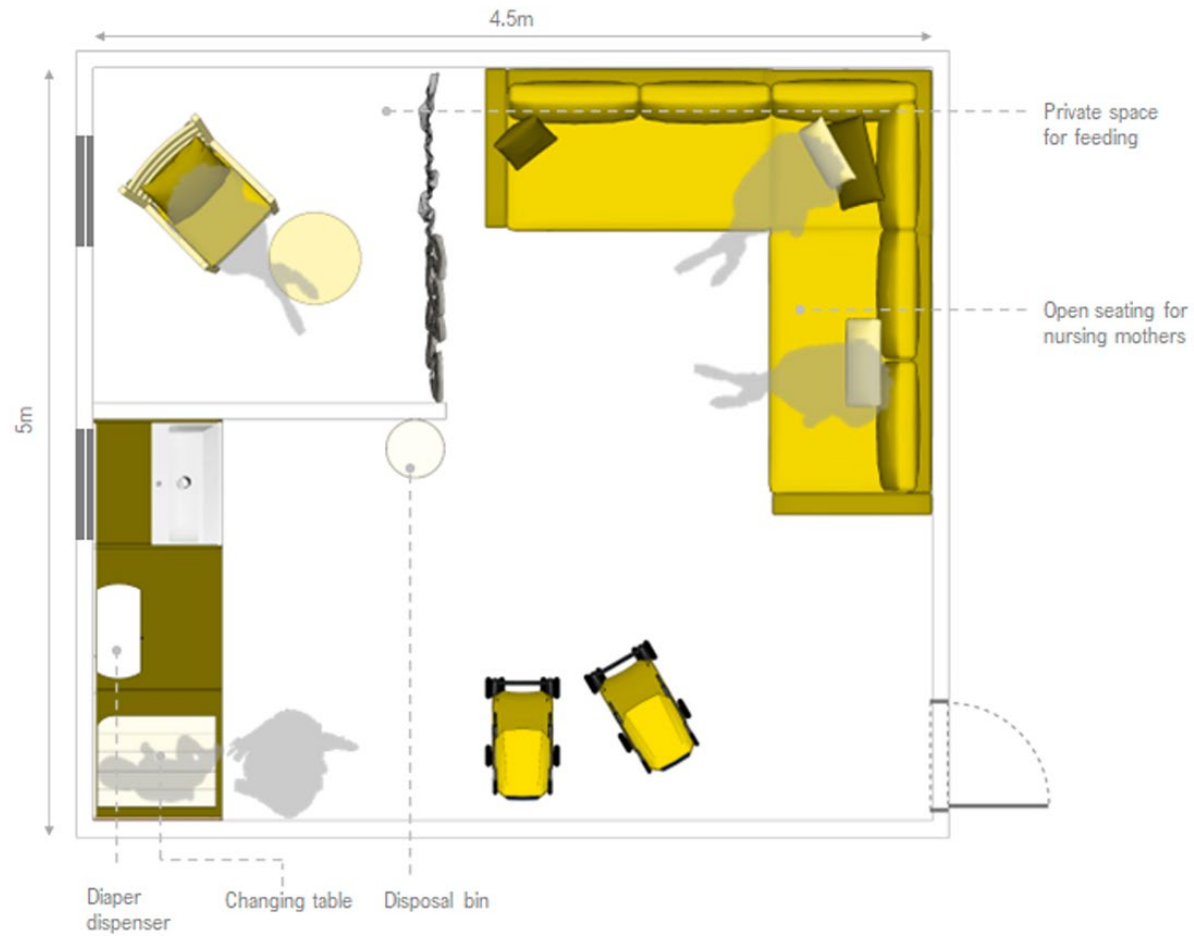


### Child-heighted waste bin

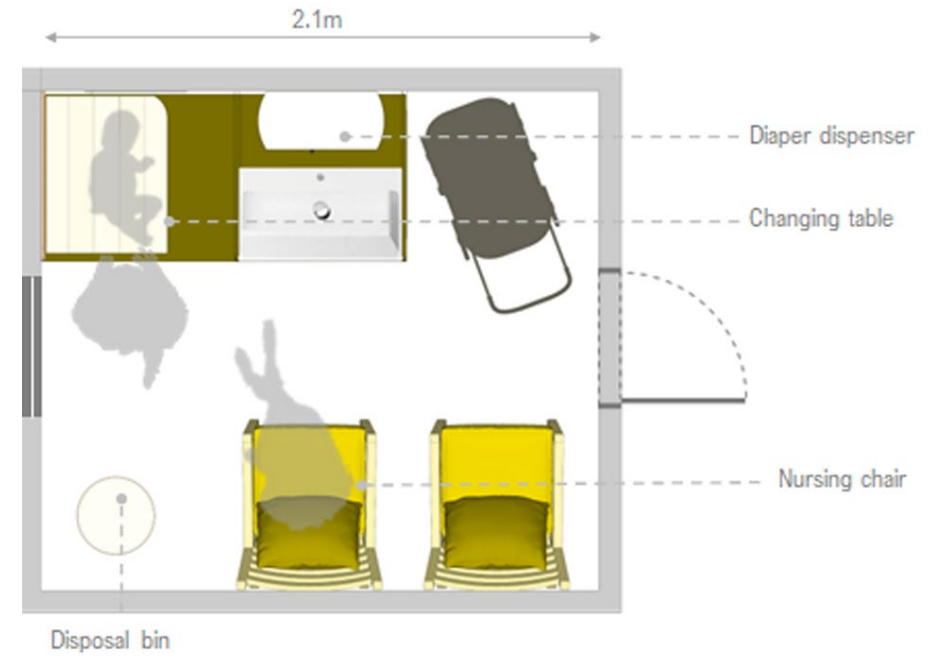


# DESIGN DETAILS \_ AMENITIES & FACILITIES WITHIN PARKS & PLAYGROUNDS

## Breastfeeding booth



Layout A



Layout B



## DESIGN DETAILS \_ AMENITIES & FACILITIES WITHIN PARKS & PLAYGROUNDS

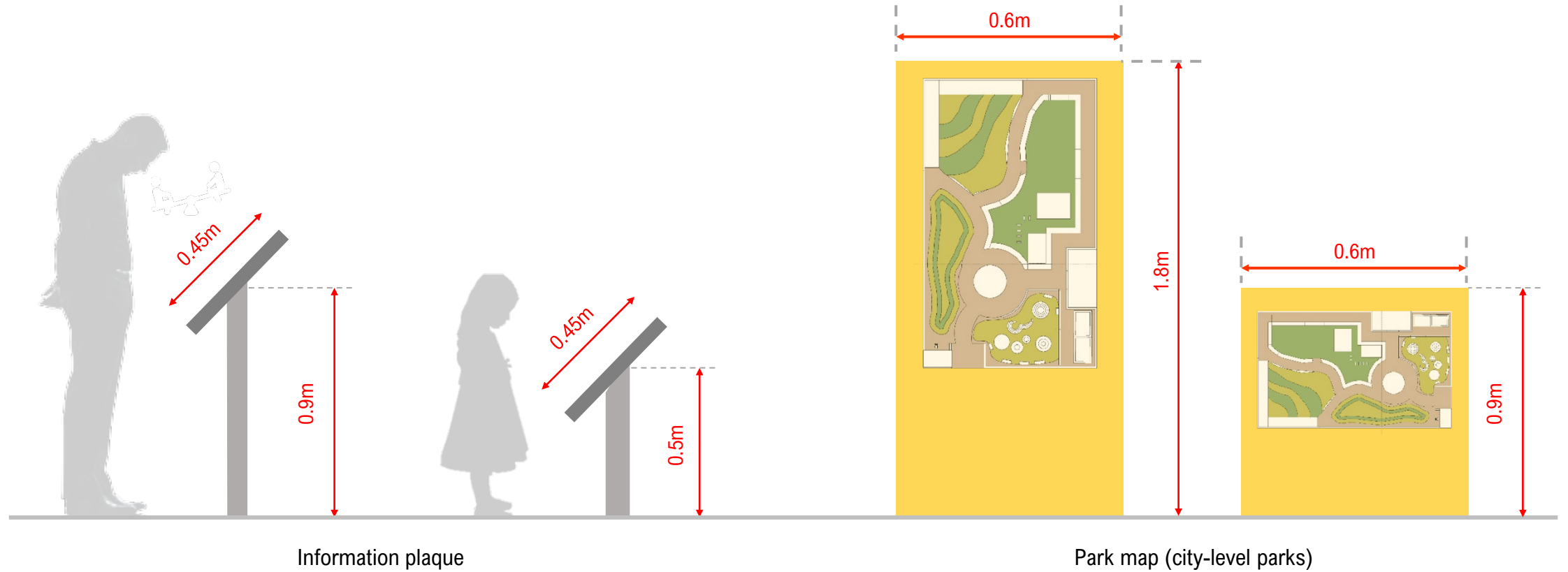
Well-lit and vibrant identification signage at park entrance



Graphics source: WRI India

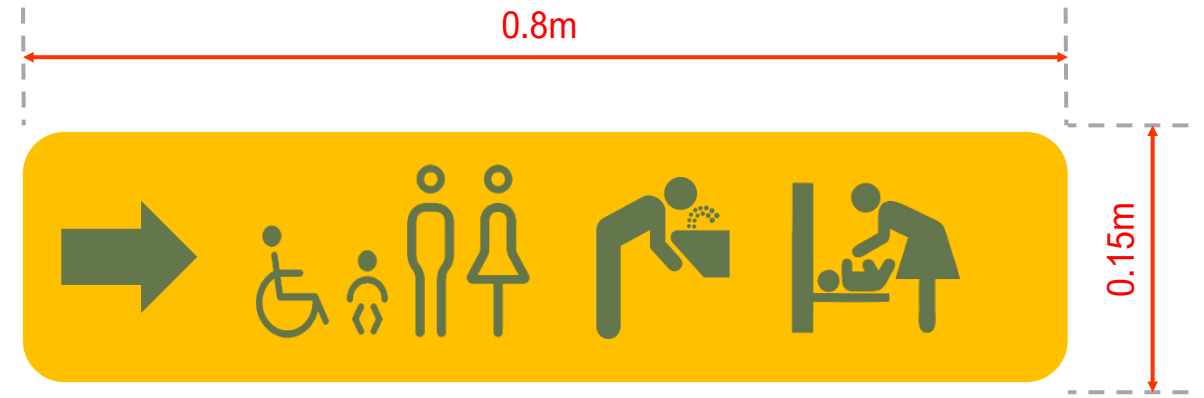
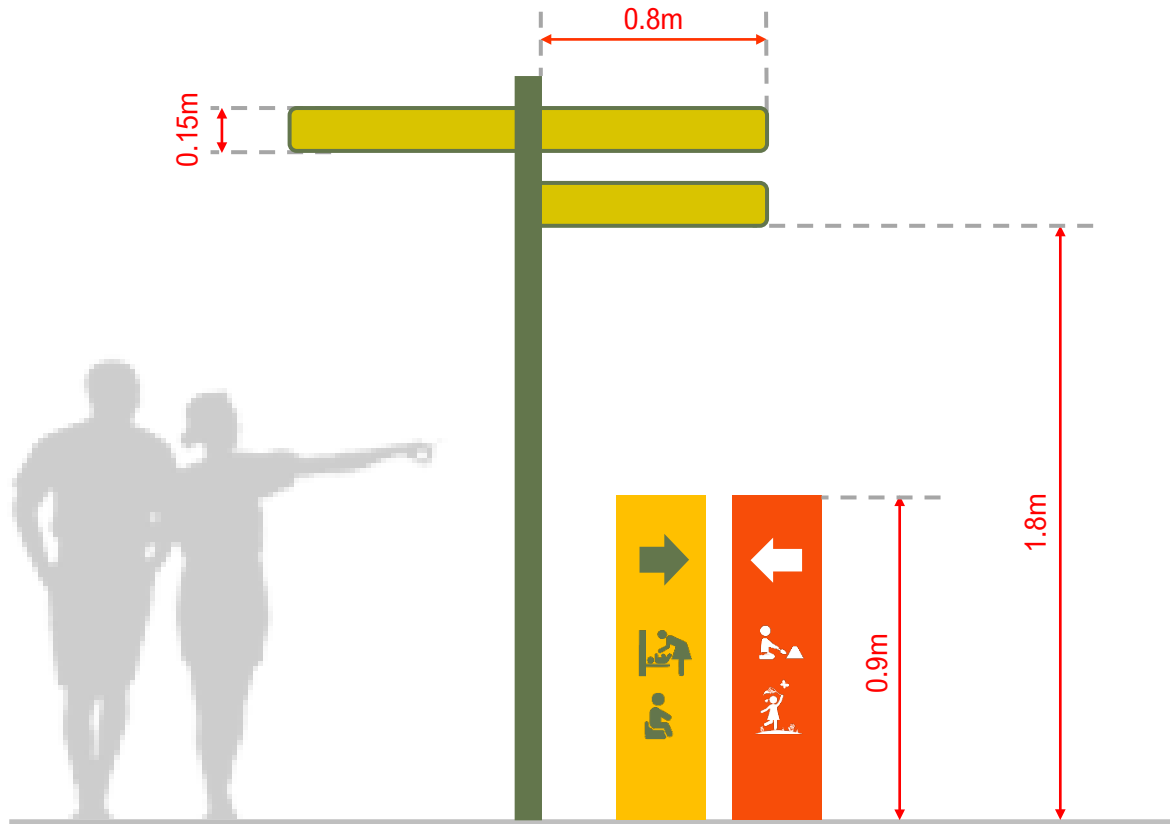
## DESIGN DETAILS \_ AMENITIES & FACILITIES WITHIN PARKS & PLAYGROUNDS

Well-lit informational signage at **adult and child heights**; information must also include **text in braille or relief**



Graphics source: WRI India

Directional signage: Pole sign



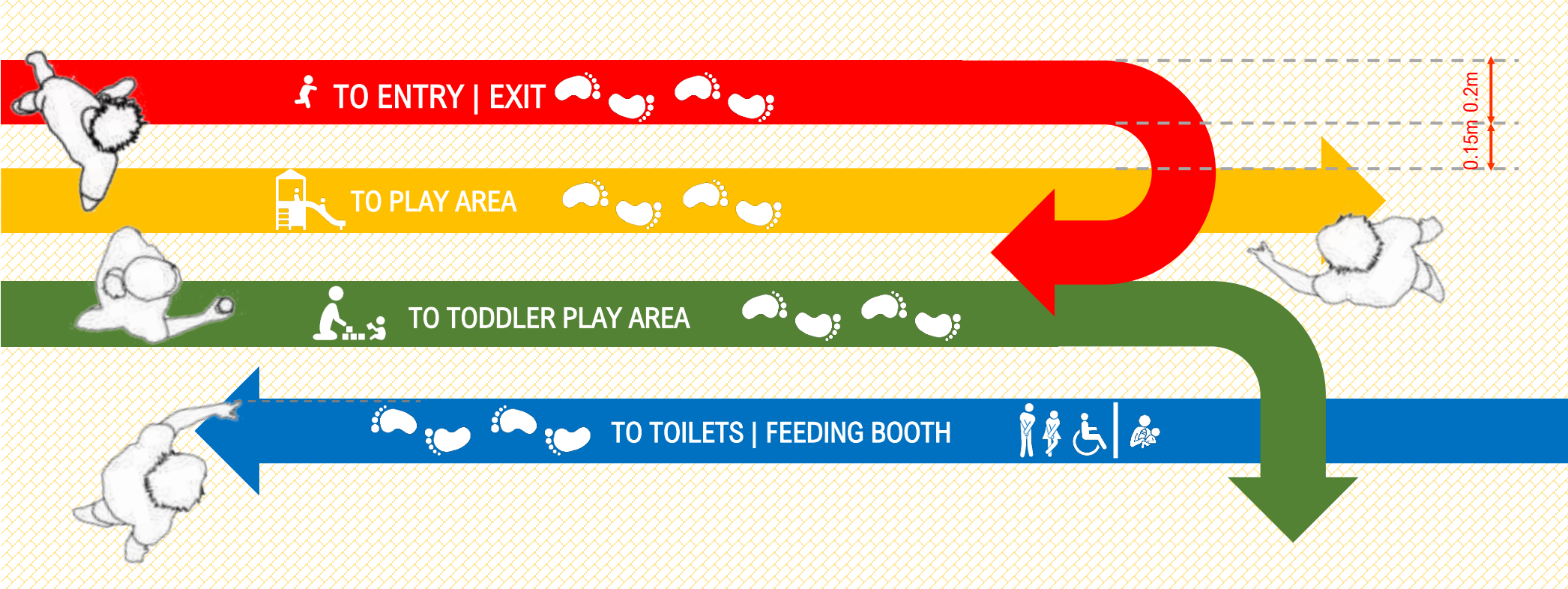
Facilities



Play areas

Graphics source: WRI India

Directional signage: Floor-based signage with bright colors



Graphics source: WRI India

## 4. YOUNG CHILDREN-FRIENDLY LANDSCAPES

### A Tree & ground cover

- Ensure **100% shade** around all play areas; shade trees with **thick foliage** for climatic protection (e.g., from sun, rain and wind) and for comfort at all times of the day
- Include **medicinal, herbal, air-purifying, indigenous** plants, vegetables, and fruit-bearing plants with gardening opportunities
- Provide grass, shrubs, and plants with different colors, textures, shapes, and smells at height of **0.95m**
- Include **noise berms/ landscape mounds** towards park/playground periphery to block noise from adjacent streets

### B Child-friendly plant species

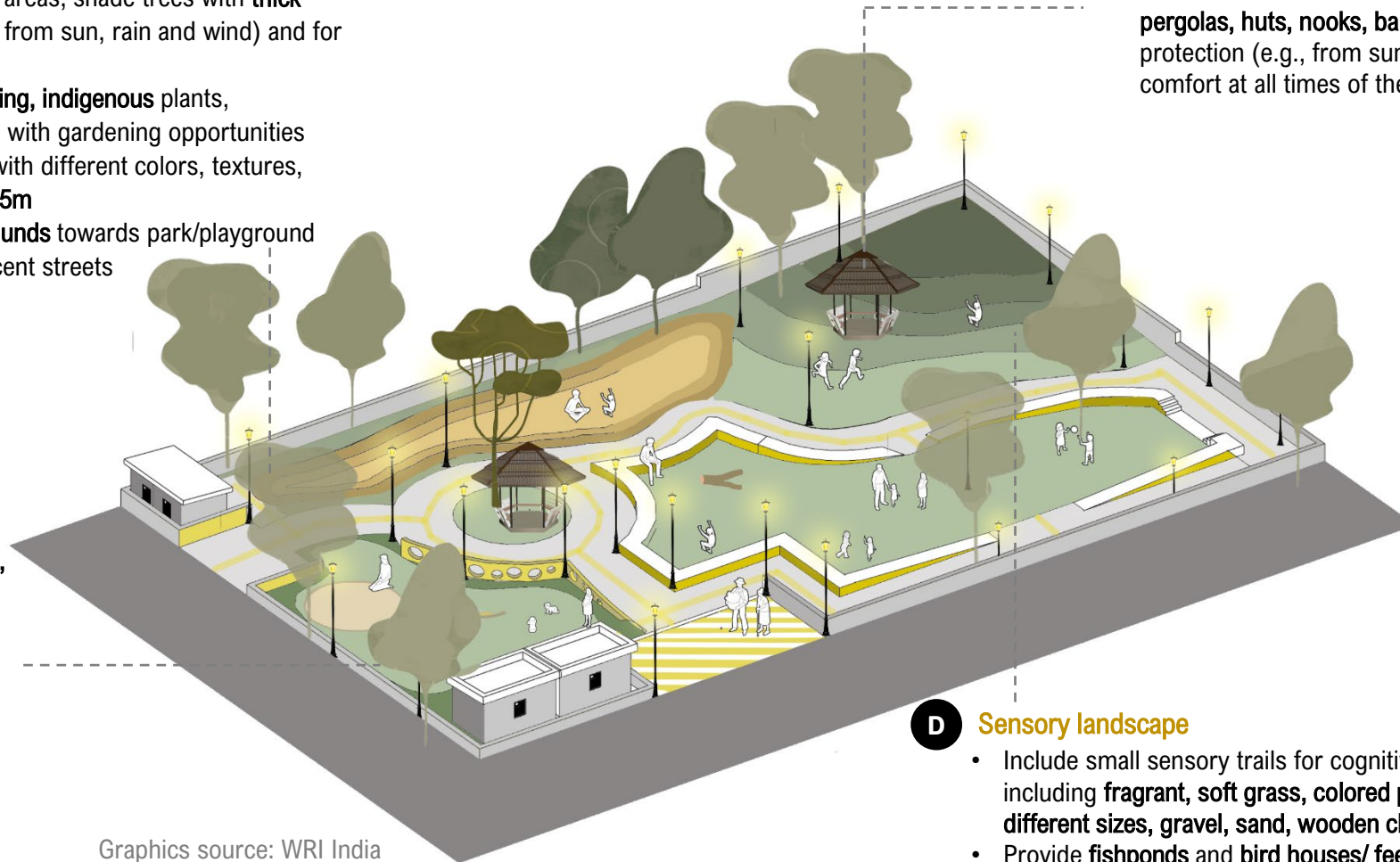
- Plant species that are **hypo-allergenic and flowering** (sunflower, rose, passionflower, nasturtium, butterfly pea, lavender etc.) and safe for children's oral consumption along walkways and play spaces
- Avoid planting species such as **oleander, philodendron, money plant, caladium**, etc. around play spaces
- **Label different species** and include **plant uses** to educate and raise awareness

### C Sheltered spaces for climate protection

Add man-made sheltered structures such as **pergolas, huts, nooks, bamboo tents** etc. for climatic protection (e.g., from sun, rain, and wind) and for comfort at all times of the day

### D Sensory landscape

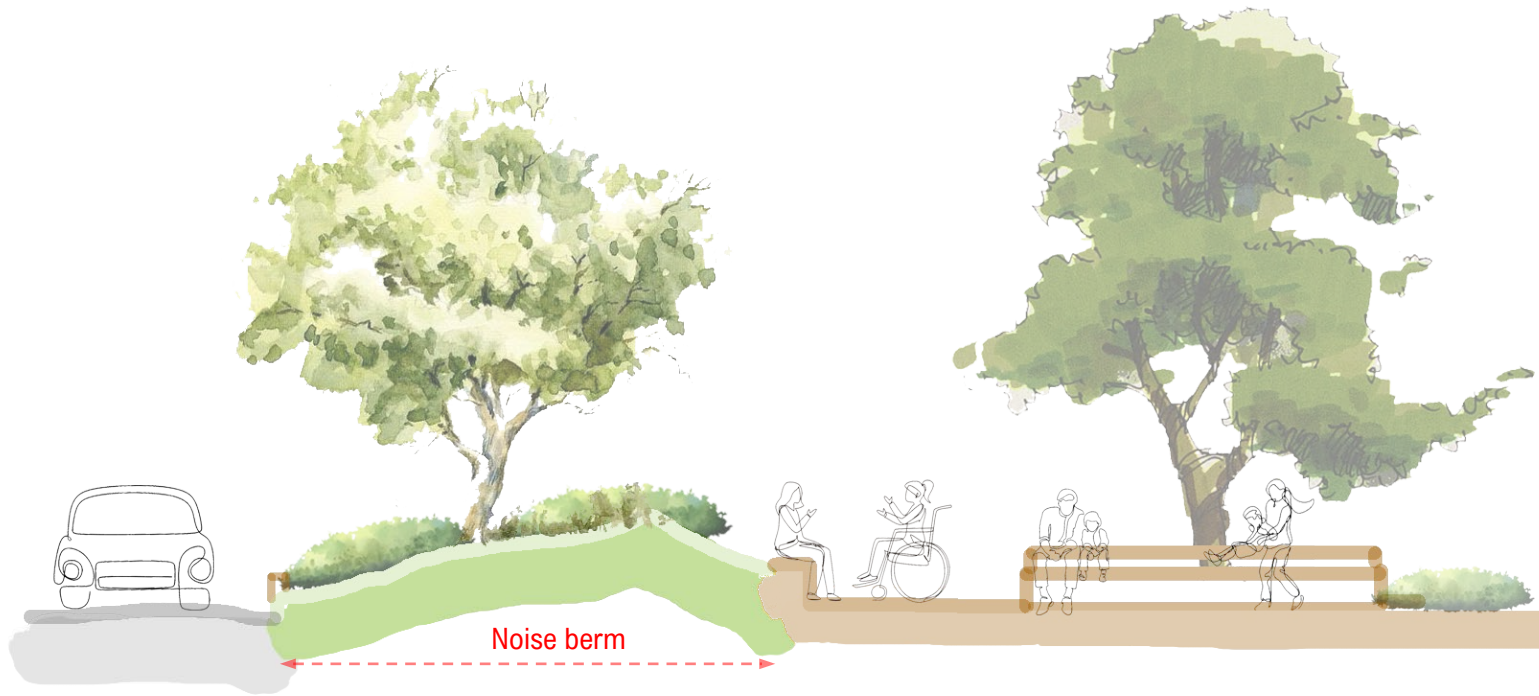
- Include small sensory trails for cognitive development including **fragrant, soft grass, colored pebbles, stones of different sizes, gravel, sand, wooden chips and mosaic tiles**
- Provide **fishponds and bird houses/ feeders** to encourage interaction with biodiversity
- Include **raised mounds, wooden logs, tree stumps and small rounded boulders** as seating and play components



Graphics source: WRI India

## DESIGN DETAILS \_ YOUNG CHILDREN-FRIENDLY LANDSCAPES

Noise berms/ landscape mounds towards park/playground periphery to block noise from adjacent streets



Graphics source: WRI India

Examples of hypo-allergenic plants\*



Sunflower



Rose



Passionflower



Nasturtium



Butterfly pea

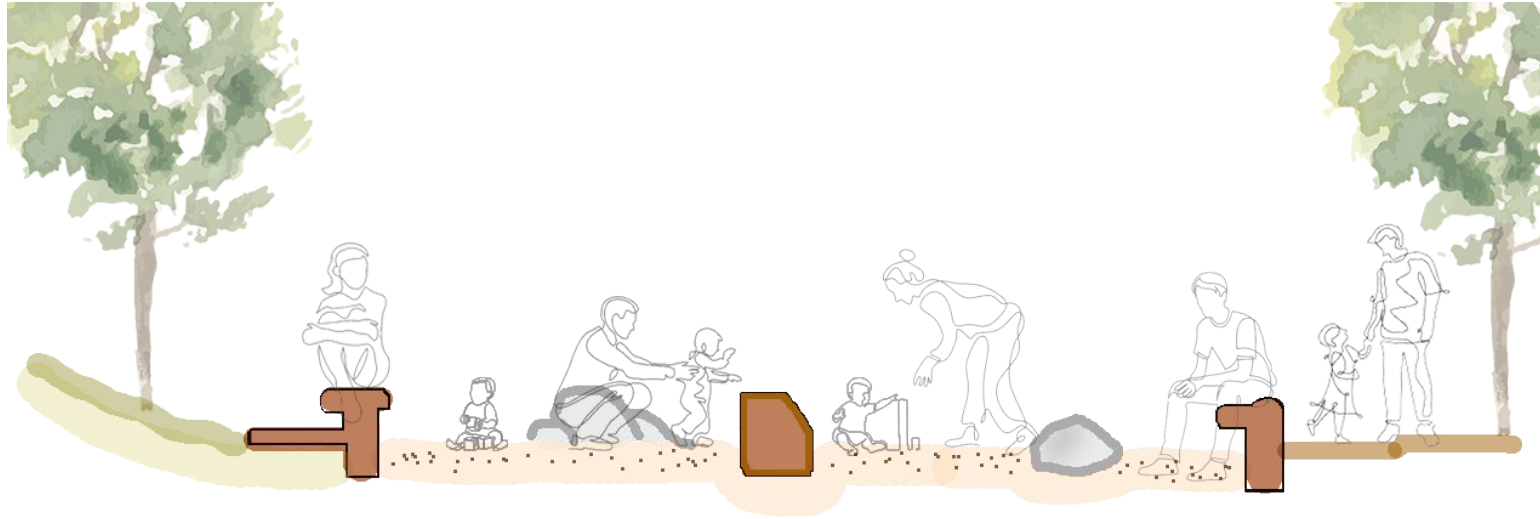


Lavender

\*This list is not exhaustive and it suggested to use suitable alternative local plant species that are non-allergic, edible and free of thorns.

## DESIGN DETAILS \_ YOUNG CHILDREN-FRIENDLY LANDSCAPES

Raised mounds, wooden logs, tree stumps and small rounded boulders as seating and play components



Graphics source: WRI India

Examples of plants that can **trigger allergies\***



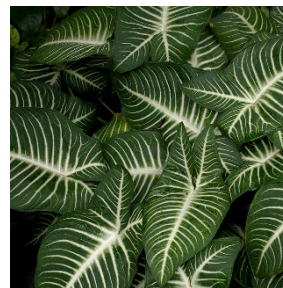
Oleander



Philodendron

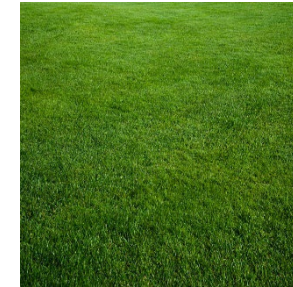


Money plant



Caladium

Material palette for sensory trail



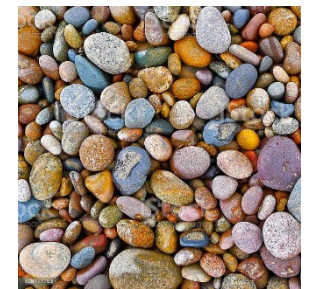
Soft Grass



Gravel



Sand



Pebbles



Wooden Chips

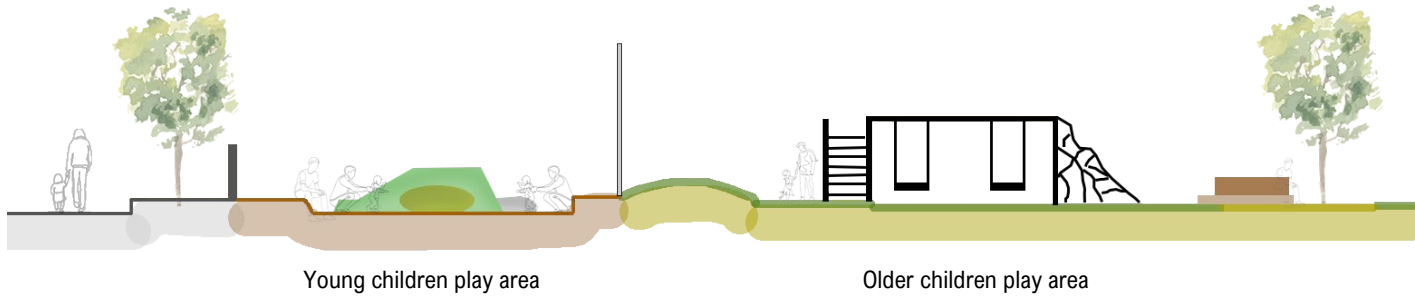


Mosaic Chips

\*This list is not exhaustive and it suggested to use suitable alternative local plant species that are non-allergic, edible and free of thorns.

## 5. PLAY SPACE CHARACTERISTICS FOR YOUNG CHILDREN (0-5 yr)

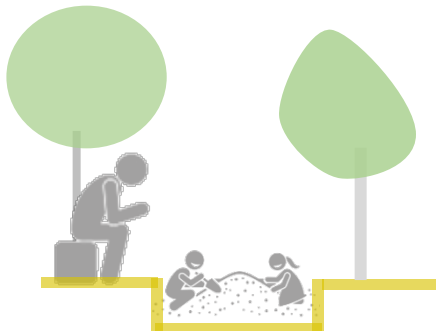
- A** Design dedicated play and walking space for young children **away from play area of older children** such as cricket grounds, badminton courts etc. to avoid accidents



- B** Incorporate natural elements with different textures such as **grass, sand, pebbles, soil, mud, water**, etc. for interaction with nature



- C**
- Ensure use of clean, washed sand of particle size **0.25-1.5mm** for sand play area ensuring removal of crushed seashells or other material injurious to young children
  - Add seating spaces near sand play area located in **quiet, wind-free, and well-shaded zones**



- D** Use loose fill impact absorbing surface such as **sand, mulch**, etc. in play area with a minimum depth of **0.3m** to absorb fall safely without causing any injury to child



- E**
- Use **bright primary colors** such as red, yellow, and orange for **active play zone**
  - Use **cool colors** such as blue and green for **passive/ quiet zone**



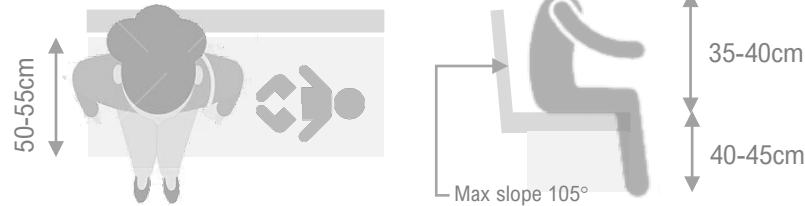


## 5. PLAY SPACE CHARACTERISTICS FOR YOUNG CHILDREN (0-5 yr)

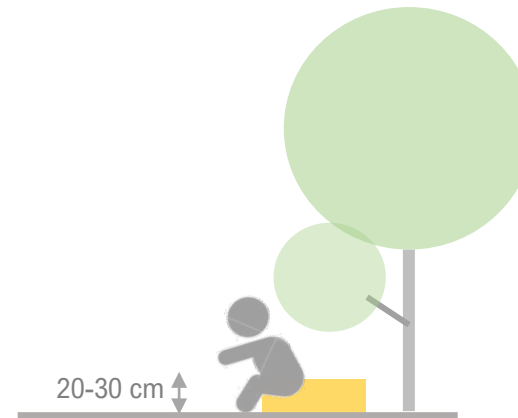
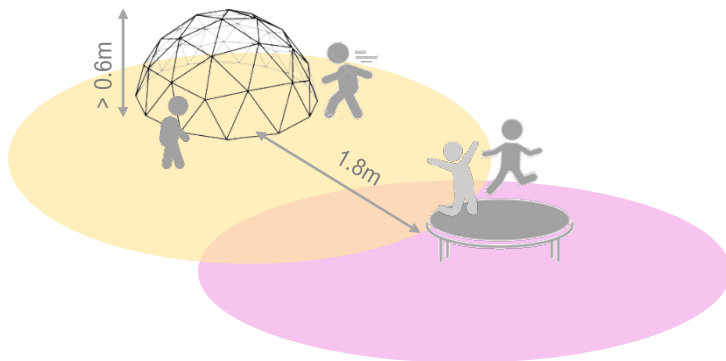
- F**
- Use timber such as **teak, bamboo, and mango** for building innovative play equipment for young children
  - Ensure **min. landscape screening** around play areas to ensure max. visibility



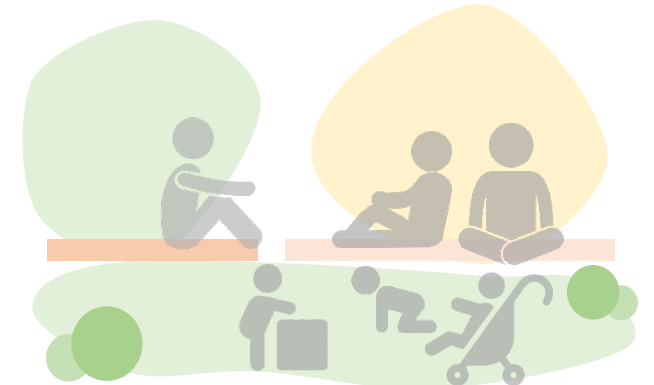
- H**
- Use **all-weather** street furniture made of **natural materials** that ensure comfort most times
  - Add wide benches with proper backrests (**min 0.5-0.55 m wide and 0.45-0.5m high**) for adults; **low height seating (0.2-0.3 m high)** for young children
  - Use informal seating such as **low heighted ledge walls, rounded boulders, and old tree stumps** integrated with regular seating facilities



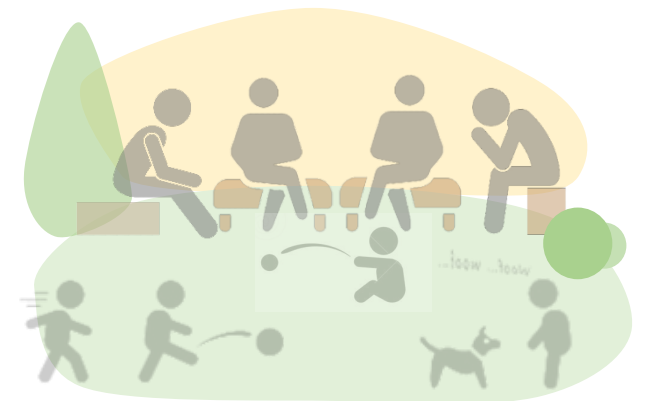
- G**
- Install impact-absorbing surface such as **sand, pea gravel, rubber flooring** etc. around play equipment with fall height **greater than 0.6m**
  - Playground surfacing must extend at least **1.8m** beyond play equipment
  - Edges/ corners of furniture and play equipment** must be **rounded** to avoid abrasion or injury



- I**
- Design **cluster seating arrangements** near play areas to aid use of sign language (i.e., the ability to sit facing each other)



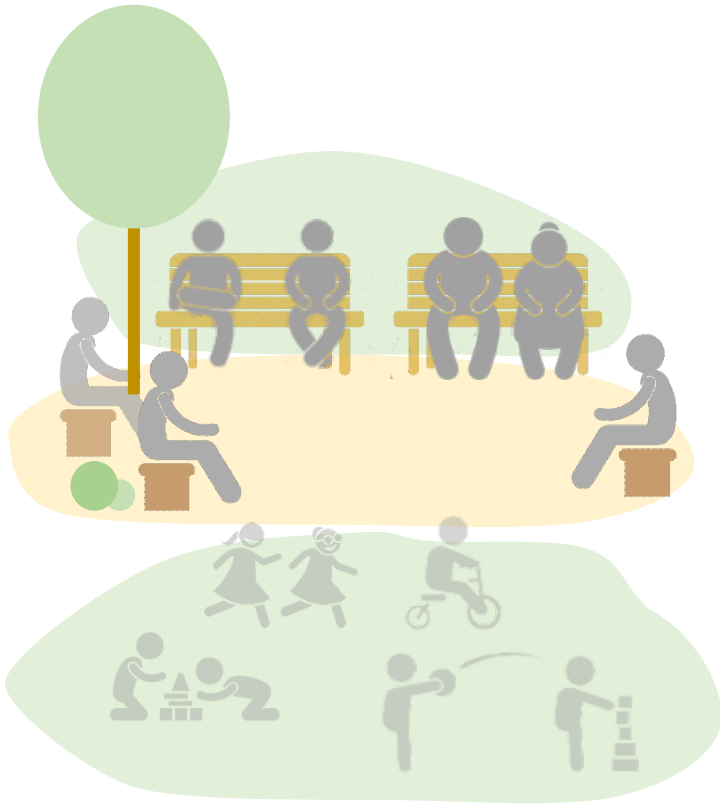
Cluster seating for caregivers near play space for age 0-1 yr old



Cluster seating for caregivers near play space for age 1-3 yr old

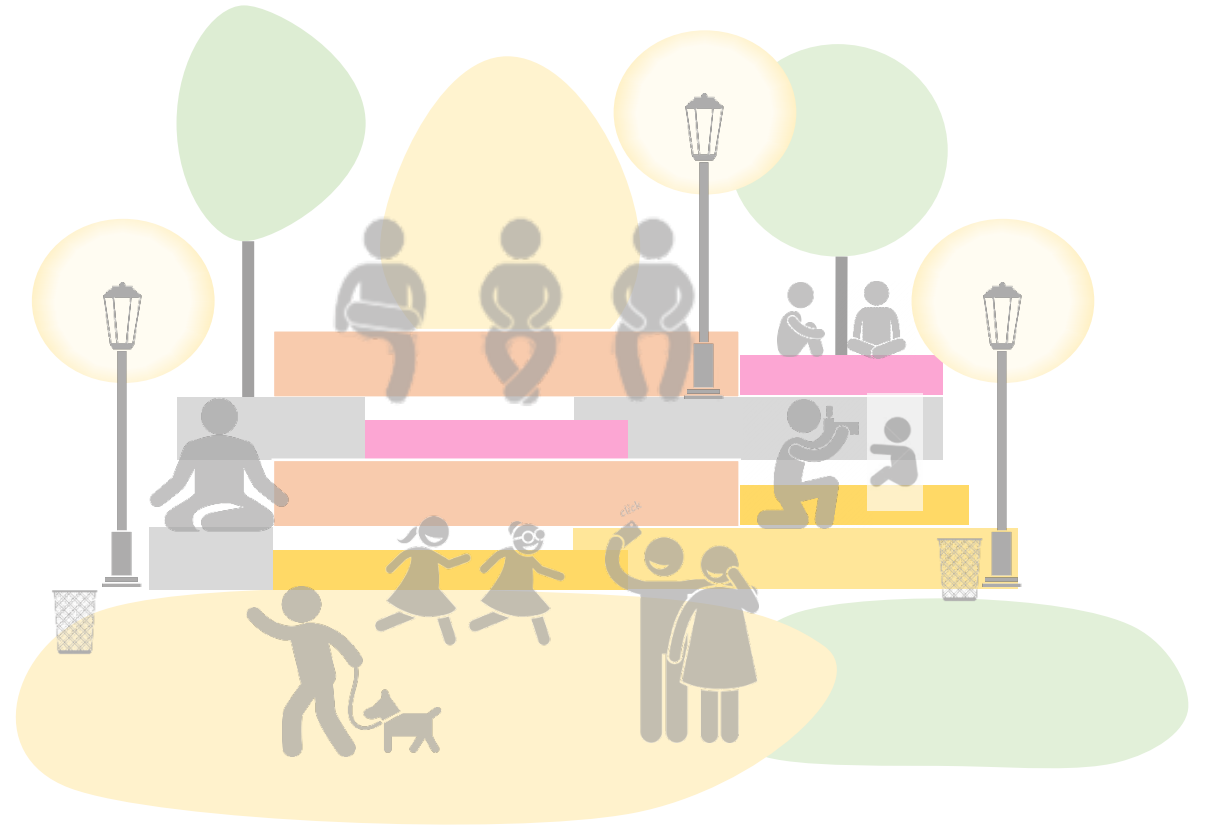
## 5. PLAY SPACE CHARACTERISTICS FOR YOUNG CHILDREN (0-5 yr)

- I Design **cluster seating arrangements** near play areas to aid use of sign language (i.e., the ability to sit facing each other)



Cluster seating for caregivers near play space for age 3-5 yr old

- J • Ensure **comfortable and well-lit** adult and child seating to ensure close contact with play space; waste disposal bins near seating spaces
- Add multifunctional features that encourage variety of cultural uses and attract more families to public spaces (e.g., **amphitheater, community tables**, etc.)



## 6. PLAYSPACE FOR AGE GROUP 0-1 YR

### A Dedicated play area for 0 -1 yr old allowing activities such as crawling, walking on knees, rolling and balancing

- Provide **natural and soft textured surfaces** such as soft groomed grass areas, sand pits and shallow water pools to allow **crawling, rolling and exploration**.
- Provide play space enclosed by **low-heighted stockade** for enhanced safety.
- Include small **gentle green mounds** up to height of **0.3-0.5m** to aid body balance that develops between 10 to 12 months
- Add small heighted support structures such as **standing/climbing frames or handrails (max. height 0.45m and frame diameter below 50mm)** for babies of 9 months and older to clasp on and stand upright.
- Provide **comfortable and well-lit** adult and child seating to ensure close contact with play space.

### B Sensory trails

Include small sensory trails for cognitive development including **fragrant, soft grass, colored pebbles, stones of different sizes, gravel, sand, wooden chips and mosaic tiles**

### C Interactive water play

Add water features such as **shallow pools or splash pads** to allow water play for infants such as splashing the water by palms, pouring out cups of water helping in develop gross motor skills.



Graphics source: WRI India

## 7. PLAYSPACE FOR AGE GROUP 1-3 YR

### A Sensory play elements

- Use loose parts such as **stones, pebbles, wood, pipes, tires, construction material**, etc. for allowing creative play in the space
- Design play spaces with **sandpits, loose wooden logs, and climbing walls** to explore risk and adventure play opportunities as children start to walk by themselves between 1 to 2 years
- Include water pool of depth of **3-6 inches**
- Include **ornamental shrubs** of max. height of **0.45m** to stimulate nature interaction

### B Play to support physical development

- Add **short obstacle course** for developing body balance
- Provide **low heighted climbers/ jungle gym** to encourage physical development
- Ensure all climbing structures are under the height of **0.8m** with appropriate fall surface treatment around it

### C Seating for caregivers

Include **comfortable, well-lit** adult and child seating to ensure close contact with play space



## 8. PLAYSPACE FOR AGE GROUP 3-5 YR

### A Diverse play opportunities

- Incorporate landscape features that afford play, such as **little clearings, bridge over the stream, stepping stones, and loose rocks in pond**

### B Dedicated play area for 3-5 yr old

- Include play opportunities such as **pretend play, adventure play (bridge, mounds, tunnel), balance beam**
- Provide water bodies such as shallow pools or ponds of **min. water depth of 0.3m**
- Provide dedicated tricycle/cycle trails of **min length 100m** and width **1.8m** in a figure of **eight or a continuous loop**
- Include gentle play mound up to height of **1.5m** for child play
- Include short walls **below height of 0.3-0.45m** for balancing activity
- Include play equipment such as simple machines including **pulleys, baskets attached to ropes, etc.** for development of gross motor skills

### C Seating for caregivers

Include **comfortable, well-lit** adult and child seating to ensure close contact with play space



Graphics source: WRI India