

ITC Master Checklist

Pune, India | January, 2023

URBAN95





Pune Municipal Corporation

City Partner, Urban95, Phase II, Pune

The Pune Municipal Corporation is the civic body that governs Pune, as is in charge of the civic needs and infrastructure development of the city. It formulates policies, develops plans and guidelines for holistic and sustainable urban development of the city. A MoU has signed between Pune Municipal Corporation and Bernard Van Leer Foundation for Transforming Pune City into a Child and family-friendly city in 2018 to develop neighbourhoods that promote early childhood development.

Website: <https://pmc.gov.in>



Supporting Partner, Urban95, Phase II, Pune

Founded in 1949, the Bernard van Leer Foundation (BvLF) is a private foundation focused on developing and sharing knowledge about what works in early childhood development. It provides financial support and expertise to partners in government, civil society, and business to help test and scale effective services for young children and families. Urban95 is the Bernard van Leer Foundation's 30+ million-euro initiative to make lasting change in the landscapes and opportunities that shape the crucial first five years of children's lives. BvLF has supported programs in India since 1992.

Website: <https://bernardvanleer.org/>



Technical Partner, Urban95, Phase II, Pune

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Abbreviations

BvLF	Bernard van Leer Foundation
ECD	Early Childhood Development
Egis	Egis India Consulting Engineers Pvt. Ltd.
ICU	Intensive care unit
ITC	Infant Toddler Caregiver
ITCN	Infant Toddler Caregiver Neighbourhood
PHC	Primary Health Centre
PIU	Project Implementation Unit
PMC	Pune Municipal Corporation
PMSU	Project Management & Support Unit
PMU	Project Management Unit
LIG	Low Income Group
MIG	Middle Income Group
RBA	Rapid Behaviour Assessment
w.r.t	With respect to
FFL	Finished Floor Level
ULB	Urban Local Body
SOR	Schedule of Rates

Glossary of Terms

Caregivers	Any person/ persons responsible for the safety and well-being of a child. They could be parents, grandparents, relatives, caretakers, or even elder siblings.
Child-friendly Design	Design features that are tailored to the specific needs of young children and enhance and support their experience outdoors.
Early Childhood	Childhood from birth to 5 years of age.
Indicators	An assessment tool (in the form of an observable behaviour for measuring the extent to which successful outcomes have been achieved.
ITC Friendly	Suitable for Infant Toddler and caregiver
Young child/children	Children of age 0 to 5 years

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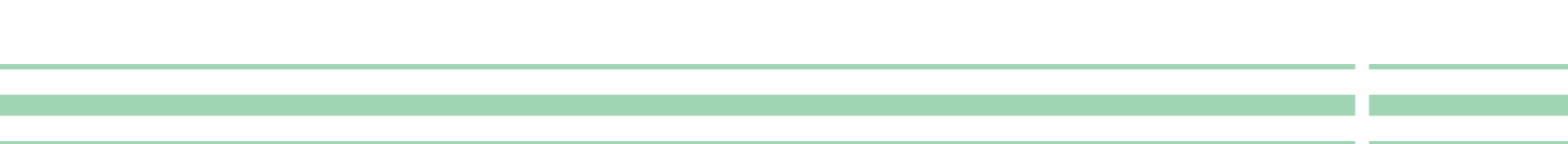
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Introduction



Early Childhood



Source: Egis India

Children’s brains are built, moment by moment, as they interact with their environments. In the first few years of life, more than one million neural connections are formed each second – a pace never repeated again. The quality of a child’s early experiences makes a critical difference as their brains develop, providing either strong or weak foundations for learning, health and behaviour throughout life.

Babies, toddlers and caregivers experience the city in unique ways, which can impact their development and have lifelong effects.

- Babies absorb four times more air pollution than adults. Exposure starts during pregnancy.
- Toddlers need double the amount of time to cross streets compared to able-bodied adults.
- Young children experience reduced stress and better physical and mental development when they have regular access to nature.
- The smallest features, such as a step or a pattern of tiles on the sidewalk, invite play and exploration.
- Young children depend on their caregivers to move around the city. Making it easier and faster for families with strollers and on little legs to reach key destinations is one of the best things you can do to ease stress and make it more likely that those families will make use of services.
- Waiting (for buses, appointments and queues) is challenging. Design features that allow for exploration and play make waiting easier and create valuable learning and social interaction opportunities.

Learning while Growing

Children’s learning depends on a host of executive functions regulating attention and action planning. It depends on their powers of imagination that guide their play and their simulations of actual or possible events. It depends on their capacity for metacognition, especially their understanding of what they and others do and do not know and how their knowledge and skills can grow. And it depends on how children’s learning environments cultivate their inherent motivation to learn.



EXECUTIVE FUNCTIONS

Focusing Attention, Planning, and Memory

IMAGINATION

Boosting Learning and Communication Skills



METACOGNITION

Learning to Learn

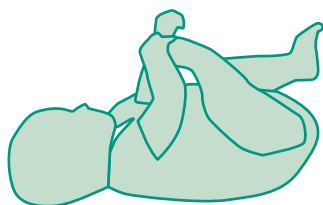
MOTIVATION

A Key Driver for Learning



Stages of Child growth

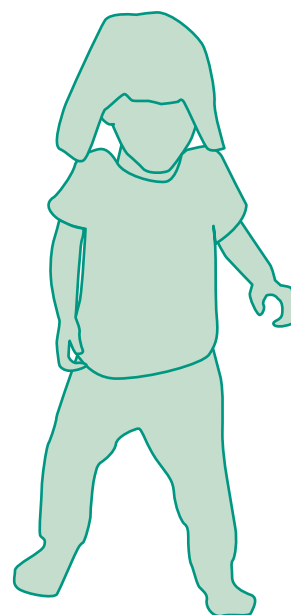
Development describes the way a child grows, changes, and develops skills – not only physically, but also socially, emotionally, cognitively and communicatively. Child development can be broken down into five stages:



Newborn (0-3 months)



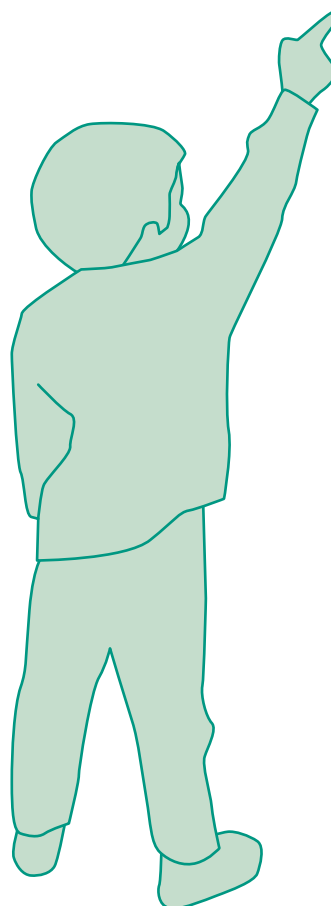
Infant (3-12 months)



Toddler (1-3 years)



School age (4-6 years)



Preschool age (3-4 years)

Why ECD?

At each of these stages, children reach different milestones (also known as 'characteristics of a stage'. At each stage, they gain the following skills and abilities:



COGNITION

Think, Explore and Figure things out

LANGUAGE

Express thoughts and feelings and understand the meaning of both the written and spoken word



MOTOR

Enable the Movements and Tasks we do every day



SOCIAL AND EMOTIONAL

Interact and communicate with others and, Form and Sustain positive relationships



About Urban95

Urban95: creating cities for the youngest people

Cities can be wonderful places to grow up, but they can also pose serious challenges for healthy child development. The Bernard van Leer Foundation's Urban95 initiative seeks to make lasting change in the city landscapes and in the opportunities that shape the crucial first five years of children's lives. Urban95 works with urban leaders, planners, designers and managers to ask: 'If you could experience the city from an elevation of 95 cm – the height of a 3 year old – what would you do differently?'

Key to Urban95 are:

- **A focus on the youngest children (from before birth to age 5) and their caregivers**, a group often under-addressed even by child-friendly city or liveable city policies
- **Working on a city-wide scale** through municipal planning mechanisms, data-driven management and politically visible areas of investment
- **Attention to the built environment** through a focus on public space and mobility, two areas where impacts on child development are important but less well understood than they are in other areas such as access to early childhood services, sanitation, healthcare or housing.



Experiencing the city from a height of 95 cm

Urban95 seeks to improve two critical factors in early childhood development – the quality and frequency of interactions between young children and their caregivers, and the well-being of these caregivers – through the provision of early childhood services, public space, transport, planning, land use and data management in cities.

Talking to urban designers and planners – who think in tangible, spatial specifics – BvLF emphasize that, for their healthy development, babies and toddlers living in cities:

- Need frequent, warm, responsive interactions with loving adults and a safe, stimulating physical environment to explore
- Experience the world at a much smaller scale and have a dependent and far shorter range of mobility than the typical city dweller
- Are particularly vulnerable to air and noise pollution
- Need to travel regularly to early childhood services such as well-baby clinics and childcare
- Are always to be found with their caregivers.

This means walkable neighbourhoods that cater for the basics a young family needs, public spaces close to home that attract all generations while allowing small children to explore safely, and reliable transport that makes it easy, affordable and enjoyable for families with young children to travel where they need to go.

Through BvLF's city partnerships and the Urban95 Challenge, their small innovation grants program, they are finding many promising ideas at both pilot and city- wide scale.

What is ITCN?

I 
nfants

T 
oddlers

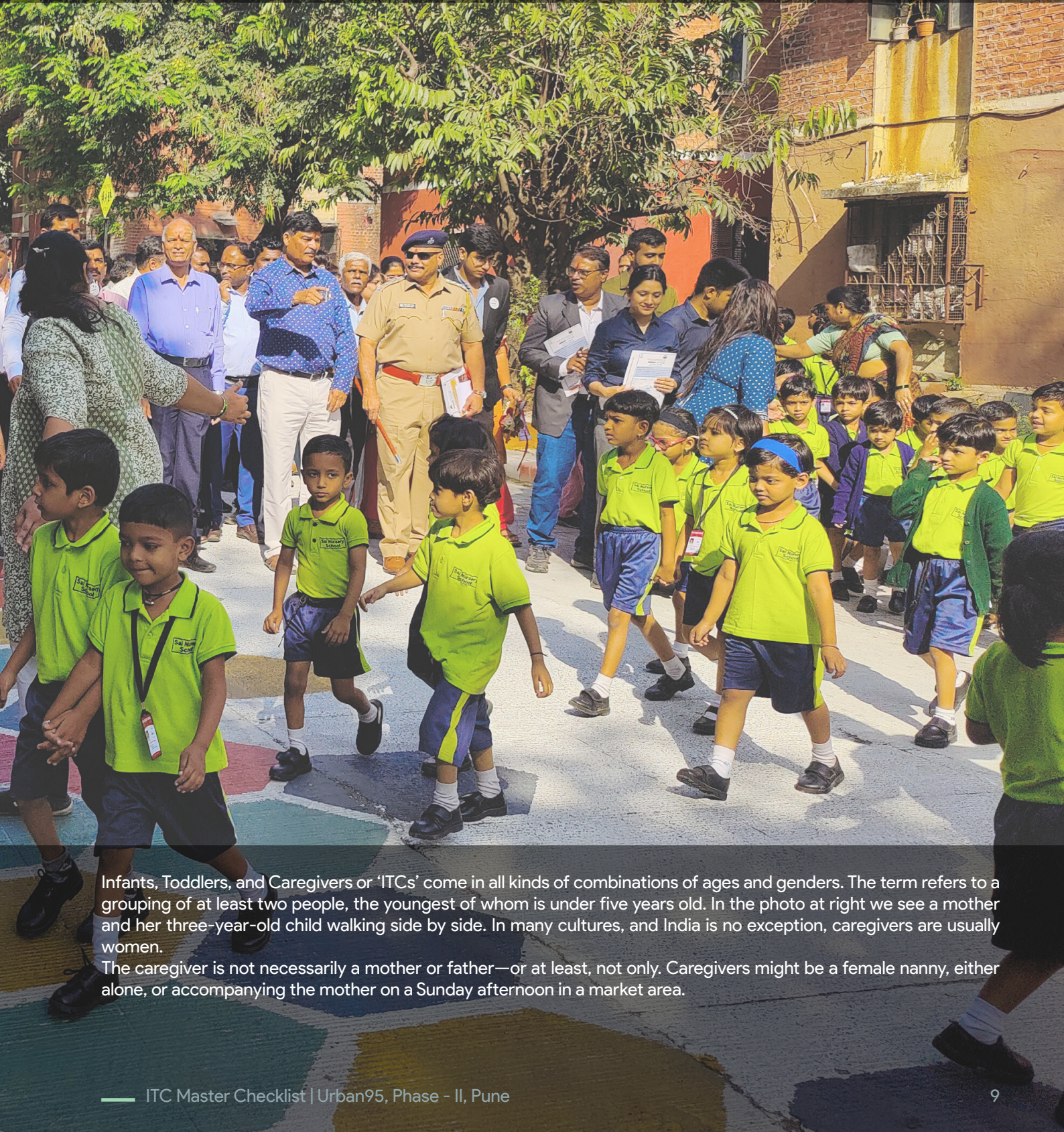


Babies and toddlers spend plenty of time outdoors, either as companions to the daily work of a caregiver, as participants in recreation time in parks and playgrounds, or as part of an infinite number of other arrangements that bring them into the public realm on a daily basis. Babies and toddlers in the public realm are invariably accompanied by a caregiver (usually female, although fathers in many settings take on the responsibility as well); they are a pair but also one. And in the Indian context, that caregiver is usually female. Designing a public realm that supports the well-being of babies and toddlers requires a design that specifically addresses the health and safety of women.

By far the most efficient way to improve well-being is to systematically build and maintain health-first infrastructure and services close to where people live.

Caregivers

Neighbourhood



Infants, Toddlers, and Caregivers or ‘ITCs’ come in all kinds of combinations of ages and genders. The term refers to a grouping of at least two people, the youngest of whom is under five years old. In the photo at right we see a mother and her three-year-old child walking side by side. In many cultures, and India is no exception, caregivers are usually women.

The caregiver is not necessarily a mother or father—or at least, not only. Caregivers might be a female nanny, either alone, or accompanying the mother on a Sunday afternoon in a market area.

ITCN Objectives



SAFE

- Safe to walk/ bike while daydreaming/ mentally distracted
- Structured, demarcated, space is assigned
- Eyes on the street, trust of neighbors
- Slow
- Respectful of privacy



ACCESSIBLE

- Legible
- Flexible
- Free of physical and virtual obstacles
- Clusters of services/convenient
- Predictable and dependable, well-communicated services



INCLUSIVE

- Listening and responding to needs of residents through engagement
- Even and thorough implementation of interventions
- Transparent processes
- Fair to all, not just “owners”
- Objective, informed by data



PLAYFUL

- Attention focusing (not grabbing)
- Enveloping and protecting from distraction
- Challenging
- Committed to culture
- Authored by and memorializing of the childhoods belonging to it



GREEN

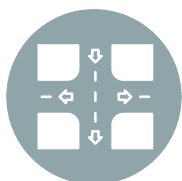
- Comfortable and protected from the elements
- Quiet
- Bio Diverse
- Renewable and non-carbon energy sources
- Future-oriented, green technologies

ITCN Elements



NEIGHBOURHOOD

A neighbourhood planned for small children and their caregivers has a mix of uses and services that give reasons to be outdoors and within comfortable walking distance.



STREETS

Redesigning or 'reprofiling' a street can offer caretakers and infants the vital space they need for free and safe movement making it an attractive and enjoyable place while still allowing for cars.



PARKS & OPEN SPACES

Toddlers need a safe outdoor space for play. Babies and caregivers need fresh air and the stimulation of plants, trees, wind, and a connection to nature. Playing is a prime activity for small children.



SOCIAL INFRASTRUCTURE

Destinations need to be visited frequently, such as daycare centres and health centres or anganwadis, etc. and need to be designed with the needs of the young in mind.



URBAN SERVICES

Utilities need both adequate provision and constant management. Not only is it necessary for our cities, but letting children learn about the concept of "Reduce, Re-use, Recycle" at a young age is the best investment for the future of the cities.

ITCN Projects



BALWADI CENTER

“Balwadi” means “children’s garden” which is a community-based preschool center for children aged 3 to 5 years in areas where government or other childcare services are not available. The Balwadis provide daycare, preschool education, and nutrition to children to engage children in addressing their developmental needs with the overall goal of school readiness. These centers are run for seven hours a day by well-trained *Sanchalikas* (preschool instructors). This is the most agreeable platform for providing early childhood development services for the all-round development of the child which includes physical development, language development, cognitive development, social development, and emotional development.

Similar setup of early childcare and education facilities such as community pre-school, neighbourhood nurseries, or schools that provide early years education is applicable under this theme.



COMMUNITY CENTER

It is a focal point for all age groups in a locality which promotes social relationships and mutual support; develops a sense of self-reliance, social responsibility, and cohesion within the community; and empowers individuals and families in solving community problems and improving the quality of community life. This provides a social platform for ITCs to interact with the community and participate in activities and events that will help in their social, language, and emotional development.

The public realm in and around a community center or any public space that facilitates social activities for the community facilitating people of all age groups to gather is applicable under this theme.



ITC FRIENDLY DEMONSTRATION CRÈCHE FACILITY

A crèche is a facility that enables parents to leave their children while they are at work and where children are provided a stimulating environment for their holistic development. Crèches are designed to provide group care to children, usually up to 6 years of age, who need care, guidance, and supervision away from their homes during the day. This is especially important for working mothers to enable them to leave their children at such facilities which are not only safe but also a place for young children to grow holistically.

Such daycare facilities or Anganwadis that provide such services is applicable under this theme.



PRIMARY HEALTH CENTER

Primary health care ensures people receive comprehensive care - ranging from promotion and prevention to treatment, rehabilitation and palliative care - as close as feasible to people's everyday environment. These centers will provide comprehensive health care, covering around 70% of out-patient care, including noncommunicable diseases and maternal and child health services. These centers will also provide free essential drugs and diagnostic services as well as referral access to secondary and tertiary health care. It becomes critical to establish a safe and secure environment which is easily accessible to ITCs for the well being of their health.



ITC FRIENDLY RECREATIONAL SPACE DEVELOPMENT

Recreational open spaces provides opportunities fo passive recreational pursuits such as walking, sitting, general relaxing, and informal play. Such open spaces have the potential to allow diverse kinds of informal activities for all age groups, closeness to nature and fresh air. ITCs can highly engage in such spaces which not only develop physical, cognitive and social skills but also improves the happiness quotient in them. Young children get to spend quality time with their parents and other family members. This is a space where ITCs can feel inclusive with other age and gender groups through informal interactions. Spaces such as parks, gardens, open grounds, zoos, sensory parks, etc. are applicable under this theme.



ITC FRIENDLY JUNCTIONS/PLAZAS

Similar to ITC Friendly Streets, Junctions and plazas play a crucial role in enabling accessibility to ITCs either guided or independently. Junctions are more prone to road hazards. It is important to make safe, interactive and engaging experience for young children when accessing through such intersections. Unsafe junctions can act as obstruction in the journey of ITCs to their destinations inspite of ITC friendly streets.

Traffic plazas are parks which consist of small roads that wind in and out between lawns, shrubs and trees. Traffic signals and signages and other facilities that are designed in context to the anthropometry of young children. This helps in creating an awareness among young children from an early age.

All kinds of intersections, traffic plazas and pedestrian crossing across carriageways is applicable under this theme.

ITCN Projects



ITC FRIENDLY STREETS

Ensuring safe access for children to strategic locations like schools, parks, schools and community centers is vital. Safe streets not only prevent road injuries and fatalities but allow children to feel comfortable and encourage independent, active travel.



CHILD PRIORITY ZONES

Establishing a children's priority zone starts with finding an anchor institution – perhaps a childcare centre, playground or health clinic – and defining a perimeter around it. Issues affecting children are researched, and solutions proposed – for example, safer road crossings near schools or parks, the rehabilitation of abandoned space into a garden where families grow healthy food, or the allocation of land for a health outpost to increase accessibility for families. Hence, this theme is flexible enough to incorporate any spaces associated or has the potential to engage children for their inclusivity and holistic development. This also helps create pockets of public spaces which can help make the neighbourhood child friendly gradually.



ITC FRIENDLY SENSORY PARK

Sensory experiences are essential for brain development in all children. For children with an autism spectrum disorder, ADHD, or another sensory disorder, sensory experiences can be more challenging. Some children who have sensory challenges may be over-sensitive to loud noises, harsh tastes, or rough textures. Sensory development is the brain's way of exploring the world through the five senses – touch, taste, smell, sight, and sound. Exploring the world through these senses allows a child to discover and understand how the world works.

ITCN Project Themes - Responsible Departments

Parent Department

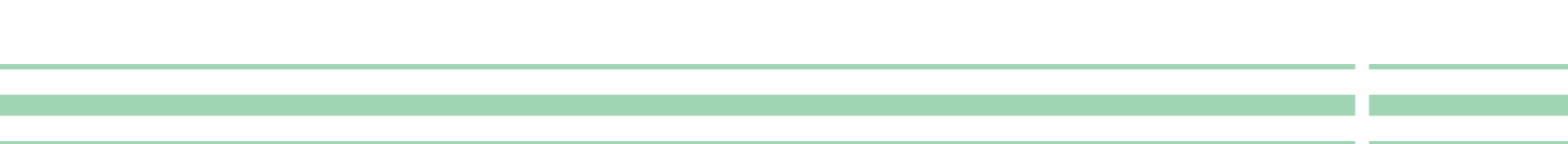
This department is the Pune Municipal Corporation (ULB) responsible for initiating, identifying, and approving sites or projects to be made ITC friendly.

Execution Department

This department in the ULB is responsible for listing, procuring, and implementing the proposed interventions or designs on ground. They are also responsible for maintenance.



Project Theme	Parent Department	Execution Department
Balwadi Center	Education Department	Bhavan Rachana Dept
Community Center	Social Development Dept	Social Development Dept
ITC Friendly Demonstration Creche Facility	Social Development Dept	Social Development Dept
Primary Health Center	Health Department	Bhavan Rachana Dept
ITC Friendly Recreational Space Development	Garden Department	Garden Department
ITC Friendly Streets & Junctions	Road Department	Road Department
ITC Friendly Traffic Plaza	Road Department	Road Department
Child Priority Zones	Road Department	Road Department
Sensory Park	Garden Department	Garden Department





Document Instructions



Source: <https://pin.it/7ycP4ow> | Photo Credit: Arun Tltan

Purpose of Master Checklist

Why?

This document is meant to be used as a guiding toolkit to assess and identify the needs on project site followed by choosing appropriate ITC friendly materials and design elements. The subconscious goal behind every material in the document is given to help achieve the ITCN objectives and incentivise the access of ITCs in the city.



Whom?

This document is targeted towards the individuals who are implementing the design and ideas on ground at site. Site engineers, vendors and designers can adopt this document as a checklist and/or decision making purpose. The document would capacitate the on ground implementer to take and choose materials based on the needs and gaps identified on site even without technical help from designers. This scenario is built up when ITCN projects are re-scaled and replicated.



Where?

The document is made keeping in mind the ITCN project types and their applicability. The types of materials required for the sites are identified and local context is applied to make sure that the items identified are available economically and locally. The document is applicable pan-india.

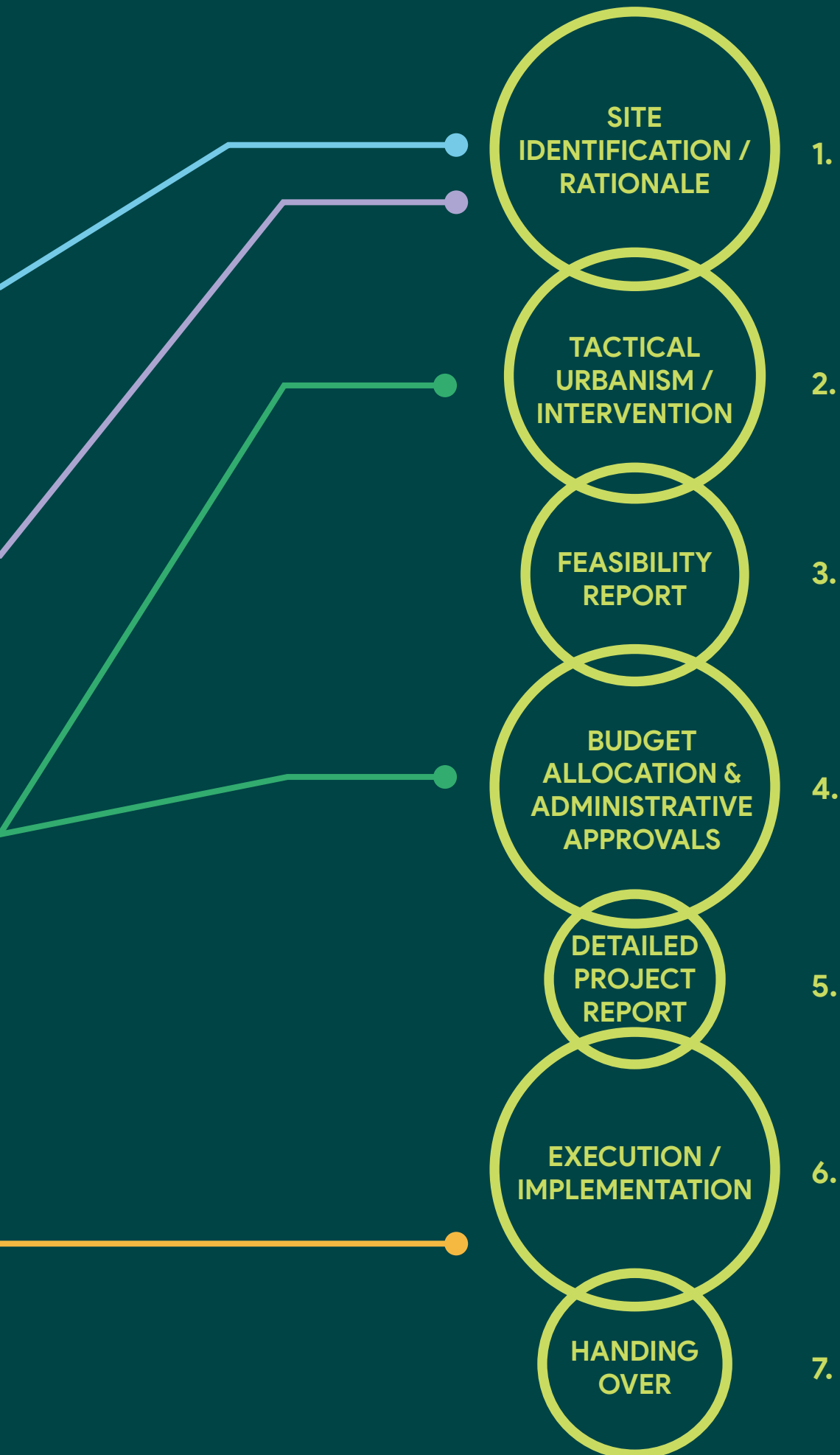


Where to Refer the Document

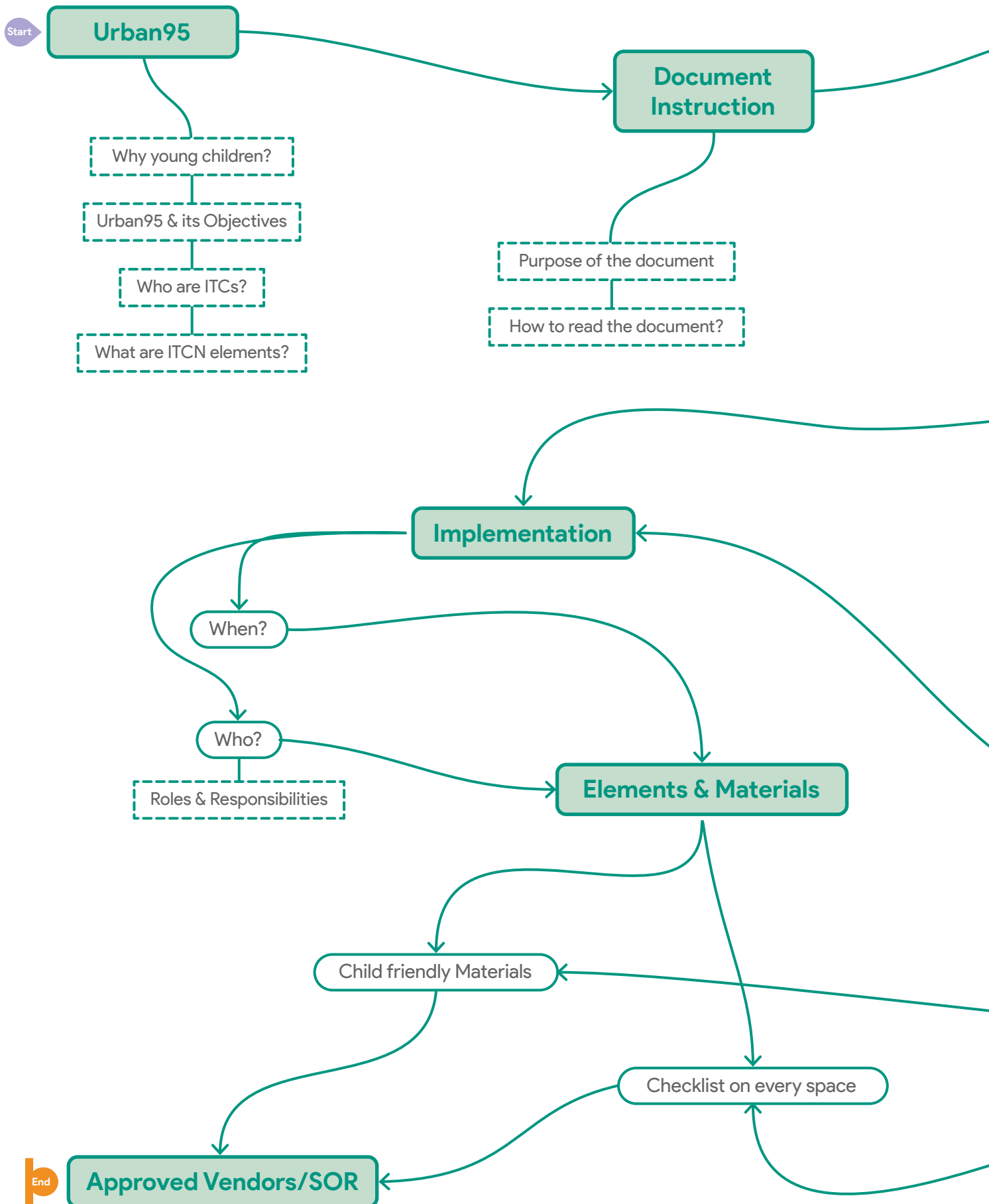
Use the document to identify the appropriate spaces, activities and required material list for the project site.

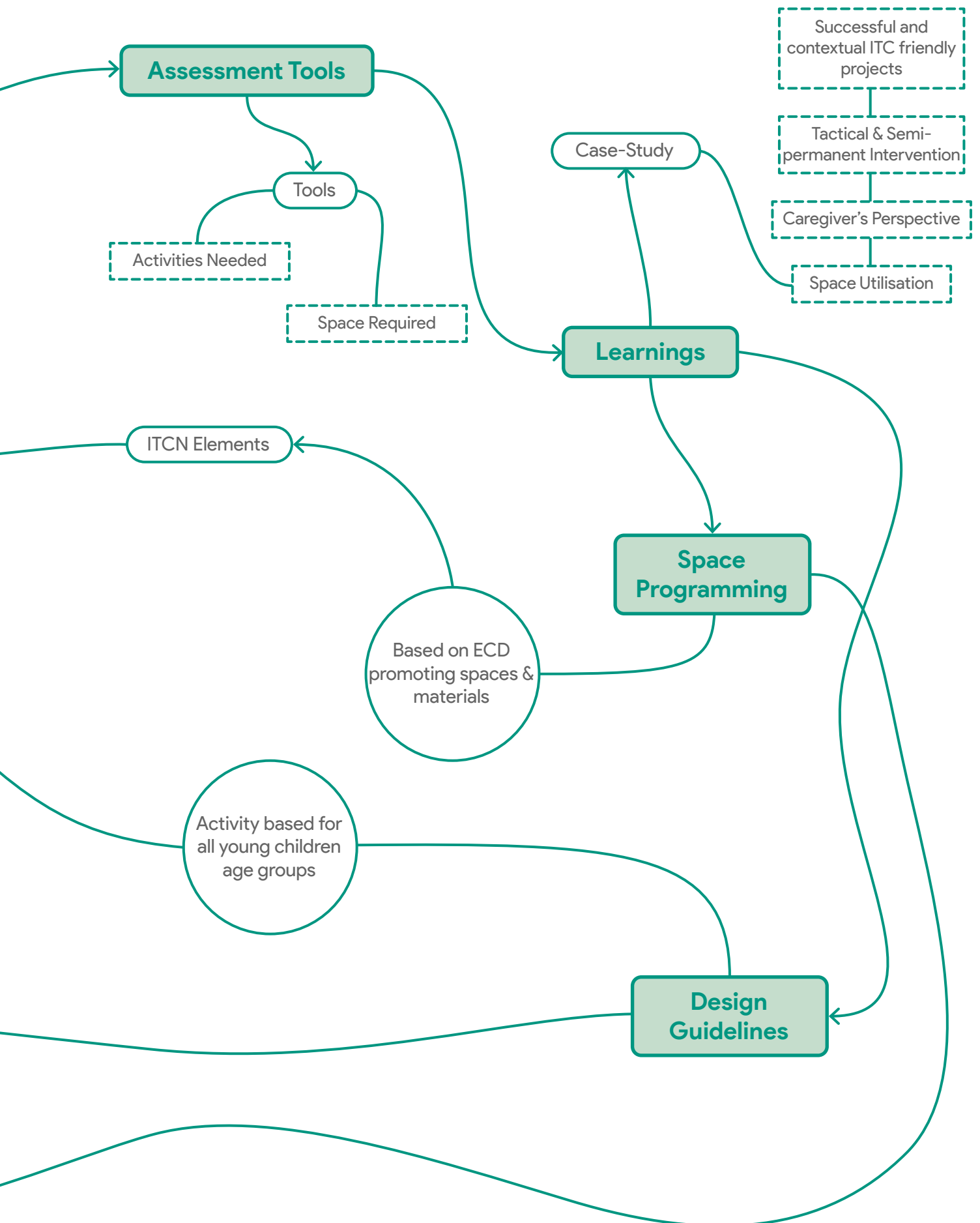


Typical Project Cycle



How to browse through the document





How to read the Element & Material Palette

7.3 Bollard Light

Image180: Bollard Light

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Sorting Section

- Inclusive
- Playful
- Safe
- Green

PROJECT THEME

- Community Center
- Recreational Space Development
- Sensory Park
- Streets
- Junction / Traffic Plaza
- Belknap Center
- Children priority zone
- Primary Health Center
- Demonstration Cooche Facility

Image181: Bollard lighty platform

Image182: Bollard lights in kids plaza area

Image183: Bollard lights at park

Sample Section

Lighting ITCN Master Checklist

APPLICATION

Walkways | Plaza

Multipurpose bollards that double as street lights provide safety for pedestrian at night and also increases the aesthetic value of the walkway. These bollards are usually placed at walkway of public places like parks and gardens

Concrete can be used in conjunction with steel pipe bollards or embedded rebar to create impact-resistant security bollards or can be formed on its own to create attractive bollards appropriate to certain architectural styles.

These bollards add aesthetic value and are mainly suitable for plazas with high commercial and pedestrian activities

PROS

Steel	Concrete
<ul style="list-style-type: none"> Bollard lights provide safety at night by doubling as a street light. Adds aesthetic value to the walkway 	<ul style="list-style-type: none"> Plug-in installation can be adopted Strength is good No spraying needed.

CONS

Steel	Concrete
<ul style="list-style-type: none"> Maintenance cost 	<ul style="list-style-type: none"> Very heavy, very expensive transportation costs No recovery value Installation equipment is expensive, difficult to install More dangerous than other materials.

Reference Line for SOR or Annexure.

Image111: <https://5.imimg.com/datas/SU/SI/MY-31781914/9w-bajaj-led-bollard-light-500x500.jpg>

Image112: <https://www.attractionlights.com/wp-content/themes/soothe/cache/22/Vine-6x6-80-Driveway-Lighting-418x315x81-22079x1.jpg>

Image113: <https://i.pinimg.com/564x/88/96/b2/8896b29fa130175bde435021ebcc604.jpg>

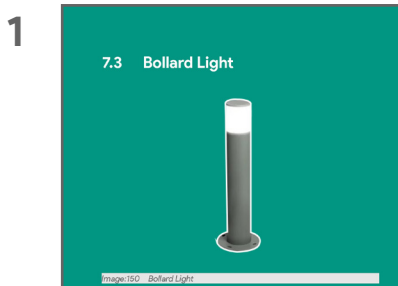
Image114: https://cdn2.bigcommerce.com/server2200/5b16a/products/5629/images/26613/led-bollard-light-fig-2_03/72:15729/6623:1280:1280.jpg?c=2

The Sorting sections helps one to identify the appropriate material or element for the intervention based ITCN parameters and primary characteristics of the element/material.

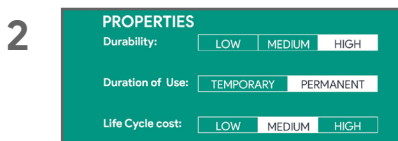
The Sample section portrays examples of projects where the material/element has been successfully used along with close view of the material itself for clear understanding. This helps in understanding the post-intervention visualisation to realise the look and feel of it.

The Scrutiny section gives an in-depth understanding into the material and its feasibility. This is where one can make a choice between similar items based on their individual level of feasibility

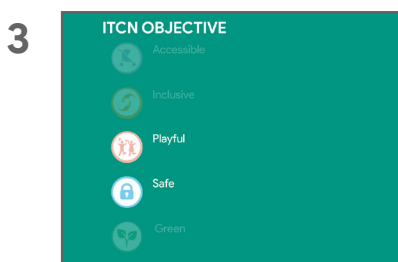
Key to the Palette segments



Material name and its image for identification



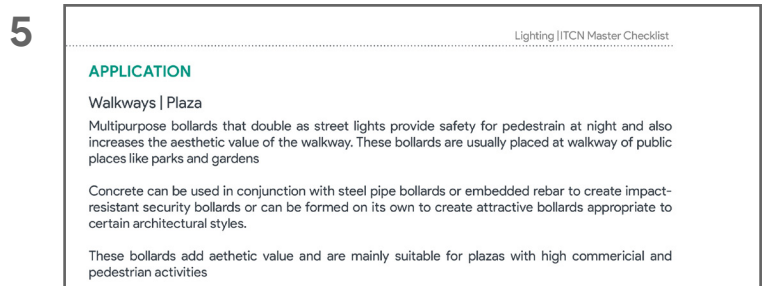
The Key properties for sorting and selection



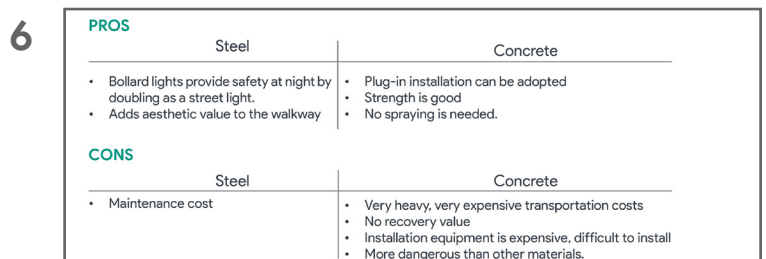
Lens of applicable ITCN objectives



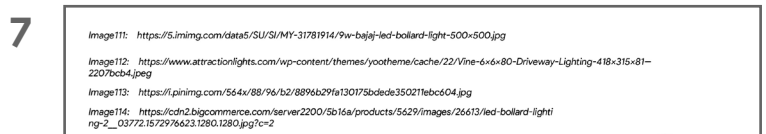
Applicable Projects types where the material can be used



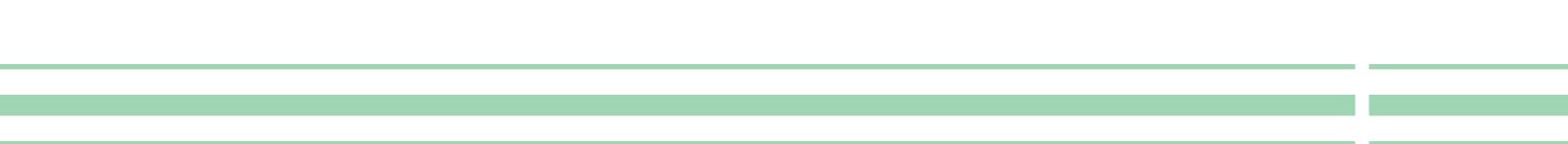
ITC friendly spaces where the material can be used and other possibilities.



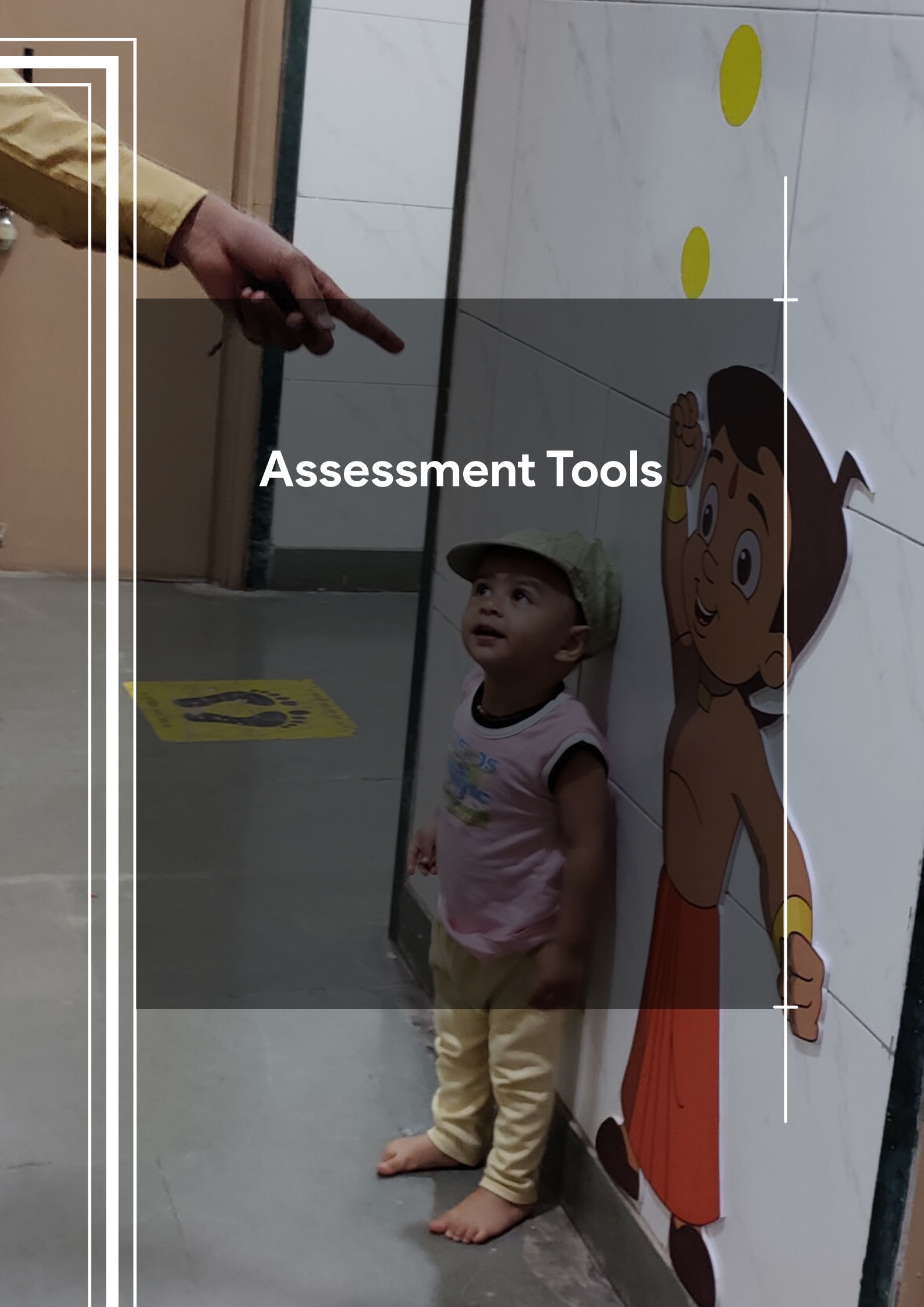
Pros and Cons of the item helps find the feasibility as per the project demand and come to a conclusion in choosing the material/list.



Sources and references to the images used.



Assessment Tools



Guide to measure Activities Needed

Gehl's Toolkit

Stationary Activity Mapping			
Objective	Data Collection	Outcome	Remarks/Condition
How many children or caregivers are present?	Site Mapping	Generate ideas for improvement and investments.	
What stationery activity patterns are occurring?	Identifying Postures for all genders and age groups	Inform development strategies.	
What works well, and what enhancements can be made?	Identifying listed stationery activities and other unique observations for all genders and age groups.		
In what ways do children and caregivers interact?	Identifying the groups and pair categories.		
What type of play is taking place?	Identifying recreational activities based on Active and Passive modes and types of elements engaged with.		
Sensory Mapping			
How children's senses can be used in the built environment	Site Map	Gain knowledge on what environmental prompts can be stimulating for small children 0-5	Allows the surveyor to 'place themselves in a child's shoes'
	Positive or negative on touch, see, hear, smell and balance		If you have the opportunity - follow the actions of a child in the space

Refer to: *Toolkit – For measuring urban experiences of young children* by Gehl & Bernard van Leer Foundation

Action Research Method - The city at eye-level for kids

Objective	Data Collection	Outcome	Remarks/Condition
Are there engaging, and playful elements?	Can you find a place where you can hide?	Identify need for interactive elements and spaces.	
Is there scope to learn from natural elements?	Find a surface that you like and trace it with a crayon on a piece of paper.	Identify scope of learning and growth for children.	

PARTICIPATORY AND PLACEMAKING WORKSHOP FOR CHILDREN AGED 0-6 AND THEIR PARENTS, CAREGIVERS, PREGNANT WOMEN AND THEIR PARTNERS.

Refer to: *The City at Eye Level for Kids*
by Rosa Danenberg, Vivian Doumpa, Hans Karssenberg

Guide to measure Space Required

Gehl's Toolkit

People Moving Count			
Objective	Data Collection	Outcome	Remarks/Condition
How busy is a space?	Count people for 10 mins categorically agewise.	Identify places for interventions or projects	To define how the site has changed for people post-intervention.
How accessible is it with different modes of transportation?	Pedestrians - Count 200 people categorically for a percentage of different age groups and modalities. Bicyclists - (same as before)		
Urban95 Quality Criteria			
To assess the quality of public space and how it is experienced by its users	Protection - traffic and accidents, crime and violence, unpleasant sensory experiences	In-depth analysis for the initial phase and during project development	Can be performed alone by surveyor if in groups
What kind of interaction between caregivers and young children is supported by the built environment	Basic Needs - comfort, hygiene and health, consumption	Identify potentials for improvement	Preferred if people in the public fill out themselves
	Comfort - walk and cycle, stop and stay, see		For every criterion, Score given: a happy, neutral or sad face (meaning yes, in between, or no)
	Interaction - environment, talk and listen, play and exercise		
	Connection - flexibility, access, integration		

Refer to: *Toolkit – For measuring urban experiences of young children* by Gehl & Bernard van Leer Foundation

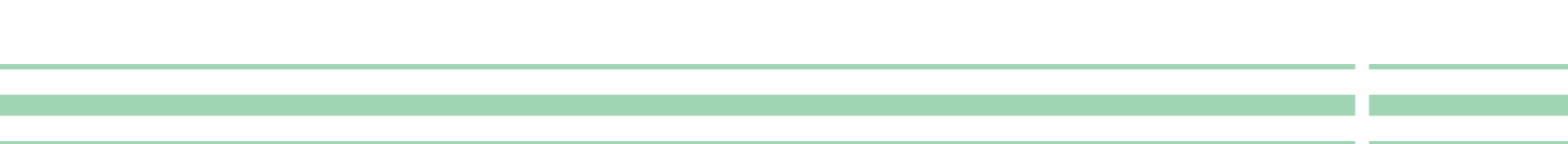
Gehl's Toolkit

Intercept Survey			
Objective	Data Collection	Outcome	Remarks/Condition
Why are people visiting a specific place	Sample of people with small children (0-5yrs)	Deeper insight into before and after a concrete intervention in a public space	Limited to a small sample size
How long they plan to stay	General purpose based questions	Understand what other survey tools cover	
How people perceive a place and track sentiment	Demographic questions		
If a caretaker feels the place is of high quality for a child to play			
If a place is somewhere they could stop casually on their way to another destination			
If it is a place they frequent			

Action Research Method - The city at eye-level for kids

Objective	Data Collection	Outcome	Remarks/Condition
Does the public space sound calming or disturbing?	Close your eyes and tell what you hear.	Identify need for noise control.	
Are there safe and attractive play elements?	Show your best places for jumping, climbing up, laying down, and running.	Identify scope of improvement in play elements for intervention.	
Is the neighbourhood safe and accessible?	Go on a treasure hunt around the block	Identify scope for placemaking and safe accessibility to places in walking distance.	

Refer to: *The City at Eye Level for Kids*
by Rosa Danenberg, Vivian Doumpa, Hans Karssenber





Learnings

RBA findings from Pune

The Rapid Behavioral Assessment or RBA findings have been extracted from RBA Report, Pune by Egis India submitted to BvLF for generating the following behavioural insights:

- Facilitators and barriers faced by caregivers (mothers/fathers/ other caregivers) of children under 6 years in using different ITC destinations near them
- Service provider’s experience of operating, maintaining, and providing services at different ITC destinations (facilitators and barriers)

PARK

Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – Inside park	
Height of steps, walking lanes inside park are steep and can injure the child	Caregiver perception - Spaces where children from different backgrounds visit are unsafe
Children can get hurt as there is no sand under play equipment	No separate time/area/play equipment for young children and caregivers to engage and play
Insufficient shaded area in park	No feedback mechanism
Limited seating arrangement for caregivers	
Priority Behavior Safety – Outside park	
Unavailability of parking facility outside the park	Limited interaction/engagement with the child while traveling to and from facilities due to safety concerns
Unorganized parking, traffic, loud noise and smoke for vehicles	
Presence of traffic and high speed vehicles	
Fear of accidents due to busy road adjacent to park	
Priority Behavior Play – Outdoors (at Park)	
Unavailability of age appropriate play equipment for children	Children watch videos on mobile phones to stay engaged
No ECD or play messages	Mothers are primarily responsible for taking children outdoors
	Children should mix up with other children of similar socio-economic strata
	Limited time among working caregivers to bring children outdoors regularly
	Park timings not feasible for working caregivers. Park gets closed when they come back from work
	No training of service providers on importance of ECD

PHC (Primary health centre)

Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – Inside PHC	
No earmarked waiting area for caregivers with young children	No major challenges as safety inside the facility is at par with the caregiver expectation
No ramp for differently abled	
No breastfeeding room	
Priority Behavior Safety – Outside PHC	
Traffic on the street leading to PHC, loud noise of vehicles	Limited interaction/engagement with the child while traveling to and from facilities due to safety concerns
Limited area on footpath for pedestrians	Caregivers have to carry children in their arms to keep them safe from traffic
Presence of encroachment by hawkers on footpath	
Priority Behavior Play – Outdoors (at PHC)	
No designated play area or space for young children and their caregivers	No discussion/interaction/demonstration with facility-based service providers on play or ways to engage with young children at home/outdoors
No ECD or play messages	Children can be handed over digital devices while waiting for their turn
Limited amenities for caregivers to engage with their children like toys or play equipment	Limited training of service providers on ECD

RBA findings from Pune

BALWADI AND COMMUNITY CENTER

Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – Inside balwadi & community center	
Limited space for accommodating children – overcrowding	Caregivers have trust issues about leaving the child alone in the community center
Community center is situated on the first floor. Climbing the stairs is difficult for pregnant women elderly people	No major challenges as safety inside the balwadi is at par with the caregiver expectation
Priority Behavior Safety – Outside balwadi & community center	
Unorganized parking, traffic and crowd	Limited interaction/engagement with the child while traveling to and from facilities due to safety concerns
Risk of accidents due to speeding vehicles esp. two wheelers around the balwadi	Caregivers have to carry children in their arms to keep them safe from traffic
Priority Behavior Play – Outdoors (at balwadi & community center)	
Limited and in some cases dysfunctional play equipment	Due to space limitations at home caregivers prefer taking children to community center to play while they visit the center to mainly collect ration
Limited open space for outdoor play around the balwadi	Caregivers interact with the balwadi staff during parent teacher meeting held once every month
Few ECD or play messages	

SENSORY SPACE

Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – sensory space	
Inside the sensory space	
Walking track too steep for children and may lead to injury	
No breastfeeding room and drinking water facility	
Outside the sensory space	
Irregular parking in front of the gate due to lack of parking space	Limited interaction/engagement with the child while traveling to and from facilities due to safety concerns
Sensory space located on a four road junction. Hence ensuring safety of children becomes a challenge	Children can be handed over digital devices when parents are busy

Infrastructural challenges	Behavioral challenges
Limited play equipment available to engage children	Limited interaction between caregivers and service providers on importance of play and engaging with young children
No activity to keep caregivers busy during their visit	Limited training opportunities on ECD for service providers
Few ECD or play messages	
Messages displayed are at a high level in comparison to height of children	

TRAFFIC PLAZA

Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – Traffic plaza	
Inside the traffic plaza	
No breastfeeding room	
No drinking water facility	
No toilets inside the traffic plaza	
Outside the traffic plaza	
Uneven footpath and traffic	Limited interaction/engagement with the child while traveling to and from facilities due to safety concerns
Lack of parking space in and around the traffic plaza especially for four wheelers	Small gate to the traffic plaza is convenient for caregivers but is usually closed. The other gate that is open is far from the caregivers’ homes
Priority Behavior Play – Outdoors (at the traffic plaza)	
Limited play equipment for children	Limited interaction between caregivers and service providers on importance of play and engaging with young children
Few ECD or play messages	Limited training opportunities on ECD for service providers

RBA findings from Pune

CPZ



Infrastructural challenges	Behavioral challenges
Priority Behavior Safety – Inside ECD facilities of the CPZ area	
Presence of stray animals	Caregivers prefer walking to various ITC facilities in and around the CPZ
Unorganized parking cover the footpath in the vegetable market	
Noise pollution due to traffic	
Presence of stray animals on the footpath	
No shaded seating arrangement for caregivers and young children in the CPZ	
Priority Behavior Safety – Outside the ECD facilities of the CPZ area	
Presence of stray animals	Caregivers prefer walking to various ITC facilities in and around the CPZ
Unorganized parking cover the footpath in the vegetable market	
Presence of street vendors and hawkers	
Lack of a continuous footpath	
Priority Behavior Play – Outdoors (CPZ)	
Limited play equipment to engage young children in ECD facilities	Some children also play in Tridal Nagar as it has a big road with limited traffic
	Caregivers living in government housing society in the CPZ area have limited space for children to play, hence they prefer taking children outdoors



Semi-Permanent Interventions Learnings from Pune

CHILD PRIORITY ZONE: MAHARASHTRA HOUSING BOARD, YERWADA, PUNE


Semi-Permanent Intervention conducted in the identified Child Priority Zone in Maharashtra Housing Board, Yerwada was focused on enabling the ITCs to access the diverse ITC facilities more frequently and comfortably. The element of safety was ensured between the carriageway and the footpath edge to promote toddlers to walk safely. Element of play added all along the route from Shivray Hospital to nearby school made the experience for the ITCs playful and interesting.

Design element/ component	Material used on site
<p>Securing pedestrian way with Bollards and coloured markings and creating no parking zone in front of shops</p> 	<ul style="list-style-type: none"> • Primer Base and Apex Paint for coloured marking • PVC bollards
<p>Safe junctions, Bright colour marking on junctions and rumble strips for traffic calming. Marking of safe crossing</p> 	<ul style="list-style-type: none"> • Primer Base and Apex Paint for coloured marking • Pigmented Thermoplastic paint for crossing markings and rumble strips

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Caregivers reported increased safety for walking on the road towards ITC facilities Young children were observed directing their caregivers to walk from the dedicated pedestrian way. Creating a No parking zone in front of shops/ market Streets helped carve out a dedicated pedestrian way to the neighbourhood. <p>Durability:</p> <ul style="list-style-type: none"> Apex paint on the road/pedestrian way faded after one month. Apex paint on the road/pedestrian way started to wear out after 1month of application At many instances, Bollards were broken/bent due to hits from the vehicular flow. <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by the local leader as well as residents 	<ul style="list-style-type: none"> Dedicated pedestrian ways should be developed towards ITC destinations and identified child priority zones Bright colours for the surface of pedestrian ways can be scaled up Designating no parking zones in areas of conjunctions at neighbourhood streets can be scaled up. Permanent material as given below, can be used: <ul style="list-style-type: none"> * Colourful paver blocks * Colourful stamped concrete in patches * RCC bollards with VOIC free paint. Bollards with the dual purpose of seating and restricting vehicular flow can be used * MS and SS bollards can also be used with radium marking for night visibility
<p>Usability:</p> <ul style="list-style-type: none"> Caregivers reported increased safety for walking on road towards ITC facilities as well as increased safety while crossing Increased number of school children were observed to be walking on dedicated pedestrian way. Caregivers reported increased interaction with their young children while walking to school/ day care center through the side walk games. <p>Durability:</p> <ul style="list-style-type: none"> Apex paint on road/pedestrian way demarcation faded after 1 month. Apex paint on road/pedestrian way started to wear out after 1month of application Pigmented Thermoplastic paint used for crossing has not faded after 1month but the paint looks faded with dust accumulation <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents Some people objected colouring large surfaces of roads. 	<ul style="list-style-type: none"> Highlighting of ITC critical junctions with bright colours can be scaled up. Bright Coloured markings for pedestrian ways and crossing ways can be scaled up Highlighting of crossings critical for ITC movement can be scaled up Permanent material as give below can be used: <ul style="list-style-type: none"> * Colourful paver blocks for traffic calming * Thermoplastic paint for colouring road for traffic calming or area designation

Semi-Permanent Interventions Learnings

CHILD PRIORITY ZONE: MAHARASHTRA HOUSING BOARD, YERAWADA, PUNE

Design element/ component	Material used on site
<p data-bbox="97 315 767 353">In built Slide , climbing and seating play equipment</p> 	<ul data-bbox="767 315 1584 459" style="list-style-type: none"> • Brick Masonry, with plaster • Coloured with Apex paint • Brick Masonry, with plaster • Coloured with Apex paint

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Increased number of young children walking to ITC facilities Increased number of caregivers reported their young child playing along the street while commuting to markets Caregivers reported increased comfort while commuting to ITC facilities. Caregivers reported lesser incidences of child being irritable while walking and lesser incidences of child urging to pick up in arms while walking in the 1st week of intervention grounding. Caregivers demanded more number of seating along stretch of 400m of intervention. <p>Durability:</p> <ul style="list-style-type: none"> Apex paint on road/pedestrian way demarcation faded after 1 month. Apex paint on road/pedestrian way started to wear out after 1month of application <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> In Built play equipment's should be scaled up in permanent interventions. Variety of built in play installations can be added throughout the streets that are connecting routes to ITC facilities. Permanent material as give below can be used: <ul style="list-style-type: none"> * Fly ash Brick masonry, Stone tile detailing to play equipment * MS fabrication work with PVC vinyl coating (optional) as per requirement of side play equipment.

Semi-Permanent Interventions Learnings


CHILD PRIORITY ZONE: MAHARASHTRA HOUSING BOARD, YERAWADA, PUNE

Design element/ component	Material used on site
<p>Signages for child priority zone, no parking , play area etc. marking</p> 	<ul style="list-style-type: none"> • MS angle pole and frame for signage • MS sheet with printed polyvinyl sticker for signage graphic
<p>Roadside play equipment: Pendulum experiment</p> 	<ul style="list-style-type: none"> • Fly ash cement planters, Built in planter bed in masonry on footpath edges. • Plants with 1m height and having endurance to absorb high pollution levels

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Some people acknowledge the designation of CPZ through signages thus slowed down while passing through these junctions While others did not slow down. Few people reported the signage not being understandable as it was not in local language. Organised on street parking of pick up auto rickshaw/ vans near school was observed for 1st week after intervention. <p>Durability:</p> <ul style="list-style-type: none"> MS sheet/angle pole durable for more than 6 years Polyvinyl sticker for signage graphic was in good condition after 1 month, It will be durable for 2 years <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> Micro signages can be scaled up through CPZ area Micro signages to direct ITC users towards ITC facilities installed throughout CPZ area Signages can be placed in both local and English language Permanent material as give below can be used: <ul style="list-style-type: none"> * MS angle pole and frame for signage * MS sheet with printed polyvinyl sticker for signage graphic
<p>Usability:</p> <ul style="list-style-type: none"> Caregivers reported increased Safety from vehicular traffic. Residents were observed watering these street-side plants even after 4 weeks of intervention. <p>Durability:</p> <ul style="list-style-type: none"> MS sheet/angle pole durable for more than 6 years The Polyvinyl sticker for the signage graphic was in good condition after 1 month, and It will be durable for 2 years <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by the local leader as well as residents. 	<ul style="list-style-type: none"> Planters should be considered in street design as barrier from vehicular flow for safety. Permanent material as give below can be used: <ul style="list-style-type: none"> * Fly ash cement planters, Built in planter bed in masonry on footpath edges. * Plants with 1m height and having endurance to absorb high pollution levels


Semi-Permanent Interventions Learnings

CHILD PRIORITY ZONE: MAHARASHTRA HOUSING BOARD, YERAWADA, PUNE

Design element/ component	Material used on site
<p>ECD Messages</p> 	<ul style="list-style-type: none"> Printed ECD Messages on Flex sheet stretched on wooden frame.

ITC FRIENDLY STREET, KARVE ROAD, PUNE

Semi-Permanent Intervention conducted in the identified street stretch on Karve Road was focused on making the walking experience to the local clinics and daily needs outlets a safe and enjoyable journey for the ITCs. Street crossings were made safe with design elements for traffic calming and addition of colourful and playful elements made it an interesting walking experience.



Design element/ component	Material used on site
<p>Intermediate crossing with median island in front of Kothrud bus stand</p> 	<ul style="list-style-type: none"> Thermoplastic Paint Pigmented thermoplastic paint for other colours Bollards: PVC and RCC Precast

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Passer-by noticed ECD messages and acknowledged presence of young children around them • Caregiver suggested the ECD messages to be in English as their young children are not savvy in reading Local language script. • Increased awareness among the residents was noticed about child priority zone. <p>Durability:</p> <ul style="list-style-type: none"> • Flex printed sheets faded after exposure to constant sunlight depending on season. (Good condition till 6months). Flex sheets are susceptible to tearing. <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • Display of ECD messages should be scaled up throughout the child priority zone for sensitization of residents and positive behaviour change towards ITC • Permanent material as give below can be used: <ul style="list-style-type: none"> * Wall painting in Oil based paints * Wall murals in FRP

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Caregivers and Toddlers used crossing. • Very few people crossed the road diagonally and not using the crossing. <p>Durability:</p> <ul style="list-style-type: none"> • Coloured zebra stripes were faded during 3rd week post-intervention • White-coloured zebra stripes were seen prominent during 3rd week. • Most of the PVC bollards were intact. <p>Acceptability:</p> <ul style="list-style-type: none"> • Clearly visible and crossing that is bright in colour was chosen for crossing the road. Less diagonal crossing was served. • The Urban95 team suggested the tabletop crossing. However, Executive Engineer suggested that due to close proximity to the major junction, Table Top Crossing to be avoided. 	<ul style="list-style-type: none"> • Thermoplastic Paint in white and other bright shades are durable and can be used in making playful road marking and pedestrian crossings. • PVC Bollards, RCC precast bollards can be used

Semi-Permanent Interventions Learnings

ITC FRIENDLY STREET, KARVE ROAD, PUNE


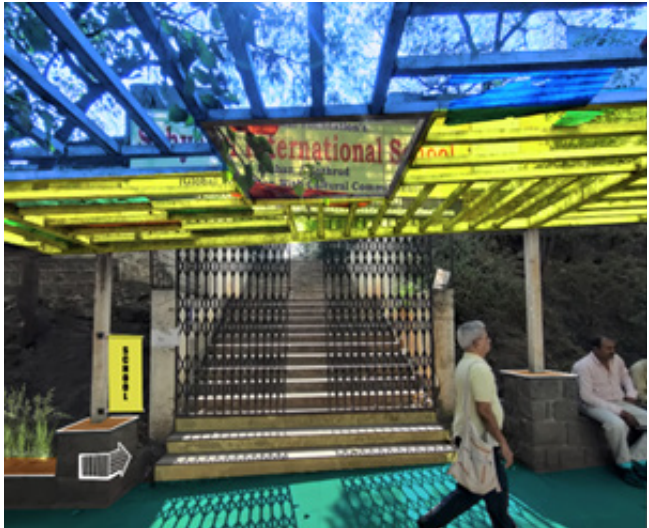

Design element/ component	Material used on site
<p>Demarcating continuous pedestrian pathway near property entrance spots, restricting vehicular entry on pedestrian way with bollards</p> 	<ul style="list-style-type: none"> • PVC/RCC Precast Bollards, • Primer base • Apex paint
<ul style="list-style-type: none"> • Playful pedestrian pathway, with side walk games, • Swings from trees near ITC facilities, • ITC seating around the trees, clearing tree beds of garbage and planting ground cover • Landscape barriers between on street parking bays and pedestrian pathways 	<ul style="list-style-type: none"> • Primer base • Apex paint • Oil paint for existing metal benches • Waste half cut tyres, waste tin boxes/earthen planters, landscaping with plants that grow till the height of 100cm • Brick masonry for seating, • Tyres seating and swing

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> No vehicles were observed post installation of bollards Seamless and safe walking movement was observed on footpath The playful and colourful patterns helped kids in engaging while walking with caregivers. <p>Durability:</p> <ul style="list-style-type: none"> Apex paints patterns were seen fading after 1 month. Paint layers were started to wear-out 1 month onwards. <p>Acceptability:</p> <ul style="list-style-type: none"> The local residents welcomed placements of the bollards for restricting vehicular movement on footpath. Caregivers felt safe due to placing the bollards. 	<ul style="list-style-type: none"> The bollards play key role in providing safe and barrier free access to all pedestrians. Sufficient bollards shall be placed as per geometric design of footpath and considering property entrances. Bollards: Cement- pre-cast, PVC and steel bollards can be placed Colourful pattern on the footpath surface can be scaled up. Permanent material as give below can be used: <ul style="list-style-type: none"> * Combination of Epoxy Paint and heritage plaster * Colourful paver blocks * Tiles chips from constructions waste * Colourful stamped concrete in patches
<p>Usability:</p> <p>Waste tin boxes/earthen planters, landscaping with plants that grow till the height of 100cm</p> <ul style="list-style-type: none"> Instead of the proposed half cut tyre planters and tin boxes, potted planters were procured from garden the department for few days of intervention. Planters helped in sustaining the reclaimed pedestrian way by creating barrier between vehicular and pedestrian ways. Caregivers reported increased Safety from vehicular traffic. <p>Brick masonry for seating and oil painted metal benches</p> <ul style="list-style-type: none"> Caregivers used the seating arrangement while child engaged in floor games on footpath. <p>Tyres seating and swing</p> <ul style="list-style-type: none"> Tyres were only used for swings. Kids gave highest priority in playing on swings The swings movement obstructed pedestrian flow when swings moved rapidly 	<ul style="list-style-type: none"> Planter bed in brick masonry on footpath edge Seating arrangement in brick masonry and suitable stone tiles Pocket plays with swings can be included.

Semi-Permanent Interventions Learnings

ITC FRIENDLY STREET, PAUD ROAD, PUNE


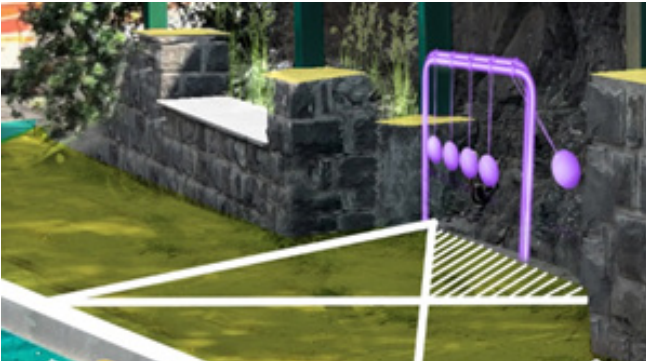

Semi-Permanent Intervention conducted in the identified street stretch on Paud Road was focused on making the walking experience to the school, local shops and daily needs outlets a safe and enjoyable journey for the ITCs. Street crossings were made safe with design elements for traffic calming and addition of colourful and playful elements made it an interesting walking experience.

Design element/ component	Material used on site
<p>Colourful Pattern for way-finding</p> 	<ul style="list-style-type: none"> • Primer Base • Apex Paint
<p>Colourful polycarbonate sheet covering on existing MS frame Pergola</p> 	<ul style="list-style-type: none"> • Colourful Polycarbonate sheets
<p>In built Slide and climbing play in brick masonry</p> 	<ul style="list-style-type: none"> • Brick Masonry, with plaster and colour with Apex paint

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Toddlers were enjoying play while going to preschool. Colouring helped sustain the reclamation of the pedestrian way from encroachment and garbage dumping. <p>Durability:</p> <ul style="list-style-type: none"> Way-finding paints were seen fading after 1 month. <p>Acceptability:</p> <ul style="list-style-type: none"> Contractors showed resistance to colour the reclaimed pedestrian way on asphalt roadside due to the unevenness and dust 	<ul style="list-style-type: none"> Colourful wayfinding on the floor can be scaled up. Permanent material as give below can be used: <ul style="list-style-type: none"> * Combination of Epoxy Paint and heritage plaster * Colourful paver blocks * Tiles chips from constructions waste * Colourful stamped concrete in patches
<ul style="list-style-type: none"> Element was not executed due to time constraints 	<ul style="list-style-type: none"> Colourful covered shades can be scaled up in permanent interventions. Installation of permanent features like roofing/ masonry work, etc. takes considerable pre-planning in terms of material procurement and execution. (Such elements are not feasible in interventions of tactical nature) Permanent material as give below can be used: <ul style="list-style-type: none"> * Colourful polycarbonate sheet * Colourful transparent acrylic sheet * GI sheet for covering where trees are not present
<ul style="list-style-type: none"> Element was not executed due to time constraints 	<ul style="list-style-type: none"> In Built play equipment's should be scaled up in permanent interventions. Installation of permanent features like roofing/ masonry work, etc. takes considerable amount of pre planning in terms of material procurement, and execution. (Such elements are not feasible in interventions of tactical nature) Permanent material as give below can be used: <ul style="list-style-type: none"> * Brick masonry, Stone tile detailing to play equipment * MS fabrication work with PVC vinyl coating(optional)

Semi-Permanent Interventions Learnings

ITC FRIENDLY STREET, PAUD ROAD, PUNE




Design element/ component	Material used on site
<p>Planter edge between pedestrian way and drive way</p> 	<ul style="list-style-type: none"> • Half Cut tyres with garden soil filling and plantation
<p>Roadside play equipment : Pendulum experiment</p> 	<ul style="list-style-type: none"> • MS fabrication frame • Solid steel balls hung with Steel wire
<p>Reclamation of pedestrian way, refuge island and demarcation of safe crossing with colourful paint Restricting vehicular access with planters and PVC bollards</p> 	<ul style="list-style-type: none"> • PVC bollards • Planters in Half cut tyres • Apex paint for colouring and Thermoplastic paint for marking crossing

	Observations	Learnings
	<ul style="list-style-type: none"> • Instead of proposed half cut tyre planters, potted planters were procured from garden department for few days of intervention • Planters helped in sustaining the reclaimed pedestrian way by creating barrier between vehicular and pedestrian ways. • Caregivers reported increased Safety from vehicular traffic. 	<ul style="list-style-type: none"> • In Built play equipment's should be scaled up in permanent interventions. • Permanent material as give below can be used: • Fly ash cement planters, Built in planter bed in masonry on footpath edges. • Plants with 1m height and having endurance to absorb high pollution levels
	<ul style="list-style-type: none"> • Element was not executed due to time constraints • PMC had raised concerns regarding durability of this element owing to vandalism 	<ul style="list-style-type: none"> • Installation of permanent features like roofing/ masonry work, etc. takes considerable amount of pre planning in terms of material procurement, and execution. (Such elements are not feasible in interventions of tactical nature) • Permanent material as give below can be used: <ul style="list-style-type: none"> * MS fabrication frame, Solid steel balls hung with Steel wire
	<ul style="list-style-type: none"> • Apart from planters all other elements were executed on site • Bollards and colouring of pedestrian way helped in reclaiming the space for ITC movement from vehicular encroachment and garbage dumping • Caregivers, school children reported increased safety for walkability and crossing road. • Caregivers reported increased enthusiasm for their young children to attend pre-school. 	<ul style="list-style-type: none"> • Bright Coloured markings for pedestrian ways and crossing ways can be scaled up • Playful way find towards ITC facilities can be scaled up

Semi-Permanent Interventions Learnings

EX. MAYOR BHARAT SAVANT PALM UDYAN, VISHRANTWADI, PUNE

Semi-Permanent Intervention conducted in the identified Palm Udyan Bharat Savant park was focused on creating a recreational space for the ITCs where young children get the opportunity to develop physical, cognitive and social skills for a holistic ECD. Colourful surfaces, patterns, play elements and play area enabled the young children to explore their imaginations and grow their motor skills.

Design element/ component	Material used on site
<p>Colourful Pattern for way-finding</p> 	<ul style="list-style-type: none"> • Primer Base • Apex Paint
<p>Play feature in existing geodesic dome</p>  	

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Toddlers were interacting with way-finding trails. • Most of the toddlers preferred to walk more. • Caregivers had to put less efforts into engaging their kids while walking towards the destination. • Caregivers engaged in walking slowly along their child as the young ones play while walking. • Young children enjoyed playing and walking through different wayfinding games on their 250m long way to kids play area • Caregivers engaged in walking slowly along their child as the young ones played while walking • Caregivers reported lesser incidences of having to carry their child (above 1.5 years) to walk through the park <p>Durability:</p> <ul style="list-style-type: none"> • Way-finding paints were seen fading after 1 month. • Paint layers started to wear-out 1 month onwards. <p>Acceptability:</p> <ul style="list-style-type: none"> • Local leaders were reluctant to use vertical surfaces as it affected the Palm Gardens original colour theme. • Wayfinding patterns on floors were allowed. 	<ul style="list-style-type: none"> • Colourful wayfinding on the floor can be scaled up. • Permanent material as give below can be used: <ul style="list-style-type: none"> * Combination of Epoxy Paint and heritage plaster * Colourful paver blocks * Tiles chips from constructions waste * Colourful stamped concrete in patches
<ul style="list-style-type: none"> • This intervention was not implemented 	<ul style="list-style-type: none"> • Difference in ideas of PMU, PMSU and PMC • Less time to execute • Due to safety concern it was not implemented • Different planets were painted on the floors below geodesic dome as mitigation strategy. • However it is recommended to include this element in master-checklist, during permanent intervention this will be executed. • Suggested Materials: <ul style="list-style-type: none"> * Cut-outs in WPC board hung with stainless steel wire and suitable hooks.

Semi-Permanent Interventions Learnings



EX. MAYOR BHARAT SAVANT PALM UDYAN, VISHRANTWADI, PUNE

Design element/ component	Material used on site
<p>Marking colourful railing at kids height</p> 	<ul style="list-style-type: none"> Oil paint
<p>Playful maze in lawn areas Kids and caregiver engage in interactive play , while other family members can sit in the lawn (within proximity)</p> 	<ul style="list-style-type: none"> Fly ash bricks Lime paint
<p>Covering seating areas</p> 	<ul style="list-style-type: none"> Transparent/ graphical polycarbonate sheet for covering

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Toddlers noticed the colourful markings on railing. Differently abled kids were observed trying to walk with the help of marked railing. <p>Durability:</p> <ul style="list-style-type: none"> Colourful railing markings can be seen after 3.5 month of intervention and they are in good condition. 	<ul style="list-style-type: none"> Oil Paint on MS Railings Colourful Night Glow Vinyl Film Stickers on steel railing
<p>Usability:</p> <ul style="list-style-type: none"> Kids independently interpreted this intervention differently. Few used it as balancing on the brick formation. When assisted by caregivers, kids also played the maze puzzle Caregivers spent some time near this intervention. <p>Durability:</p> <ul style="list-style-type: none"> Bricks were placed on the lawn surface. Mortar was not used. After 2 weeks the maze shape was changed. White colour lime paint worn out in a week. <p>Acceptability:</p> <ul style="list-style-type: none"> PMC officials and local leaders were reluctant and did not allow to install and fix the bricks with mortar by removing lawn surface However, they liked the idea of the maze, agreed to make it during permanent intervention with different material 	<ul style="list-style-type: none"> Natural Pebble Stones can be used Interlocking concrete blocks (Like Lego Blocks) For permanent installation and fixing PCC bed can be used for base layer
<ul style="list-style-type: none"> This intervention was not implemented 	<ul style="list-style-type: none"> Graphical polycarbonate sheet material was not readily available in the market. However, it is recommended to include this element in master-checklist. During permanent intervention this will be executed. Acrylic sheet can be also used.

Semi-Permanent Interventions Learnings

EX. MAYOR BHARAT SAVANT PALM UDYAN, VISHRANTWADI, PUNE



Design element/ component	Material used on site
<p data-bbox="105 322 630 358">Adding play activity near existing seating</p> 	<ul data-bbox="778 322 981 392" style="list-style-type: none"> • Primer Base • Apex Paint
<p data-bbox="105 896 311 931">Balancing Beam</p> 	<ul data-bbox="778 896 1021 931" style="list-style-type: none"> • Wooden blocks

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Existing seating area became playful Increased the interaction between caregiver and toddlers at resting spot <p>Durability:</p> <ul style="list-style-type: none"> Paints were seen fading after 2 months. Paint layers were started to wear-out 2 months onwards <p>Acceptability:</p> <ul style="list-style-type: none"> PMC officials, caregivers liked the idea of creating play area near resting spot. 	<ul style="list-style-type: none"> Colourful games on the floor can be scaled up near seating area Permanent material as give below can be used: <ul style="list-style-type: none"> * Combination of Epoxy Paint and heritage plaster * Colourful paver blocks * Tiles chips from constructions waste * Colourful stamped concrete
<p>This intervention was partially implemented. The wood logs were made available by PMC very late. Hence they were placed in different angles in the children’s play area.</p> <p>Usability:</p> <ul style="list-style-type: none"> The scale of the balancing beam was not that challenging compared to other play elements. <p>Durability:</p> <ul style="list-style-type: none"> Wood logs are still there in the play area, however, there is a need to fix it in the ground. <p>Acceptability:</p> <ul style="list-style-type: none"> PMC officials agreed to use this material but expressed safety concern 	<ul style="list-style-type: none"> More interesting and challenging patterns in wooden balancing beam can be developed during permanent intervention Ferocrate Cement material can be used FRP- Fibre-reinforced plastic with steel frames

Semi-Permanent Interventions Learnings

SAINATH NAGAR, WADGAON SHERI, PUNE

Semi-Permanent Intervention conducted in the identified sample area of the main site where the focus was on creating a safe space for ITCs to come and explore their sensory abilities via various playful elements which ignite the sensory capabilities in young children encouraging them to engage creatively with their imagination. Not only were the children encouraged to play but also encouraged to learn through skill development.

Design element/ component	Material used on site
<p>Sand Play</p> 	<ul style="list-style-type: none"> • AAC bricks curbing with primer and oil paint colour • Beach Sand
<p>Reflexology path empty plastic bottles and sand</p> 	<ul style="list-style-type: none"> • AAC bricks curbing with primer and oil paint colour • Beach Sand • Waste plastic bottles filled with beach sand

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Most toddlers spent more than 15 mins in sand play • Sandpit size was observed to be insufficient for holding more than 3 kids at a time • Children had to wait for their turn to engage in sand play • Sandpit was encroached by children of 6 to 10 years of age group. Younger children had to wait for their turn <p>Durability:</p> <ul style="list-style-type: none"> • Sand Spilled and spread on adjacent pathways on the 1st day on intervention • Sand was sustained in the constructed box till 3weeks after intervention. • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • The sandpit should be proportionate to the area of the park. It should Cater Minimum 10 kids as a time • Caregiver resting areas should be nearby for assistance during sand play • Signage for dedicated usage by 0 to 6 years age group should be strategically placed around sand play • Permanent material as give below can be used: <ul style="list-style-type: none"> * Fly ash brick masonry with Stone tile seating for young children, plaster and attractive VOC free colour * Beach sand * Seating in masonry and stone tile top for caregivers to be placed nearby the sandpit and for young children should be placed around sand pit.
<p>Usability:</p> <ul style="list-style-type: none"> • Younger kids who did not get to play in sand pit play box due, played in reflexology path with plastic waste bottles and sand. • Instead of walking over the path young children preferred playing sand with empty bottles and the sand • Young children spend more than 10 mins of playing time <p>Durability:</p> <ul style="list-style-type: none"> • Sand Spilled and spread on adjacent pathways on the 1st day on intervention • Sand was sustained in the constructed box till 3weeks after intervention. • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • Secured reflexology pathway zone with ITC seating • Reflexology surfaces to be placed along with or adjacent to pathways to give subtle indication of the purpose to walk over textures. The path should have signages for different materials to convey importance for ITC users. • Since children liked sitting and playing together in smaller group on grass surface, such gathering spaces should be encouraged in design of soft scape in the park. • Natural textures of bamboo and pine wood were replaced by ferro-concrete material as PMC had concerns about maintenance and moisture absorption and fungus growth during monsoons • Since children were attracted towards coloured pebbled surface and played by touching it instead of walking over the surface, a separate wall can be designed in coloured pebbles fixed in cement. The fixing of pebbles should be of permanent nature so as to restrict kids from removing the pebbles and avoiding choking hazards.

Semi-Permanent Interventions Learnings




SAINATH NAGAR, WADGAON SHERI, PUNE

Design element/ component	Material used on site
<p>Reflexology Grass mat</p> 	<ul style="list-style-type: none"> Artificial grass matt
<p>Reflexology coloured pebbles</p> 	<ul style="list-style-type: none"> AAC bricks curbing Coloured pebbles in pop spread

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> • Instead of walking over the path young children preferred sitting on mat and playing clay from adjacent play space of intervention • Increased social gathering and interaction was observed within young children while stationery play on the mat <p>Durability:</p> <ul style="list-style-type: none"> • Grass mat was in good condition till 4th week of intervention • Fixed Matt was stolen from the site after 5th week of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<p>* to be referred from ‘Reflexology path empty plastic bottles and sand’</p>
	<p>Usability:</p> <ul style="list-style-type: none"> • Young children were attracted towards coloured pebbles. Instead of walking on the pebbled surface they played by touching it and removing the pebbles from the fixed POP spread panel. <p>Durability:</p> <ul style="list-style-type: none"> • 10% Pebbles were removed by children while playing • Rest of the pebbled surface was in good condition till 3 weeks of intervention • However the Intervention was removed by PMC contractor to execute tiling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	

Semi-Permanent Interventions Learnings



SAINATH NAGAR, WADGAON SHERI, PUNE

Design element/ component	Material used on site
<p>Reflexology tactile learning surface</p> 	<ul style="list-style-type: none"> • AAC bricks curbing • Hexagonal shaped concrete paver blocks • Primer • Oil paint
<p>Reflexology path: tactile learning surface</p> 	<ul style="list-style-type: none"> • AAC bricks curbing • Tactile tiles • Primer • Oil paint
<p>Reflexology path: Pine wood panel</p> 	<ul style="list-style-type: none"> • Pine wood planks fixed on plywood panel

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> • Young children were attracted towards coloured shapes and identified alphabets • Young children spend 2 to 5 mins on the tactical learning panels to reach the sand pit area <p>Durability:</p> <ul style="list-style-type: none"> • Reflexology tactile learning surface was in good condition till 4 weeks of intervention • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<p>* to be referred from ‘Reflexology path empty plastic bottles and sand’</p>
	<p>Usability:</p> <ul style="list-style-type: none"> • Young children were attracted towards coloured shapes and identified numbers • Young children spend 2 to 5 mins on the tactical learning panels to reach the sand pit area <p>Durability:</p> <ul style="list-style-type: none"> • Reflexology tactile learning surface was in good condition till 4 weeks of intervention • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	
	<p>Usability:</p> <ul style="list-style-type: none"> • Young children walked through his pine wood panels. Showed lesser interest at the pine wood panel than other reflexology panels <p>Durability:</p> <ul style="list-style-type: none"> • Reflexology tactile learning surface was in good condition till 3 weeks of intervention • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	

Semi-Permanent Interventions Learnings




SAINATH NAGAR, WADGAON SHERI, PUNE

Design element/ component	Material used on site
<p>Reflexology tactile learning surface</p> 	<ul style="list-style-type: none"> • AAC bricks curbing • Hand Imprints in POP spread • Oil paint
<p>Sensory landscape</p> 	<ul style="list-style-type: none"> • Sensory plants • Mimosa • Mogra plant • Curry leaf • Holy basil • Rose

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> • Young children were attracted towards coloured hand imprints. Children tied matching their hands on the imprints • Young children spend 2 to 5 mins on the tactical learning panels to reach the sand pit area <p>Durability:</p> <ul style="list-style-type: none"> • Reflexology tactile learning surface was in good condition till 3 weeks of intervention • However the Intervention was removed by PMC contractor to execute tilling work for Gazebo in 6th week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • * to be referred from ‘Reflexology path empty plastic bottles and sand’
	<p>Usability:</p> <ul style="list-style-type: none"> • Toddlers were attracted towards colourful flowers. • Children interacted with the sensory plants but did not spent more than 5 mins around them. • With assistance of caregivers toddler also enjoyed touch, smell and taste related plants. • Few toddlers were observed plucking flowers and leaves <p>Durability:</p> <ul style="list-style-type: none"> • The planters were in good condition till 2nd week as long as labours were working on site. • However the planters were displaced by locals for personal use after 5th week of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • Sensory landscape, especially at the height of 1m can be scaled in parks. • Sensory landscape was value addition to regular walking experience for young children around the park • Permanent material as give below can be used: • Trees can be used for stimulating sight senses • Smaller plants till height of 1m can be used for stimulation of smell and sight senses • Ground cover can be used for stimulation of touch sense

Semi-Permanent Interventions Learnings

SAINATH NAGAR, WADGAON SHERI, PUNE

Design element/ component	Material used on site
<p>Sound play equipment 2: Earthen wind chime</p> 	<ul style="list-style-type: none"> • Earthen wind chime
<p>Sound play equipment 1: Foot piano</p> 	<ul style="list-style-type: none"> • Ready Made mechanical foot piano
<p>Sound play equipment 2: Thumb sound play instrument</p> 	<ul style="list-style-type: none"> • Ready Made Thumb sound play instrument

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> • Infants were entertained by caregivers by ringing the wind chimes • Toddlers were attracted towards ringing the wind chimes • Though young ones spent less than 5 mins at this intervention , it added value to overall sensory experience at the intervention <p>Durability:</p> <ul style="list-style-type: none"> • The wind chime was in good condition till 1 week • It was found broken due to continuous play by elder kids in 2nd week <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • Mechanical sound play elements should be avoided in public places. • Kinetic sound play elements. • Natural sound elements like water foundation with light and sound feature can be incorporated 2ithin the park to enhance sensory experience of ITC users. • Sound play from hanging elements can be scaled up with more permanent material. • Permanent material as give below can be used: • MS pipes • Copper pipes • Fibre glass • Bamboos
	<p>Usability:</p> <ul style="list-style-type: none"> • Toddlers spent more than 5 mins at this play equipment • Instead of plying by foot , toddlers preferred touching it and tapping by hand • Young children played more than 5 mins on this instrument <p>Durability:</p> <ul style="list-style-type: none"> • • The equipment was fixed on a plywood panel • • However it was displaced by local children after 1st week of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	
	<p>Usability:</p> <ul style="list-style-type: none"> • Toddlers spent Less than 5 mins at this play equipment • The equipment was small and difficult to use which led to comparative less usage by young children than other sound play elements <p>Durability:</p> <ul style="list-style-type: none"> • However it was displaced from site in 1st week of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	

Semi-Permanent Interventions Learnings



SAINATH NAGAR, WADGAON SHERI, PUNE

Design element/ component	Material used on site
<p>Seatings for ITC</p> 	<ul style="list-style-type: none"> Waster tyre of 600m diameter and plywood cut in round shape
<p>Signage</p> 	<ul style="list-style-type: none"> Printed A4 sheet pasted on mount board
<p>Attractive Entrance</p> 	<ul style="list-style-type: none"> Floor paint primer Oil paint

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> Elderly caregivers were noticed seating on tyre seating as child played <p>Durability:</p> <ul style="list-style-type: none"> The seating were displaced in the park premise by working labours and locals after 3rd week of intervention. However it was stolen from site in 4th week of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> Seating for caregivers needs to be placed near ITC play elements which require longer duration of play Seating for young children needs to be placed around or inside play which require longer duration of play Permanent material as give below can be used: Fly ash Brick masonry, Stone tile detailing to seating top
	<p>Usability:</p> <ul style="list-style-type: none"> It was observed that toddlers noticed signages with graphics to understand how to play with given play element Some caregivers suggested the signages to be in local language <p>Durability:</p> <ul style="list-style-type: none"> Signages were displaced after 1st week of intervention Some signages were torn on 2nd day of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> Signage in Marathi, English and braille along with graphical representation of play/usage should be placed at lower height for efficient utilization of sensory space Permanent material as give below can be used: MS angle support MS sheet with Vinyl sticker of signage graphic in local as well as English language
	<p>Usability:</p> <ul style="list-style-type: none"> Toddlers played while entering the intervention When the other play elements were stolen/ displaced , the playful flooring was played by young children <p>Durability:</p> <ul style="list-style-type: none"> Attractive Way-finding paints were seen fading- and wearing after 1 month. <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> Colourful wayfinding on the floor can be scaled up. Permanent material as give below can be used: Colourful paver blocks Tiles chips from constructions waste Colourful stamped concrete in patches

Semi-Permanent Interventions Learnings

SAINATH NAGAR, WADGAON SHERI, PUNE


Design element/ component	Material used on site
<p>Mud play</p> 	<ul style="list-style-type: none"> • AAC bricks curbing with primer and oil paint colour • Bombay Clay and water in bucket
<p>Chalk Board</p> 	<ul style="list-style-type: none"> • Waste Plywood board coloured with spray paints and white chalks

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Most toddlers spent more than 15 mins in mud play • Sandpit size was observed to be insufficient for holding more than 6kids at a time • Children had to wait for their turn to engage in sand play • Caregivers had to assist young children to wash hands and enjoy mud play. Mud play stayed enjoyable for the 1st day of intervention • Few children came to play mud play with their caregiver during the consecutive 3 weeks • Caregivers had to stand nearby for longer time as their young ones play with mud <p>Durability:</p> <ul style="list-style-type: none"> • Mud play pit was sturdy and in good condition till 6 weeks after intervention • However Bombay clay mud balls were taken away by people (as Bombay clay rarely available and multiuse material) <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • The Mud play pit should be proportionate to the area of the park. It should Cater Minimum 10 kids as a time • Caregiver resting areas should be nearby for assistance during mud play • Provision of water for playing mud as well as washing after play should be in proximity • Permanent material as give below can be used: • Fly ash brick masonry with Stone tile seating for young children, plaster and attractive VOC free colour • Clay, Garden soil
<p>Usability:</p> <ul style="list-style-type: none"> • Most toddlers spent more than 5mins on chalk board • Increased collaborative play among children was observed. • Caregivers reported increased interest in children towards learning skills <p>Durability:</p> <ul style="list-style-type: none"> • The chalk board was in good condition till 2 weeks • Later it was displaced by locals for personal usage <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader as well as residents 	<ul style="list-style-type: none"> • Chalk board/ free creativity wall for children at 1m height should be promoted in parks • Permanent material as give below can be used: • Wall with dark matt paint till 1m height

Semi-Permanent Interventions Learnings

RAJIV GANDHI HOSPITAL, YERAWADA, PUNE



Semi-Permanent Intervention conducted in the identified hospital which caters to maternity needs, was focused on making the waiting area and access to doctor’s chambers and other examination rooms friendly and welcoming in nature. The comfort and safety is ensured through provision of ITC friendly seating and playful surfaces along with breast feeding booth so that mothers can feed their children comfortably hence improving access time to the hospital.

Design element/ component	Material used on site
<p>Transformed cabin in breastfeeding booth</p> 	<ul style="list-style-type: none"> • Existing particle board panel cabin with fixed glass counters • Open to sky ceiling of cabin covered with green net • Perforated PVC stickers on fixed glass windows

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> • Most mothers resisted using the breast feeding booth as it was placed in waiting area in atrium • Lactating mothers suggested dedicating one separate room within hospital instead of movable cabin • When asked about comfort most lactating mothers informed Sitting on bed/down of floor and taking baby in lap for feeding is preferred than chair and table that was provided in the feeding booth • It was observed lactating mothers preferred feeding their infant in a curtained compartment in general ward <p>Durability:</p> <ul style="list-style-type: none"> • Feeding booth was maintained by hospital with chair and table facility till 8- weeks of intervention • Later the hospital started using for another purpose as it was inadequately used for feeding purpose. <p>Acceptability:</p> <ul style="list-style-type: none"> • Few mothers and expecting mothers hesitated to share their views on breastfeeding and the breastfeeding booth owing to the social stigma following the topic. • Lactating mothers as well as service providers suggested provision of separate room instead with curtains, bed and cushion. 	<ul style="list-style-type: none"> • Separate room nearby common waiting area ITC related facility which ever is applicable. The room should be equipped with bed and cushion with attached toilet with wash basin and diaper changing platform. • Messages about exclusive breast feeding, hygiene and ECD on wall/posters should be displayed inside breast feeding room

Semi-Permanent Interventions Learnings



RAJIV GANDHI HOSPITAL, YERAWADA, PUNE

Design element/ component	Material used on site
<p>Attractive Lift interier</p> 	<ul style="list-style-type: none"> Perforated PVC stickers on surfaces
<p>Interactive posters</p> 	<ul style="list-style-type: none"> Printed PVC stickers pasted on 3mm foam board , pasted on walls

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> Lift was rarely used by the young children and the caregivers Young children who used the lift with their caregivers preferred staying on the inside edge of the lift where graphics are pasted <p>Durability:</p> <ul style="list-style-type: none"> PVC stickers on wall were in good condition till 6 months after intervention PVC stickers on floor surface was in good condition till 1 month after intervention. After 1month wear and tear and fading was observed. <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> Lift interiors can be avoided if the ITC services located till 2nd floor of building as ITC users preferred Staircase over Lifts.
	<p>Usability:</p> <ul style="list-style-type: none"> Most caregivers tried to engage their young children by reading and playing with posters in front of waiting seats Young kids between 4 to 6 years of age climbed on the seats to reach attractive posters by hand. Young children between 3 to 6 years played with the cartoon characters on the wall while waiting in the corridors. Young children engaged in visual play with cartoon characters and posters in the immunization room during the treatment time. <p>Durability:</p> <ul style="list-style-type: none"> Posters were found to be in good condition even after 6 months of intervention <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> Interactive posters , with ECD messages and learning material should be scaled up in waiting wares of hospital premise Permanent material as give below can be used: PVC stickers with foam board/ metal sheet/ WPC board backing Wall murals in mosaic, tile art can also be used Wall painting can also be used

Semi-Permanent Interventions Learnings



RAJIV GANDHI HOSPITAL, YERWADA, PUNE

Design element/ component	Material used on site
<p data-bbox="105 322 437 353">Attractive circulation area</p> 	<ul data-bbox="778 322 1334 353" style="list-style-type: none"> Printed PVC stickers pasted on Flooring
<p data-bbox="105 1072 258 1104">Selfie Stand</p> 	<ul data-bbox="778 1072 1356 1137" style="list-style-type: none"> Printed PVC sticker pasted on 5mm foam board.

	Observations	Learnings
	<p>Usability:</p> <ul style="list-style-type: none"> • Most of the young children preferred walking over flooring pattern while their circulation through the hospital. • Young children played on flooring pattern by hopping on numbers and alphabets • Seats in waiting area were arranged around the flooring pattern of tactical intervention. <p>Durability:</p> <ul style="list-style-type: none"> • PVC stickers pasted on coloured parapet walls were in good condition till 3 months after intervention. However These stickers started peeling off from surface after 3rd month of intervention • PVC stickers on floor surface was in good condition till 1 month after intervention. After 1month wear and tear and fading was observed. <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> • Although few seats for the children at lower heights were added near the footwear stands, more children friendly seating and furniture needs to be incorporated in waiting and circulation areas. • Attractive flooring should be scaled in premise of hospitals. • More permanent material like, Stamp concrete, Colourful tile pattern, should be used.
	<p>Usability:</p> <ul style="list-style-type: none"> • Most caregivers encouraged their children to take photographs at the selfie stand. • Young children (1 to 3 years of age) who came crying from immunization and general OPD could be calmed at selfie stand <p>Durability:</p> <ul style="list-style-type: none"> • Selfie stand was in good condition till 4 weeks of intervention. Certain parts broke after 4th week due to heavy use <p>Acceptability:</p> <ul style="list-style-type: none"> • Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> • Selfie spots can be adopted in hospital premise entry or exit to create sense of winning over Illness within children. • However the material should be sturdy like MS sheet cut-outs fixed in MS frame, WPC board cut outs fixed in MS frames

Semi-Permanent Interventions Learnings


RAJIV GANDHI HOSPITAL, YERWADA, PUNE

Design element/ component	Material used on site
<p>Footwear stand for kids with seating for kids</p> 	<ul style="list-style-type: none"> Footwear stand in plywood with laminate till height of 700mm with seating for young child in Plywood at 300m height.
<p>Attractive learning graphics on staircase</p> 	<ul style="list-style-type: none"> Printed PVC stickers pasted on Stairs tread and parapet walls Standeers, in Printed PVC sticker pasted on 5mm foam board.

Observations	Learnings
<p>Usability:</p> <ul style="list-style-type: none"> Few people used the footwear stand; few caregivers kept the footwear on the floor itself. Children were more keen to place foot wear on the stand The location of footwear stand was shifted by the hospital staff. The footwear stand was efficiently used by young children and caregivers. Young children used the seating boxes of smaller height to sit and remove footwear <p>Durability:</p> <ul style="list-style-type: none"> Footwear stand was in good condition till 5 months after intervention, however it was displaced to other floor of hospital by service providers <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> Footwear stands should be placed at every ITC facility entry/exit location within hospital premise However the material should be permanent nature like, Granite storage compartments in built walls or MS fabrication footwear stand fixed in wall
<p>Usability:</p> <ul style="list-style-type: none"> Young children visiting the hospital (2 to 5years age) preferred walking/climbing the stairs themselves as they could explore the staircase graphics. Use of relatable cartoon characters on walls helped in creating a playful environment for the young children within the hospital environment. <p>Durability:</p> <ul style="list-style-type: none"> PVC stickers pasted on coloured parapet walls were in good condition till 3 months after intervention. However These stickers started peeling off from surface after 3rd month of intervention PVC stickers on floor surface was in good condition till 1 month after intervention. After 1month wear and tear and fading was observed. Due to moving furniture/stretchers, walking over the stickers etc. Standeers were found to be in good condition till 3 months after intervention. Few standees broke due to vandalism after 3rd month. <p>Acceptability:</p> <ul style="list-style-type: none"> Intervention supported by local leader, users as well as service providers 	<ul style="list-style-type: none"> Staircase can be made Interactive, with display of ECD messages and learning material should be scaled up in waiting wares of hospital premise Permanent material as give below can be used: PVC stickers with foam board/ metal sheet/ WPC board backing Wall murals in mosaic, tile art can also be used Wall painting can also be used

Semi-Permanent Interventions Learnings




MAHARASHTRA HOUSING BOARD SOCIETY, YERAWADA, PUNE

Design element/ component	Adaptation in permanent use
<p>Sand Play</p> 	<ul style="list-style-type: none"> • 12 sq.m. of sandpit to hold 10 kids • Seating at 300mm height around sandpit for kids with granite chamfered top • Beach sand was replaced with river sand due to material availability issues
<p>Mud play</p> 	<ul style="list-style-type: none"> • 12 sq.m. of sandpit to hold 10 kids • Seating at 300mm height around sandpit for kids with granite chamfered top • Seating for caregivers were added around mud play area • Bombay clay was replaced with garden soil due to material availability issues
<p>Chalk Board</p> 	<ul style="list-style-type: none"> • Curved creative wall with black matt finish paint is constructed with buffer paved space for standing. Two kids can use the wall at one time

Design element/ component	Adaptation in permanent use
<p>Sensory plants/landscape</p> 	<ul style="list-style-type: none"> Layered Sensory landscape on edges of pathway Tall trees of same colour flowers on edges for Tree with aromatic flower in center of park
<p>Reflexology Path</p> 	<ul style="list-style-type: none"> Secured reflexology pathway zone with ITC seating Tactical panel in MS frame and removable plates for changing textures periodically Natural textures of bamboo and pine wood were replaced by ferro-concrete material as PMC had concerns about maintenance and moisture absorption and fungus growth during monsoons
<p>Sound play</p> 	<ul style="list-style-type: none"> Xylophone in MS frame and pipe Hanging pipes for wind chime like effect in MS pipe
<p>ITC Seating</p>	<ul style="list-style-type: none"> Seating for caregivers are placed near around Sand and Mud play Seating for young children at 300m height from FFL are placed around Sand and Mud play

Semi-Permanent Interventions Learnings

MAHARASHTRA HOUSING BOARD SOCIETY, YERAWADA, PUNE

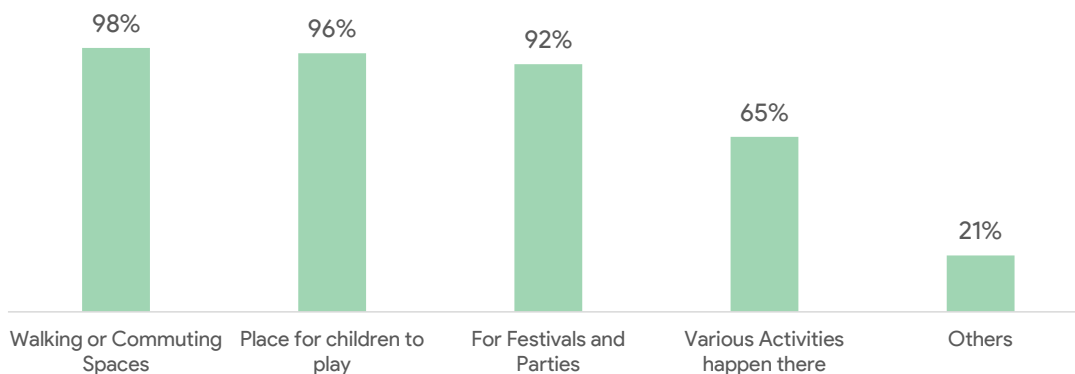
Design element/ component	Adaptation in permanent use
<p>ITC Seating</p> 	<ul style="list-style-type: none"> • Seating for caregivers are placed near around Sand and Mud play • Seating for young children at 300m height from FFL are placed around Sand and Mud play
<p>Attractive Entrance</p> 	<ul style="list-style-type: none"> • Bright coloured curbing was added instead of colouring paved surfaces • Vertical walls of toilet block and breast feeding booth were used for display of learning material in attractive way. • Use of bright colours • Due to time constraint gate or paved pathways were not intervened for playful flooring
<p>Graphical Signages</p> 	<ul style="list-style-type: none"> • Signage at 900 m height in MS angle support • MS sheet of size 500x 300mm minimum with Vinyl sticker of signage graphic in local as well as English language



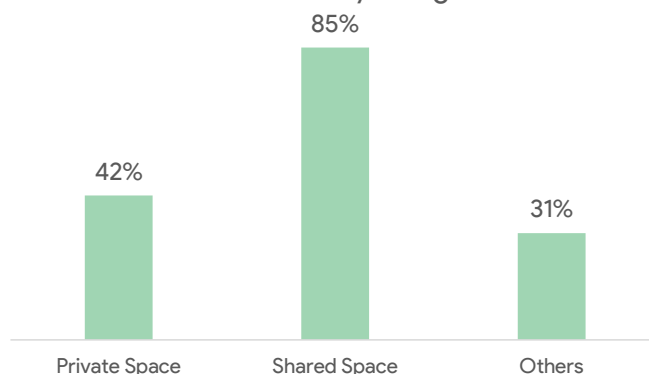
Space Utilisation of ITC Destinations by Caregivers in Pune

This section is extracted from the document “Supporting Urban Childhoods - Observations on caregiver use of public spaces from Pune (IN) and Istanbul (TR)” by Sukanya Krishnamurthy and Özlemnur Ataol. This report examines how caregivers meet the socio-spatial needs of their young children within their neighbourhood. Three daily living domains – public space, mobility in and around the neighbourhood, and quality of the built environment are examined.

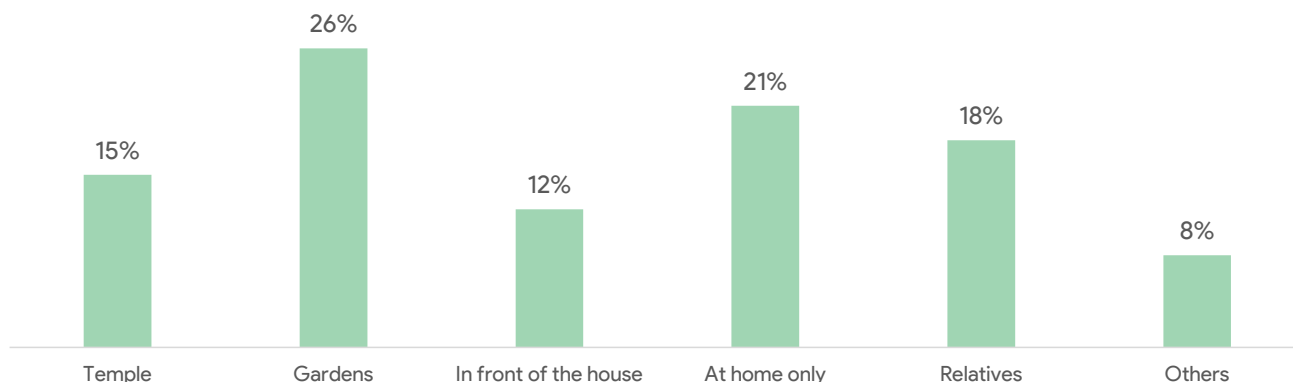
Percent of caregivers using the street for different purposes



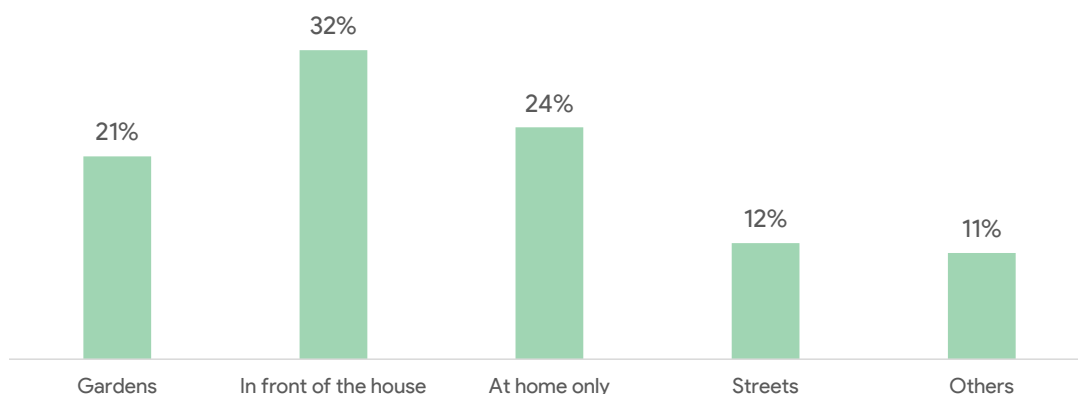
How the street space in front of their house is used by caregivers



Spaces outside the house where caregivers spend the most time with children



Common spaces where children play in the neighbourhood



Caregiver's Perspective			
Aesthetics & Common Spaces	Roads	Services & Facilities	Social Issues
Improve awareness and implementation of hygiene and cleanliness	Roads are too narrow, and should be larger/ broader	More garbage disposal points, and more dustbins	Stop unfair/irregular practices
Streets needs to be cleaned as it gets dirty during rainfall	Address issues of dangerous driving and heavy traffic by revising speed limits	More public toilets, and improved maintenance of toilets	Too much fighting and abuse that needs to be addressed
Tree planting	Ban traffic in front of houses	No defecation in the drainage chamber More street lights and electricity poles	Youth engaged in illegal activities and alcoholism on the streets, makes it unsafe
More gardens and common park facilities	Main road is far and should be closer	Regular water collection points where everyone can drink water from	Presence of street boys and children make women and girls afraid to go out for walks after 8 pm
More open space, and playgrounds within vicinity should be available for children to play	Big parking facility needed	Improve awareness of water conservation	Address issues of street dogs
More open area in front of the house where children can play		Wet and dry waste segregation	Respect to policemen needed
Large space/hall for celebration purposes		Improved drainage systems	Employment for youth
		More vegetable markets Hotel where women can go Food facility should be maintained	Counseling facilities
			Rent is very high and cheaper housing should be provided

Case Study - Neighbourhood



Image:1 Street reclaiming scheme, Fortaleza, Brazil. Credit: Paulo Winz / NACTO-GDCI

Walking and cycling are essential to a healthy neighbourhood as it stitches the neighbourhood together for children. Such neighbourhoods invite young children and families into a welcoming, green, multifunctional public realm that is weaved through a wide range of playful and friendly elements.



Image:2 Public space with play platform, Taipei. Credit: Ching Tsai, Taiwan Parks & Playgrounds for Children by Children

These welcoming invitations begin right outside the house or common area of an apartment building which caregivers find valuable for children to play as they extend into spaces where families spend their daily lives. Spaces such as streets, courtyards, public squares, shopping areas, schoolyards, urban green spaces, paths, and alleys can be opened up for play & social interaction.



Image:3 Game checkpoints in the neighbourhood of Moosach, Munich

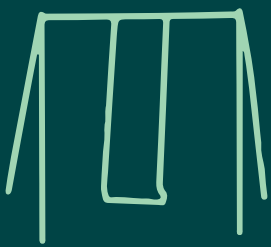
Interactive walking game “Kreuz & Quer” in the north of Munich encourages the parents and young children and their families in the neighbourhood of Moosach for encouraging the area by walking, cycling or using a scooter.



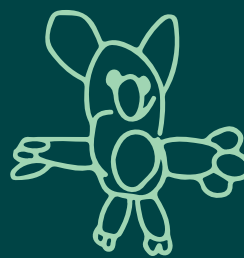
Image:4 Wood car contest engages the caregivers and their children while uplifting the social interactions withing the community.

Residents of Dioda celebrate Neighbourhood Days festival where they spend time with their children in children’s workshop, asphalt paintings, measuring blood sugar level, watching and participating in dance and tresure hunt, etc.

Case Study - Neighbourhood



A place supporting play and has playgrounds



A place that promotes learning



A place that keeps and protects nature



A place that is safe and clean



A place where we create communities



A place that values children



A place that allows you to be active



A place that has pathways

List of Child Friendly Neighbourhood themes/indicators, representative icons derived from children's drawings and the children's rationale from Child Friendly Research Workshops Report 2011 prepared in Child Friendly Asia Pacific initiative under UNICEF.

Case Study - Streets

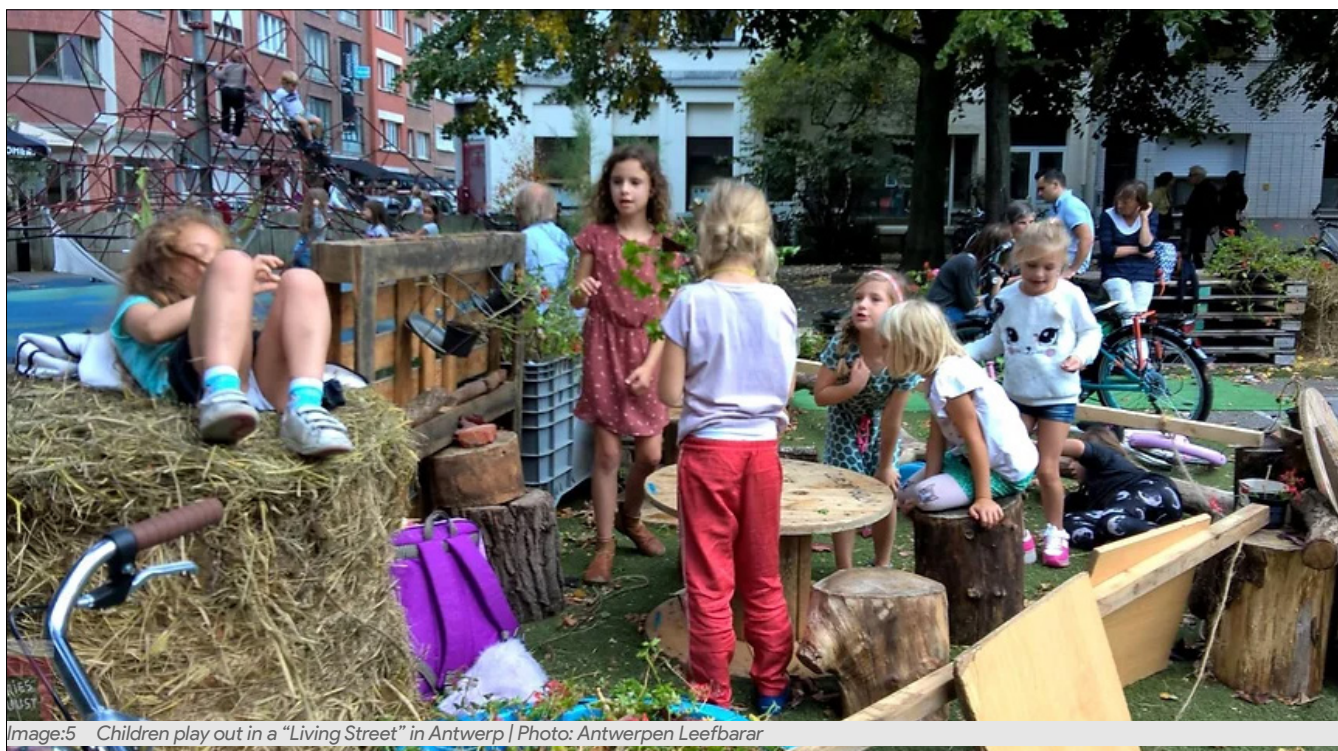


Image:5 Children play out in a "Living Street" in Antwerp | Photo: Antwerpen Leefbaar

Adding relaxing and playful open public spaces at street junctions and adjoining grey areas help strategise in returning the street back to the people. This encourages social interaction between adults and car-free space provides safety for young children to play and grow.



Image:6 Japanese children walk to school, Tokyo. Photo by S. Bursuk

In the neighbourhoods of Tokyo, the target to enable young children to move independently is achieved through children's active mobility through physical environment and social norms. This is supported by the acceptance of the community at large to contribute towards the safety of traveling children helps in assisting the children's mobility.

Case Study - Streets



Image:7 Children participating on making "Kindlint" more child-oriented, Amsterdam

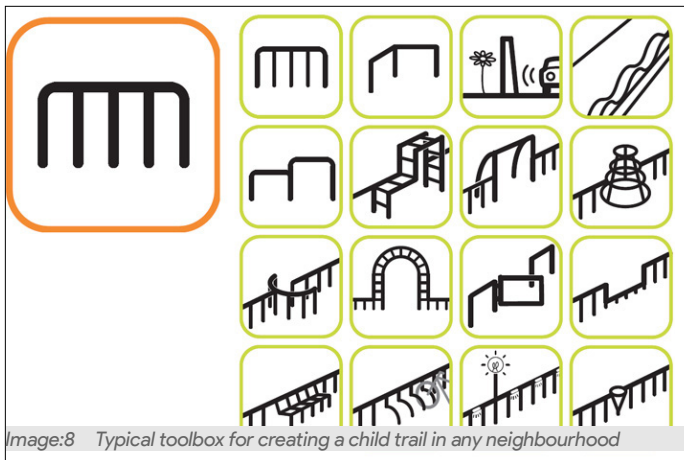


Image:8 Typical toolbox for creating a child trail in any neighbourhood

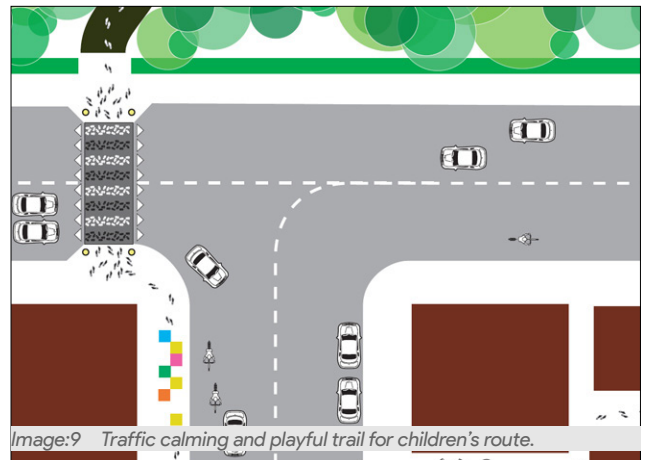


Image:9 Traffic calming and playful trail for children's route.

Kindlint means 'childroute' which is a route demarcated using signs, objects, tracks, safe crossings, etc. for connecting different locations throughout the neighbourhood. This creates an interesting travel pattern for the children to explore their spatial skills and develop the sense of autonomy and direction. These routes are made child-friendly by reclaiming the streets.

Case Study - Parks & Open Spaces



Image:10 Children's natural playspace at the Groen Kwartier, Antwerp Photo by: Publieke Ruimte

To create an active neighbourhood, placing open public spaces in between built environment of the neighbourhood can create a creative and active playscape for a playful and safe experience for young children while adding to their ECD and overall quality of life in the neighbourhood.



Image:11 Nüdel Kart, Melbourne, Australia

Incorporating activities where the community can participate towards making the neighbourhood a better place for their children adds on to their sense of ownership. This example successfully covered that by creating safe playscape for children using re-usable materials.

Case Study - Parks & Open Spaces



Image:12 Community Park at City of Maple Grove, MN

Creative play elements in a park or open space helps in early child development that enhances the growth of the child and helps them improve the relationship with caregivers and the city at large.



Image:13 One Green Mile beneath Mumbai Flyover

Converting a dead space under a flyover in Mumbai created opportunities for all age and gender making it safe and interesting for children to engage with the community.

Case Study - Social Infrastructure



Image:14 Playschool for young children, Delhi

Colourful and interesting elements in the surrounding environment would help develop cognitive and emotional skills for young children. Caregivers become the facilitator for engaging the children for developing them for the outside world.



Image:15 Tarbut V'Torah (TVT) Community Day School in Irvine, California

Promoting outdoor learning spaces in Schools, anganwadis and balwadis improves the learning skill and helps children learn more effectively.

Case Study - Social Infrastructure



Image:16 Parents play with their babies at Bouken Tamago amongst a counsellor and nurse who are there to answer any questions

Caregivers and children interact in a space where not only the children get the opportunity to learn and grow but also the parents grow and learn with them and be aware about the well-being of their children.



Image:17 Children cook together with volunteer residents in Kwa Wan, Hong Kong

Engaging in cooking and other community activities can help develop the social and emotional skills of the young children.

Case Study - Urban Services



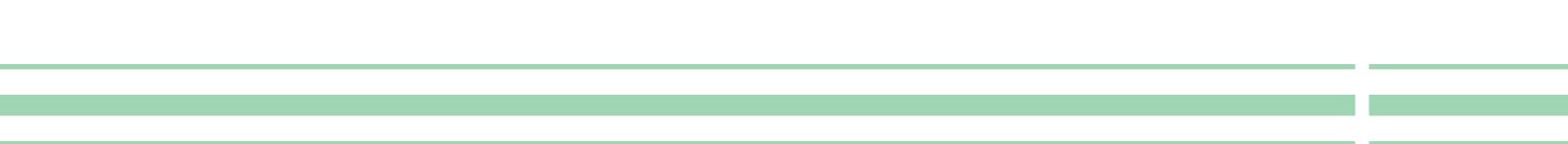
Image:18 Sanitation Centre, Kibera public space project, Nairobi, Kenya

Community engagement peaked when young children were brought into the centre of activity space of the sanitation centre which in usual situations gets neglected or is made less aware about. The children not only find the opportunity to be aware of the sanitation facility and its functions but its durability gets higher hopes due to active participation of the caregivers.



Image:19 "Gradinescu" aims to familiarize children and adults with gardening and the ease of having a healthy diet even in the urban environment.

The first urban garden designed in Bucharest has 2300 square meters and is dedicated for use by the community. That's why Kaufland Romania is inviting people in the neighborhood to adopt their own garden plot to care for. This opens up opportunities for children to care for nature and understand the value of urban services and their benefits in the neighbourhood.





Design Principles

- Newborn
- Infants
- Toddlers
- Pre-school age & School age

Design Standards

The general purpose is to realize operational and manufacturing economies, to increase the interchangeability of products, and to promote uniformity of definitions of product characteristics. It serves the following purpose:

- Provide for high-quality, human-scale architecture that conforms with generally accepted traditional design principles and is sensitive to ITCN objectives, streetscapes, the broader setting, and our natural and cultural resources.
- Encourage design which is compatible to ITC friendliness.
- Enhance property values and foster civic pride.
- Strengthen socio-cultural vitality and promote the ITC spaces as a welcoming, pedestrian and community friendly especially young infants, toddlers, and caregivers and mothers.
- Minimize potential conflicts between use of space for different age groups and genders.
- Create a sense of order, substance, and visual clarity in the built environment.



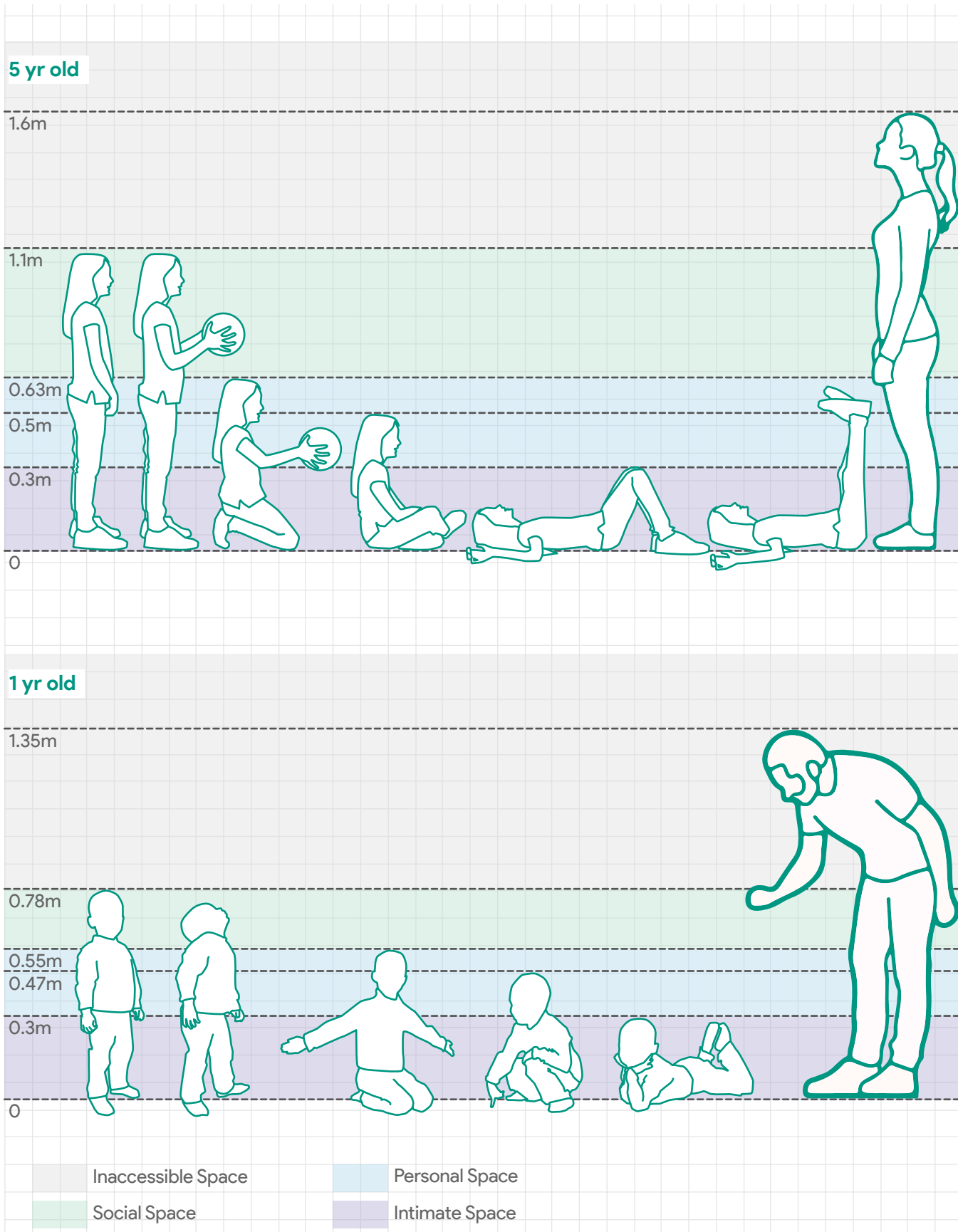
Movement Contour

These zones determine the relationship of the child with the environment and the minimum space required for each activity.

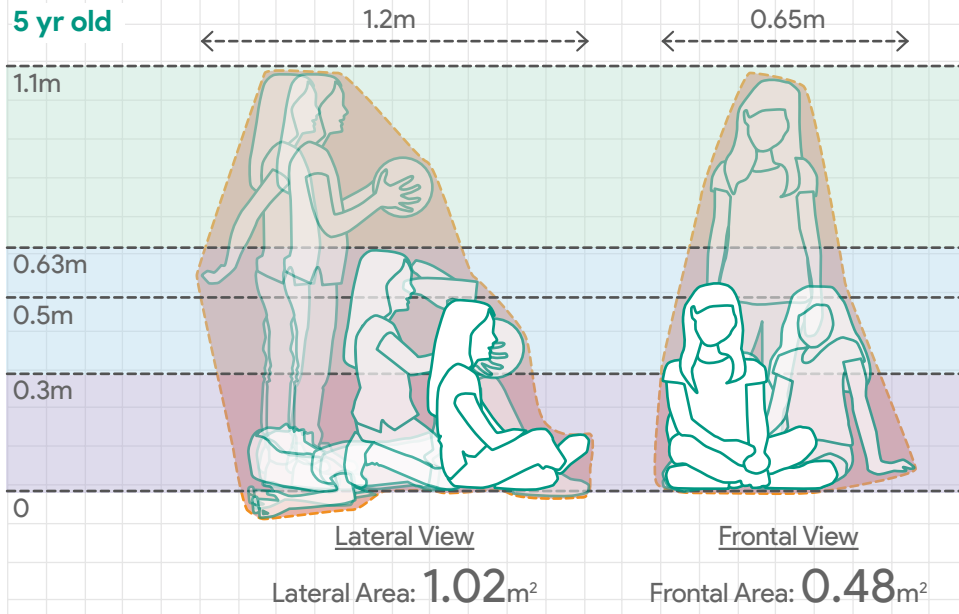
Intimate Space: space where the child interacts with self and objects that fit into this space.

Personal Space: space where the child interacts with known people and in groups.

Social Space: space where the child interacts with wider range of people for new social relationships.

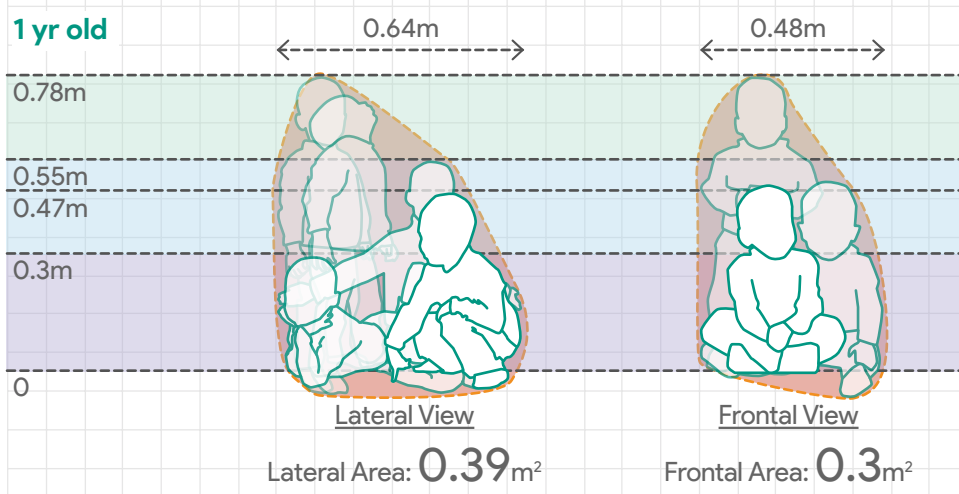


Movement Trace



- Social Space
- Personal Space
- Intimate Space

On overlapping all the body gestures of 5 year old child, the average area of the space required is identified.

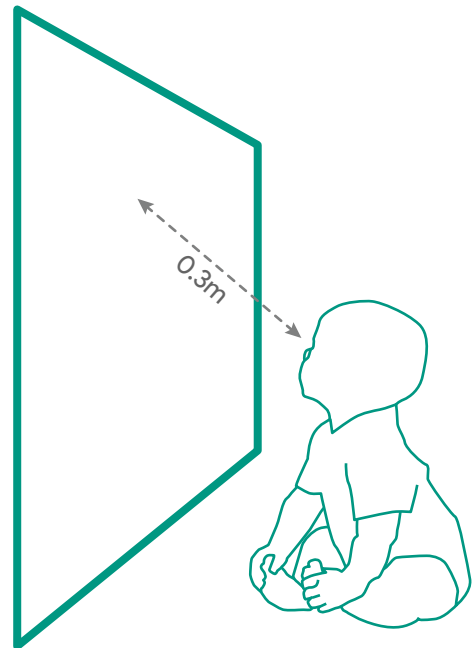
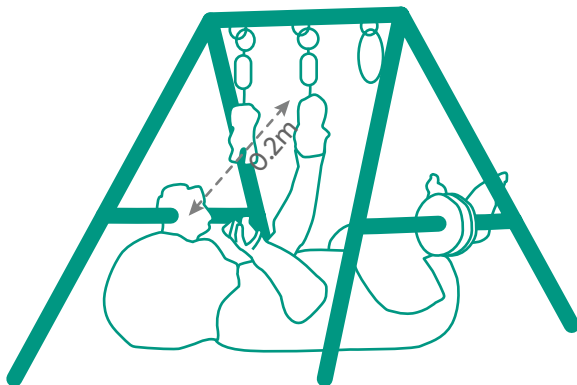


On overlapping all the body gestures of 1 year old child, the average area of the space required is identified.

Newborn (0-3 months)

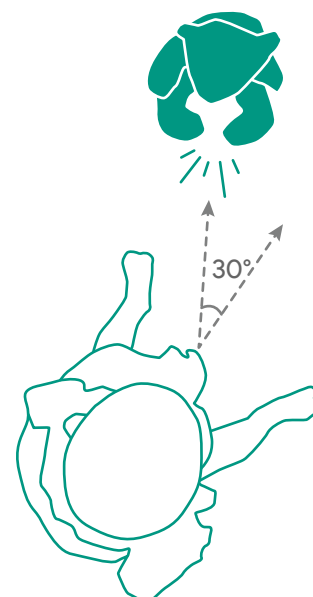
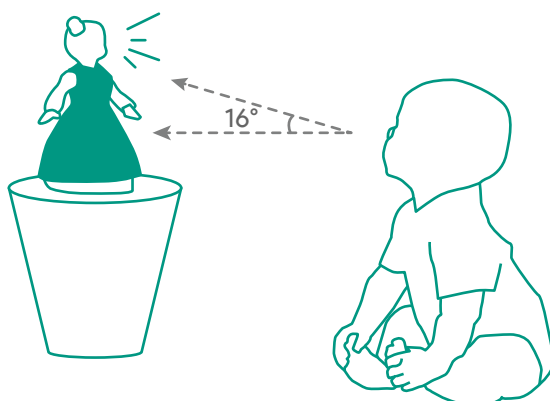
Following object with eyes

The vision of newborn children are primarily focused on objects 0.2m to 0.3m from their face.



Localise sound and turn to see

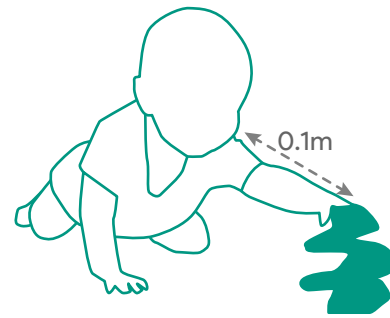
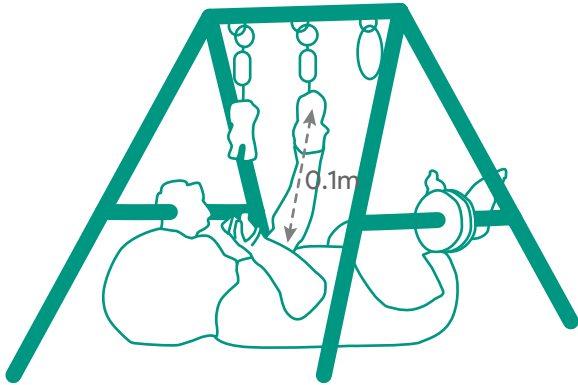
The Minimum Audible Angle for newborns to react to or turn to see is 16° along vertical plane and 30° along the horizontal plane.



Newborn (0-3 months)

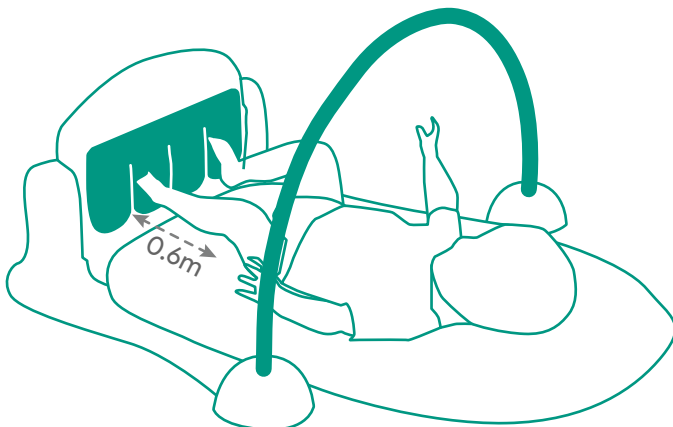
Reach and grasp objects

Newborn extend their arms upto 0.1m to access playful objects that they are curious towards. To promote motor skills, objects must not be more than 0.1m far from the child's body.



Explores with feet

Newborn can interact with their feet by 3 months of age. Placing engaging objects close to their feet would help them develop their motor skills. The example below shows how placing soft pads close to the newborn's feet can keep them engaged and promote movement.



Newborn (0-3 months)

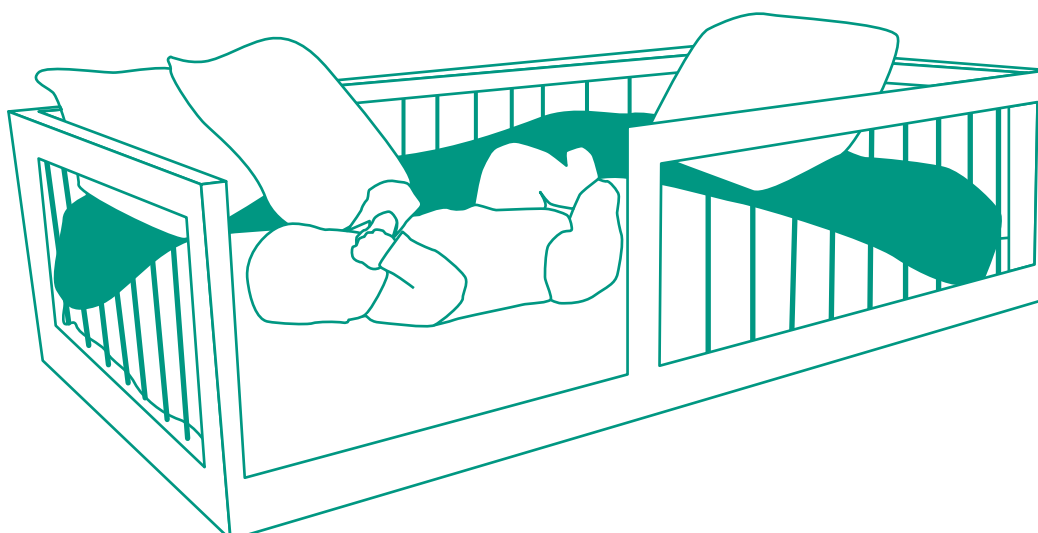
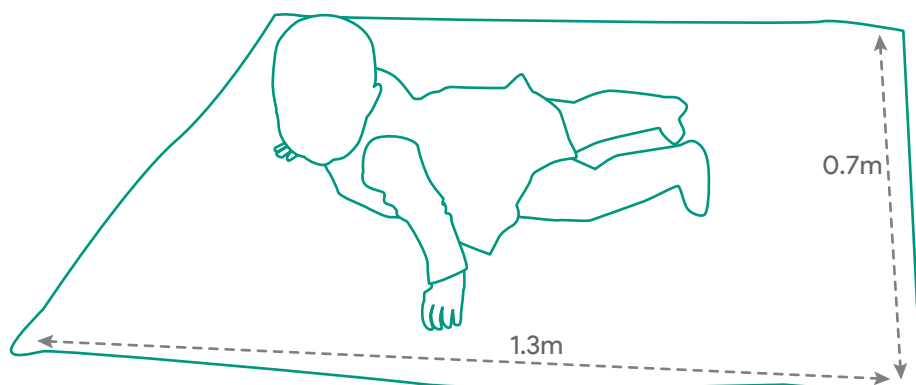
Sit with support

For early motor development in newborn, it is important to make them sit up and help stabilise their back. This can be done by use of baby sofa chairs that can provide all-round support.



Rolling, Scooting, Rocking, Bouncing

To promote mobility in newborn babies, soft bedding or floorbed must be safe and comfortable yet engaging them into actions. Hence minimum area for rolling, scooting, rocking and bouncing must be 0.7m x 1.3m in dimension. Railing support must be provided around to prevent them from falling off.



Infant (3-12 months)

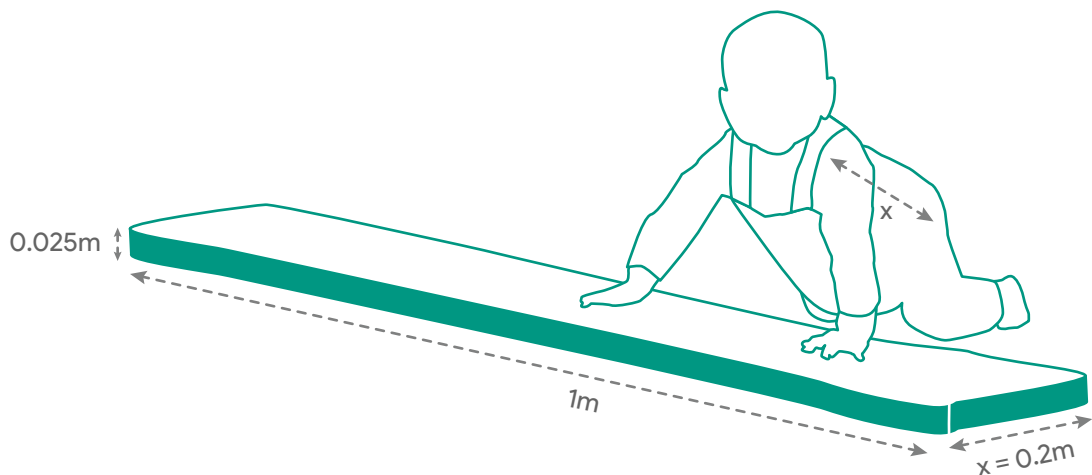
Sit alone

For early motor development in Infants, it is important to encourage them to sit up for stabilising their back. This can be done by use of baby sofa chairs that can provide all-round support.



Creep and Crawl

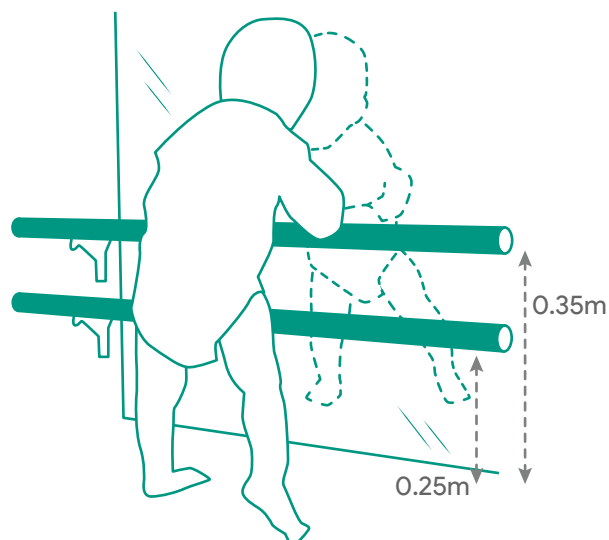
Encouraging infants to crawl throughout dedicated soft and safe flooring material allows them to explore spatially and develop motor skills and sense of place. Infants can start creeping when provided with obstacles on their crawling way. 0.025m thick carpet or rigid yet soft bedding with at least 1m length and the width must be measured from the top of the child's shoulders to the top of the child's hips i.e., 0.2m. The infant would crawl over the obstacle and straddle the obstacle on their tummies.



Infant (3-12 months)

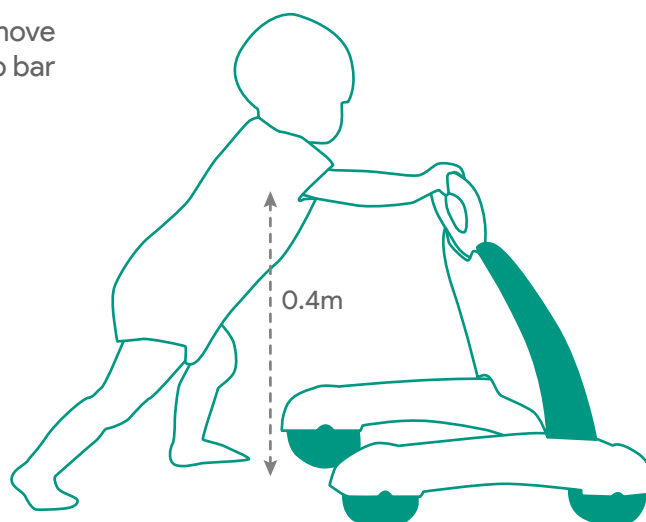
Pull to Stand, Cruise, and Walk alone

Pull-up Bars help a crawling Infant to reach the lower bar at 0.25 height and with it's help can stand up. The upper bar at 0.35m helps the infant to balance and take support while standing and cruise along with its help. Placing a mirror behind the pull-up bars would keep the infant more engaged and aware about the surroundings.



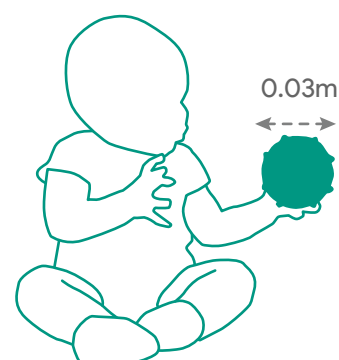
Moving around

Wheeled trolley with grab bar can help infants to move around in any direction while supported by the grab bar constantly.



Hold an Object in one Hand

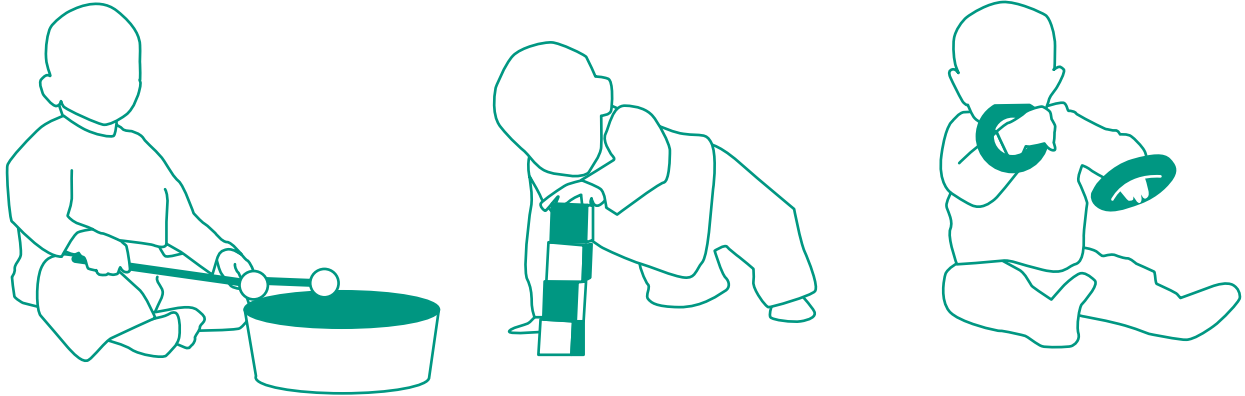
Objects should be large enough — at least 0.03 in diameter and 0.06m in length — so that they can't be swallowed or lodged in the windpipe yet small enough for them to hold it by one hand.



Infant (3-12 months)

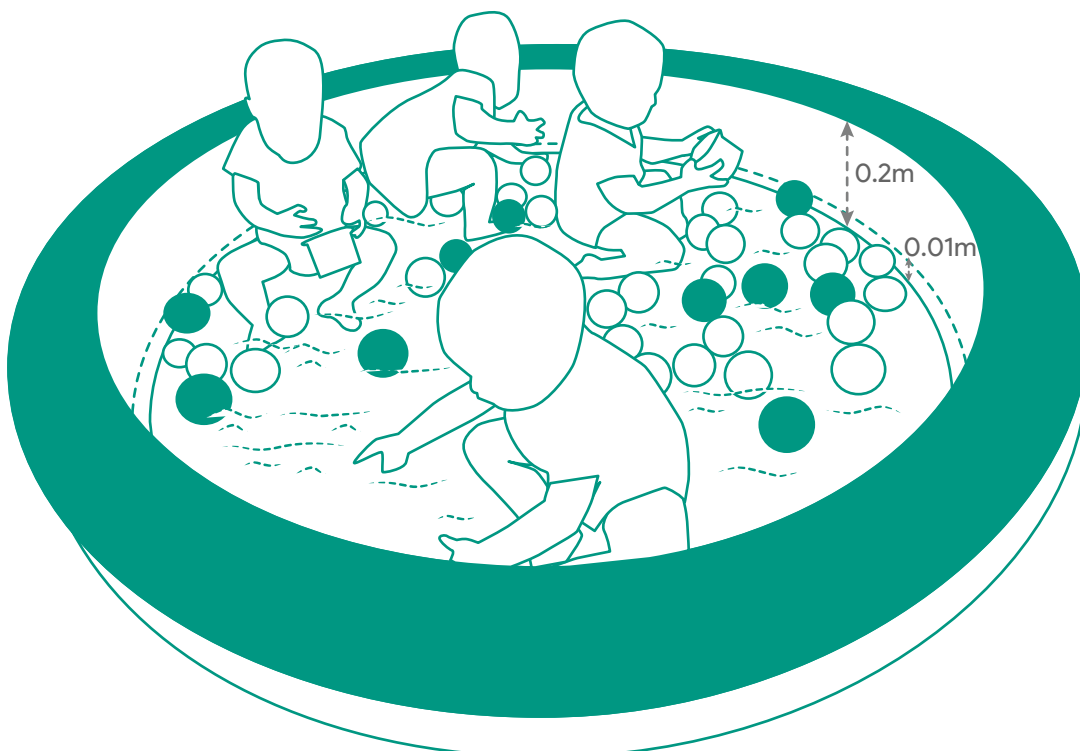
Bang, insert, poke, twist, squeeze, drop, shake, bite, throw, open/shut, push/pull, empty/fill, drag along objects

Providing safe and attractive playful objects for infants can initiate cognitive and motor skills. The objects must be flexible enough to allow the infants to be creative and curious.



Kicking and Splashing

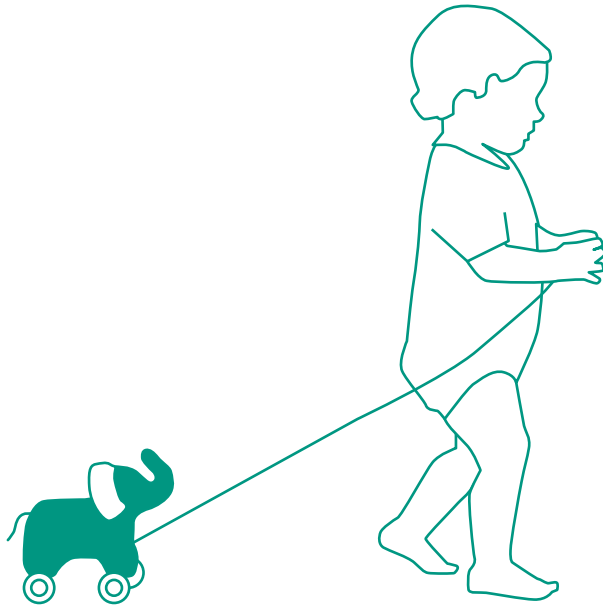
Infants become playful when left in a puddle of water. It is important to make sure the tub is anti-slip and has an internal height of 0.2m and water level should not be more than 0.01m high



Toddler (1-3 yrs)

Lug, Dump, Push, Pull, Pile, Knock down, Empty and Fill

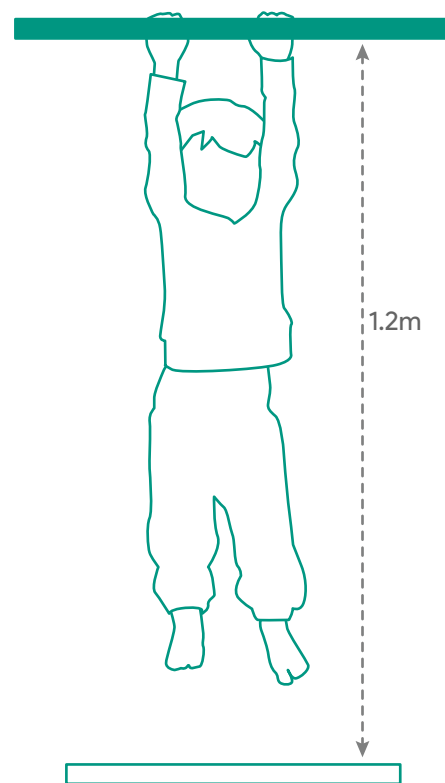
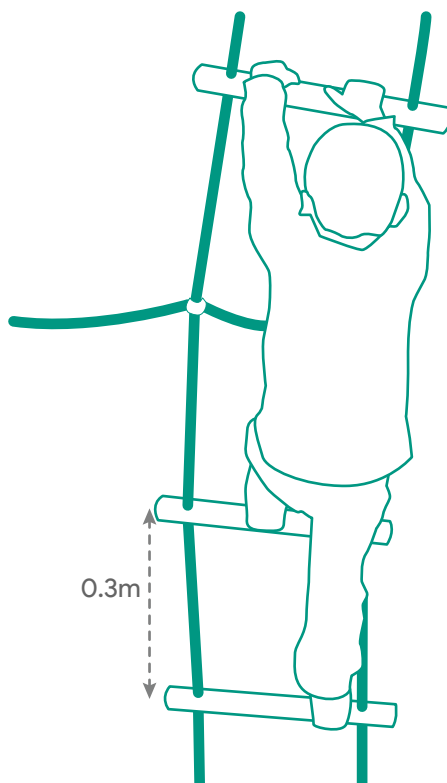
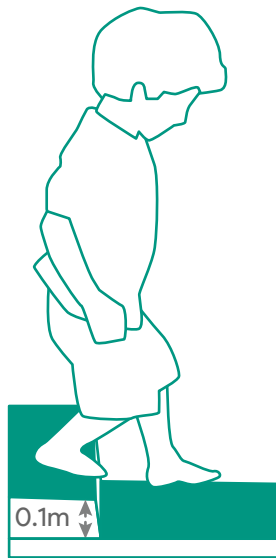
Toys and playful elements which promote motor skills are the one which encourage them to move items in different directions, pace, and wights.



Toddler (1-3 yrs)

Climbing, jumping from a height, hanging by arms, rolling, galloping, somersaults, rough and tumble play

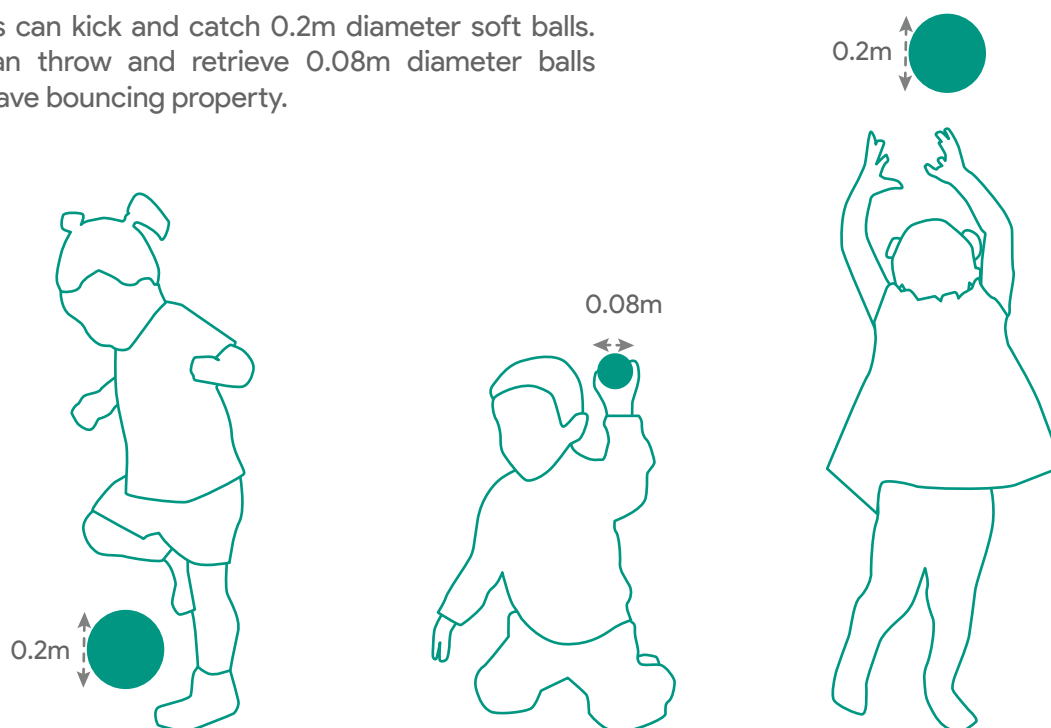
Before letting the toddler to directly start jumping, it is encouraged to feel confident in stepping up and down a 0.1m high step and then proceed to a 0.2m - 0.3m high step for jumping. They can jump over 0.1m obstacles after than. Climbing and hanging from pull-up bars help in physical development and motor skills. Promoting group play on soft rubber padded landings or flooring is encouraged for all the mentioned activities in this section.



Toddler (1-3 yrs)

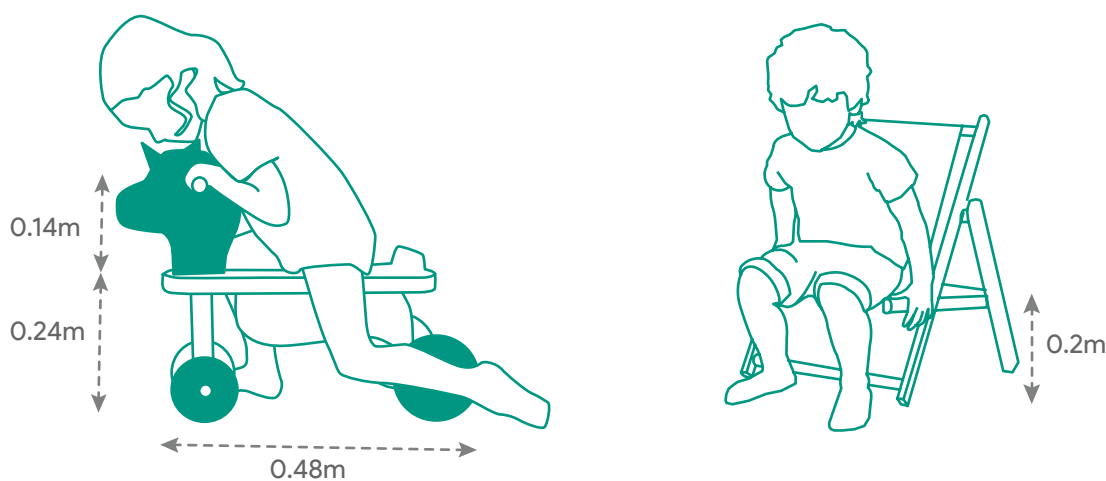
Kick, Catch, Throw and Retrieve objects

Toddlers can kick and catch 0.2m diameter soft balls. They can throw and retrieve 0.08m diameter balls which have bouncing property.



Pushes self on Wheeled objects with Good steering

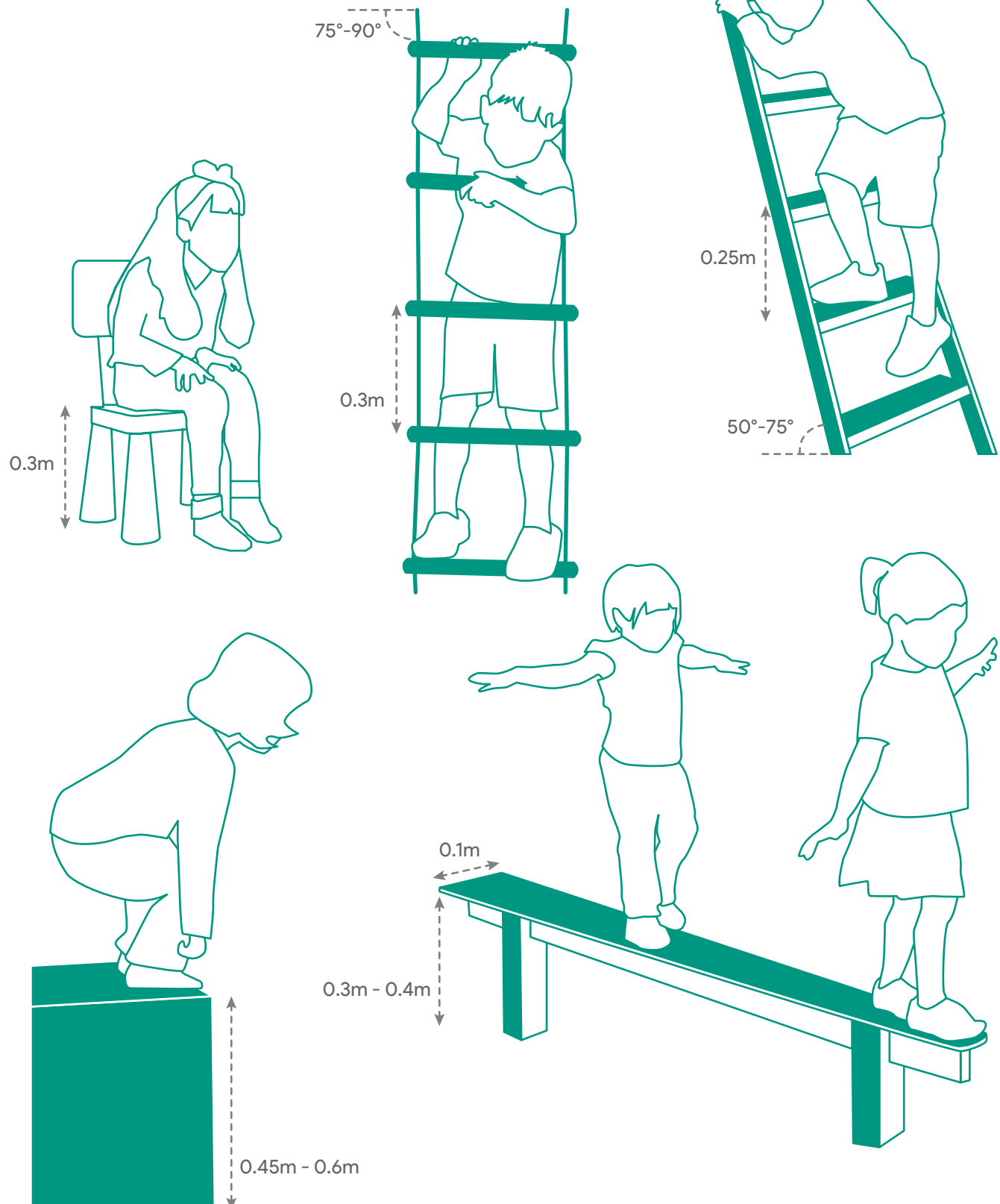
Wheeled toys on which toddlers can mount and push themselves and steer themselves around help them develop their spatial skills.



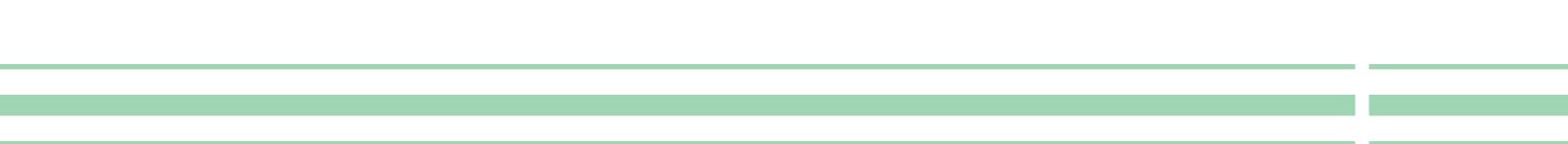
Pre-school age (3-4 yrs) & School age (4-6 yrs)

Runs, Jumps, Climbs, Balances with assurance

Pre-school and school age children grow quickly through growing challenges. They can jump from as high as 0.6m on a soft landing area or sand bed. Rung ladders or step ladders help develop muscle and boosts confidence. Balance bar helps them orient their cognitive skills with their motor skills.









Space Programming

- Neighbourhood
- Parks & Open spaces
- Streets
- Social Infrastructure
- Urban Services

Checklist of Items for ITCN elements

Neighbourhood	Streets	Social Infrastructure	Parks and Open spaces	Urban services
Anchor Institution	Curb ramp	Wayfinding in local language and utilities	Visually porous boundary walls	Signages
Signages/Branding	Cycle stand	Painted flooring	Ramps for ITC	Traffic signals
Temporary inducive activities	Ramps for ITC	Height appropriate seating	Height appropriate benches	Waste management
Mobility interventions	Handicapped parking	Interactive surfaces	Natural play elements	Toilets
Public spaces	Play zone	Display ECD messages	Kids play area	Breastfeeding booths
Early childhood services	Active facade along sidewalks	Natural play elements	Multipurpose activity zones	Drinking water facility
	Safe and attractive surface material	Toilets	Interactive surfaces	
	Height-appropriate benches	Breastfeeding booths	Lighting	
	Shading		Shading	
	Lighting		Toilets	
	Natural playful furniture			
	Planters			
	Bollards			
	Wayfinding in local language and utilities			
	Pedestrian crossings			
	Rumble strips			
	Lane markings			
	Art installations			
	Display ECD messages			

Note: It is important to overlap the items in “Urban Services” into rest of the ITCN elements for comprehensive services and activities.



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Neighbourhood

Objectives to be achieved	Indicators
<p>Safe</p> 	<p>Perception of safety for ITCs of key public amenities - streets, parks, playspaces, school, health services, etc.</p>
<p>Accessible</p> 	<p>Percentage of caregivers and infants/toddlers walking to public amenities (schools/ kindergartens, playground, parks, health services)</p> <p>% of buildings within 300m distance of a green space</p> <p>% of buildings within 300m distance or 5-10 min walking distance of a public facilities like day care centres, pre -primary and primary schools, primary health facilities, local markets</p> <p>% of daily trips by non-motorized means</p> <p>% of journey destined at crèche / kindergarten / play school is by walking or cycling</p> <p>% of crèches within accesible 500m distance from housing cluster</p> <p>Number of tot lots</p> <p>Number of good quality housing area park spaces in the neighbourhood</p> <p>Number of good quality neighbourhood park spaces in the neighbourhood</p>
<p>Green</p> 	<p>% of open space in the neighbourhood</p> <p>Per capita organised green open space for a neighbourhood</p> <p>% of encroached/ informal area of total neighbourhood area</p>

Link: https://issuu.com/bernardvanleerfoundation/docs/itcn_design_guidelines/14

Neighbourhood Layout guidelines are concerned with the larger-scale organizational factors within an area and its urban design. This is the process of giving form, shape and character to urban spaces that will influence the overall physical environment.

Child Priority Zone - for the mixed-use neighbourhood

A place-based package that covers public space, mobility, early childhood services and data-driven management. Designed to scale and characterized by a progressive approach beginning with temporary interventions such as programming in public space and tactical urbanism, and – as communities engage – progressing to more permanent investment in infrastructure and human resources. The following points indicate how to select and convert a neighbourhood into a CPZ.

- Identify an ‘anchor institution’ frequented by young children and caregivers, such as a childcare centre, playground, community toilet or health clinic.

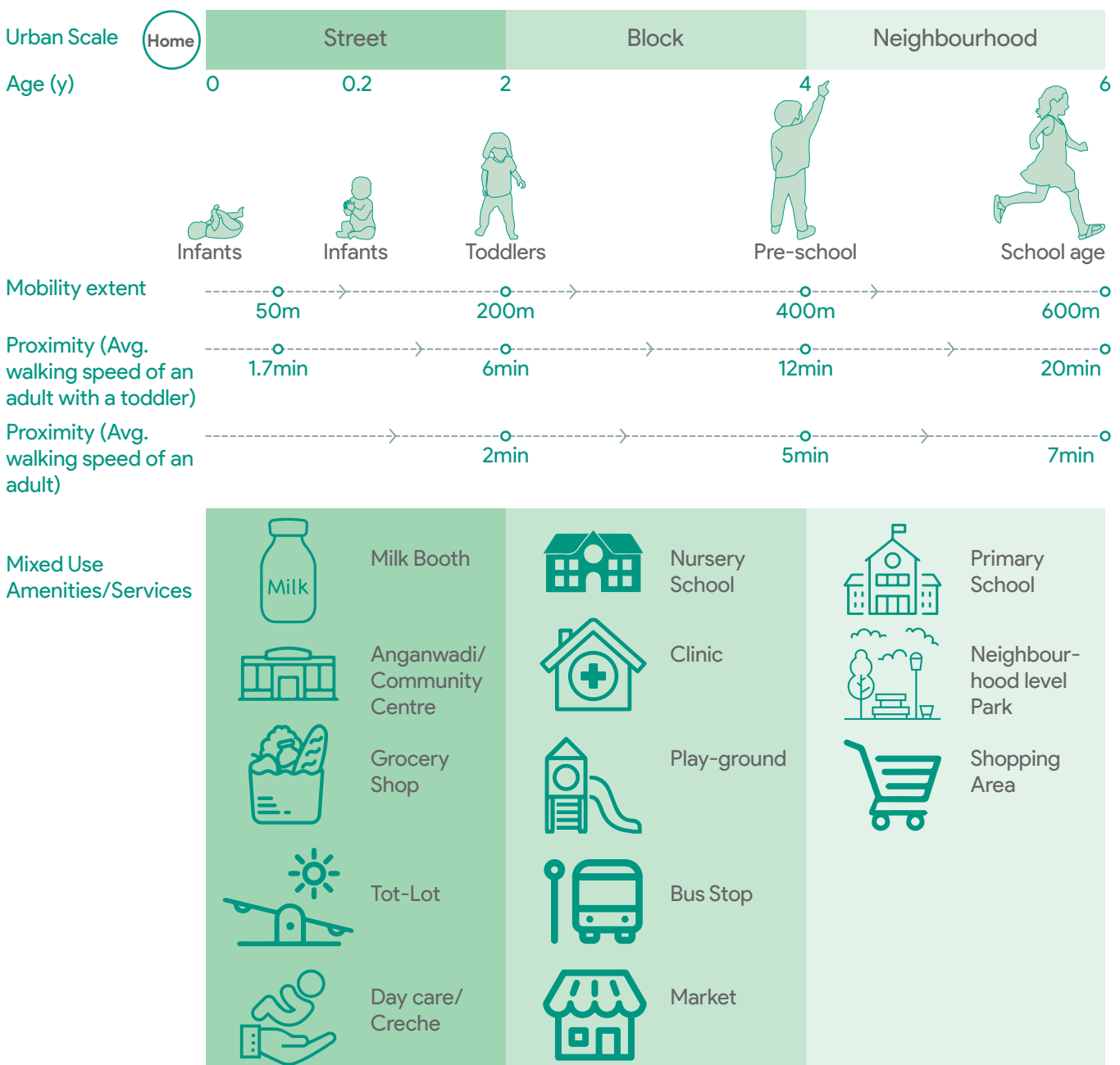
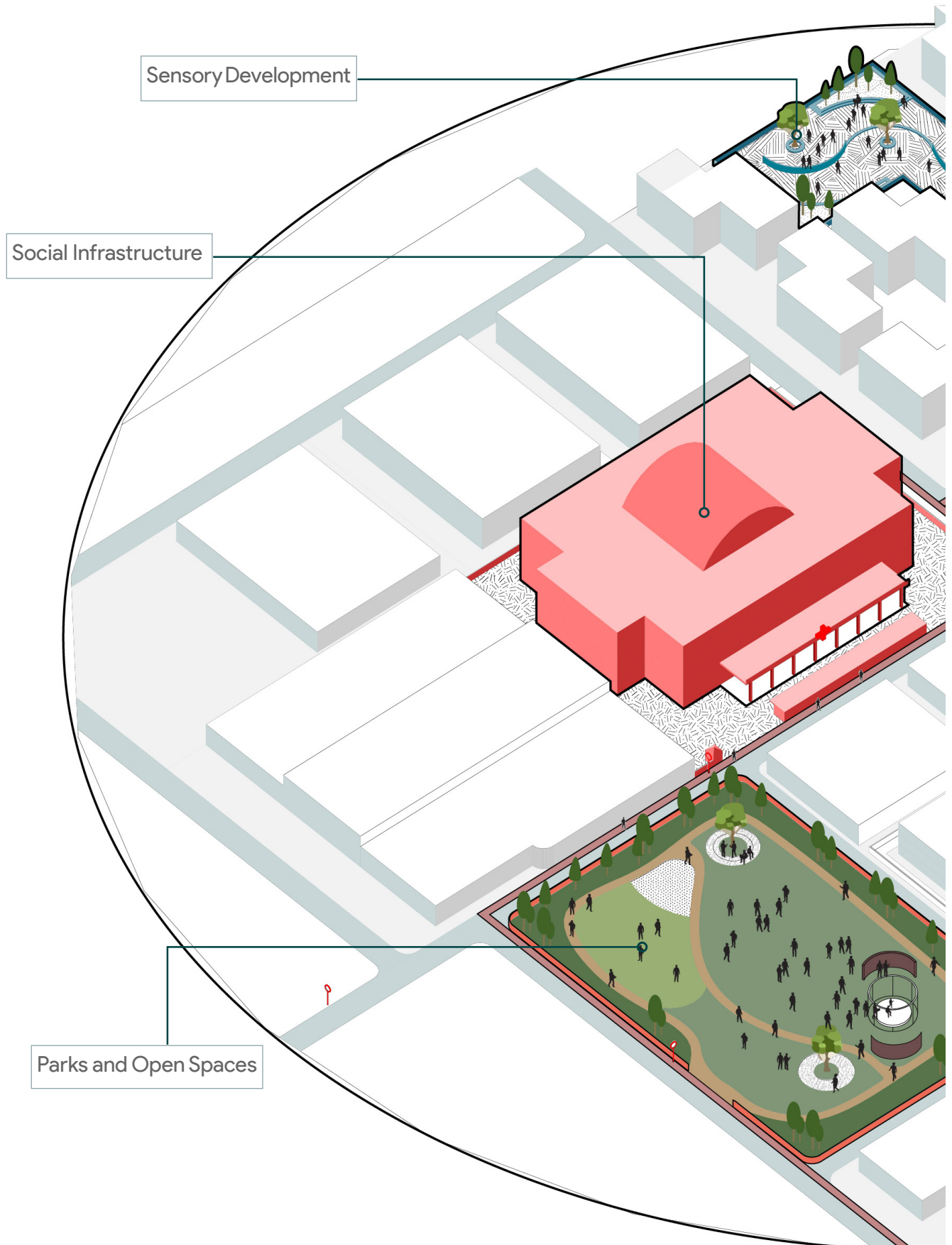


Image:20 Hierarchy of spaces, accessibility and amenities in a walkable neighbourhood for ITCs
 Source: Egis India

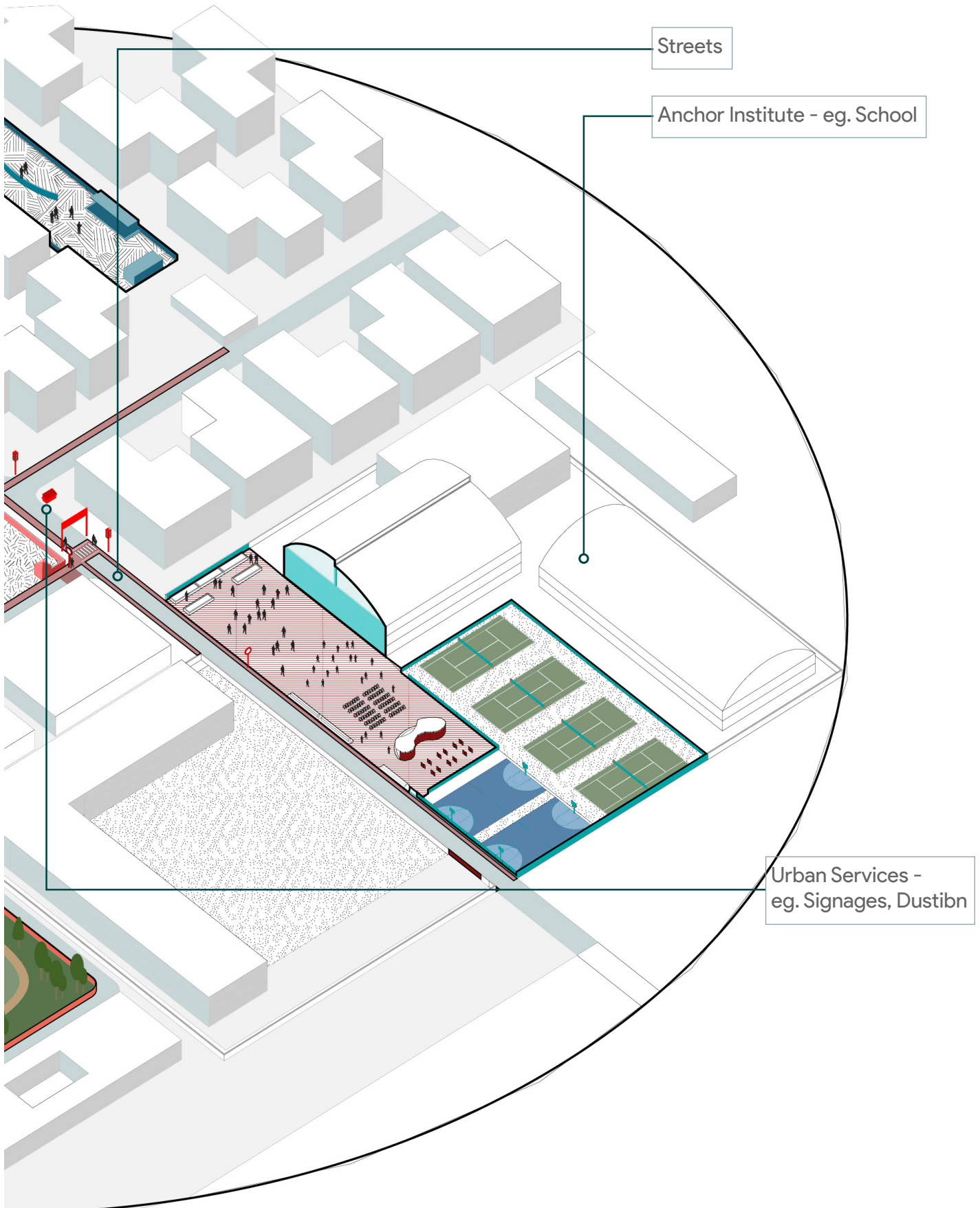
Neighbourhood

- Signage about CPZ and early childhood to create awareness.
- Behavioural prompts or temporary activities such as pop-up play and play streets to trigger interaction between caregivers and young children.
- Increase and improve connectivity through physical interventions on footpaths, junctions, PT(public



transport) stops, and cycling tracks.

- Construct landmarks such as pedestrianised areas, playgrounds, parks and gardens, etc., for more substantial infrastructure investments.
- Scale by replicating the zone across the city.



Streets

Objectives to be achieved	Indicators
Inclusive 	Presence of walk zone/footpath/sidewalk at significant routes in the neighbourhood
	Provision and quantity of public seating to stop and rest, by neighbourhood
Safe 	% of clear and unobstructed pedestrian footpath of total road length
	Presence of kerb cuts
	Presence of kerb cuts
	% of streets with adequate lighting.
	Streetlight spacing in the neighbourhood
	Presence of cycle routes inside the neighbourhood and on major bordering roads
	Number of tot lots
	Encroachment on NMT roads at neighbourhood level by Vehicle Parking (%)
	Number of good quality neighbourhood park spaces in the neighbourhood
	Presence of traffic calming measures in the neighbourhood and average speed of vehicles in the neighbourhood
	% of intersections containing timed signals and lighting in the neighbourhood and along its border roads
	% of encroached/ informal area of total neighbourhood area
	% of total street length closed to 4-wheel traffic
	% of total street length closed to 4-wheel and 2-wheel traffic
	Presence of informal wayfinding in the vicinity of schools and parks
Instances of observable standing water, overflowing drains, sewage	
Fatality rate for pedestrian and NMT (%)	
The number of fatal accidents occurring due to traffic in the neighbourhood	
Green 	Presence of green corridors on major routes and number of corridors in a neighbourhood
	% of streets with decibel levels above standard 55 dB inside the neighbourhood
	Presence of no-honking zones in the neighbourhood

Link: https://issuu.com/bernardvanleerfoundation/docs/itcn_design_guidelines/14

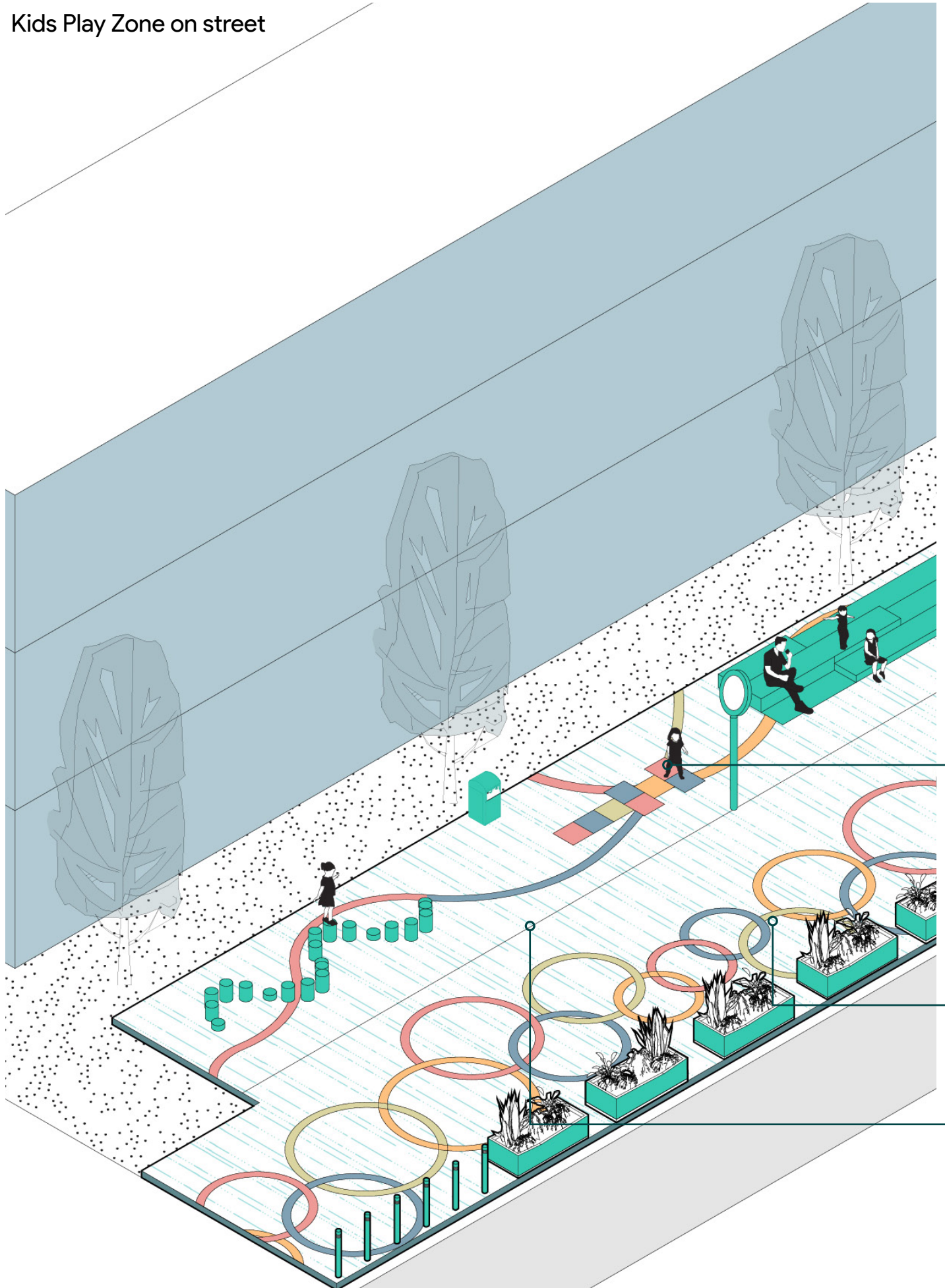
The first space that small children encounter outside the home is the street where streets make up for over 20% of a city's space. Completely pedestrianizing streets gives the entire streetscape back to residents of a neighbourhood.

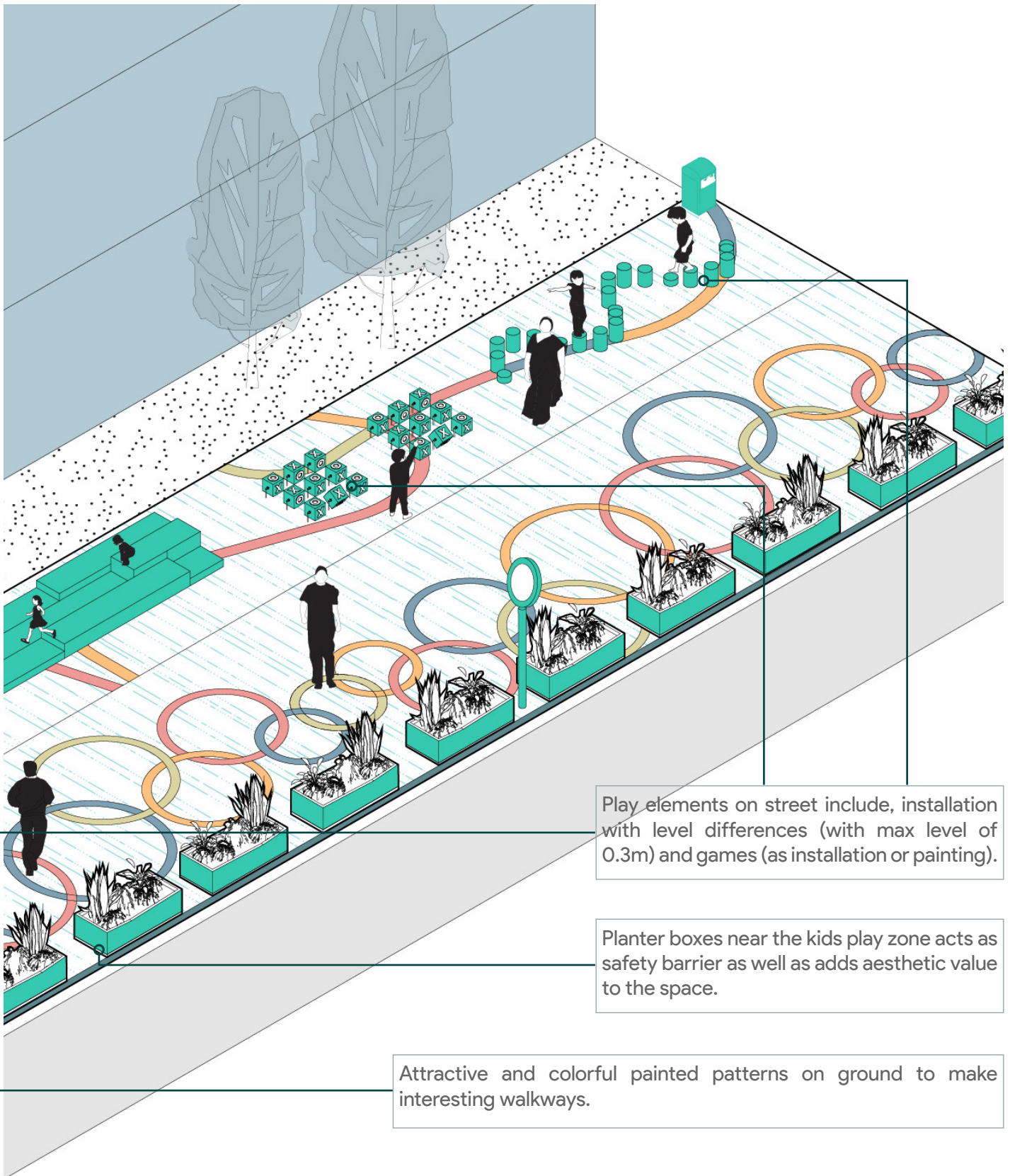


Image:21 Inauguration of CPZ at Samtanagar, Yerawada, Pune
Source: Egis India

Streets

Kids Play Zone on street





Play elements on street include, installation with level differences (with max level of 0.3m) and games (as installation or painting).

Planter boxes near the kids play zone acts as safety barrier as well as adds aesthetic value to the space.

Attractive and colorful painted patterns on ground to make interesting walkways.

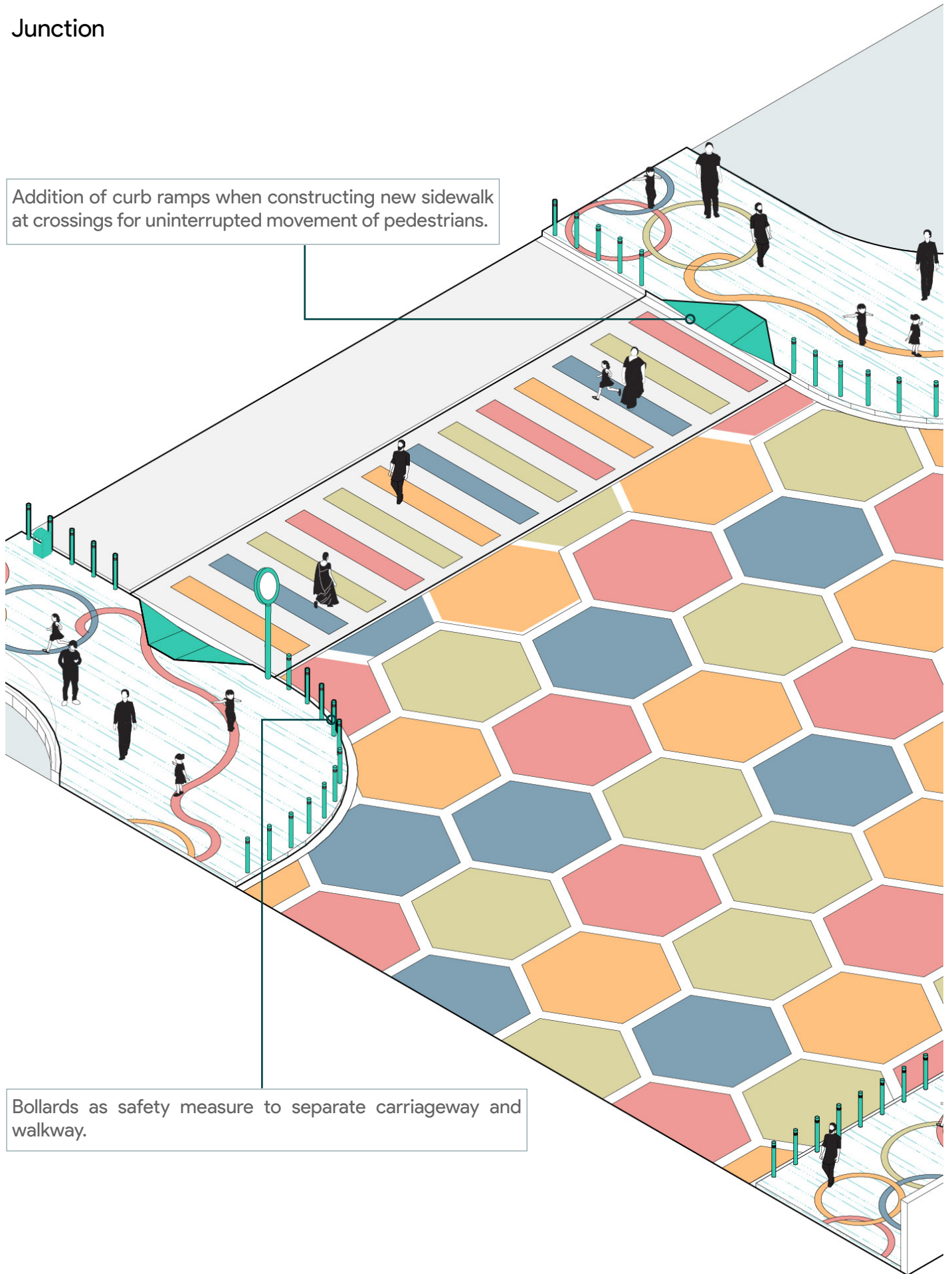
Kids activity area along the walkway which has adequate space after providing minimum of 1.8 m continuous uninterrupted walkway.

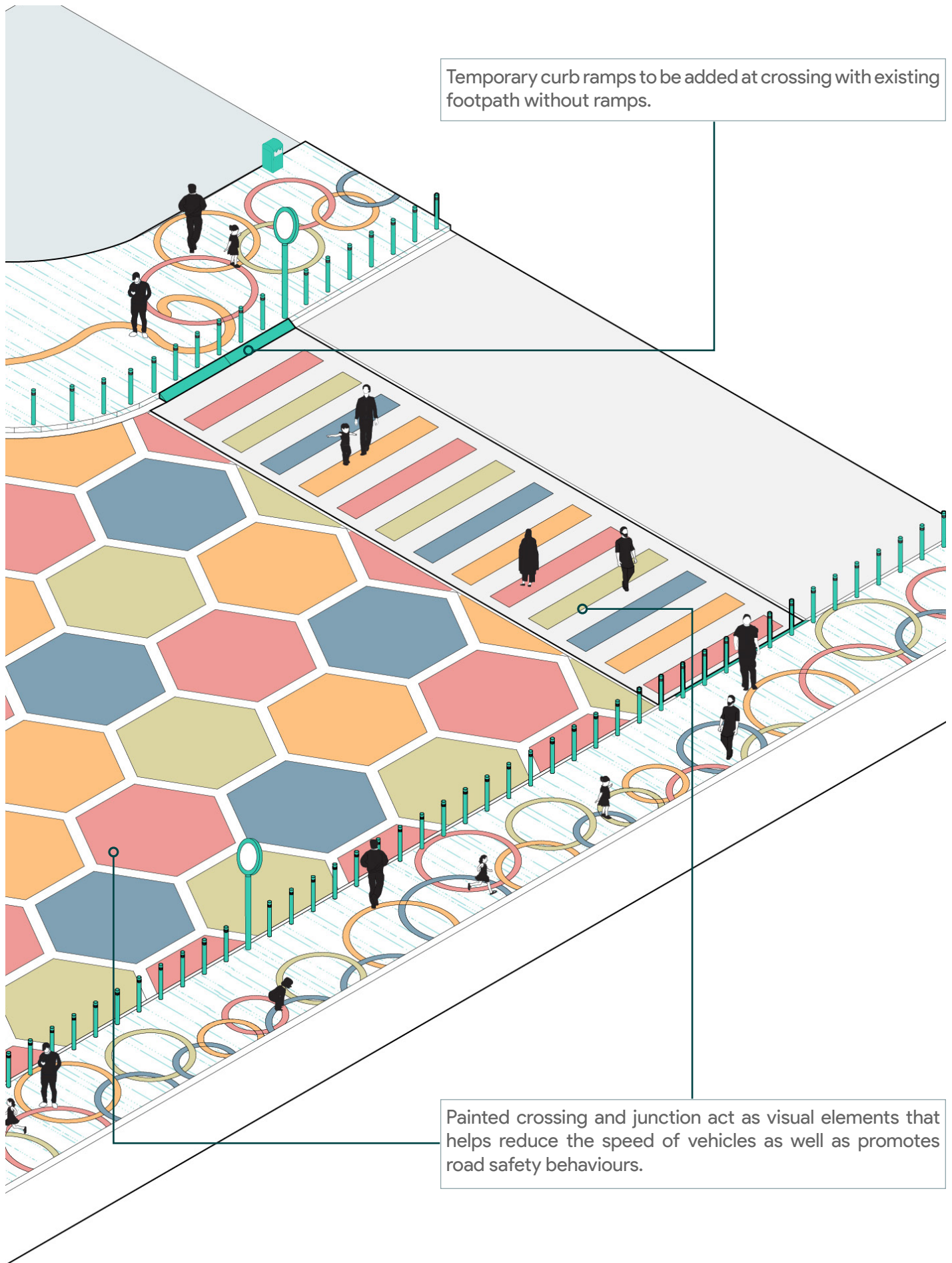
Streets

Junction

Addition of curb ramps when constructing new sidewalk at crossings for uninterrupted movement of pedestrians.

Bollards as safety measure to separate carriageway and walkway.



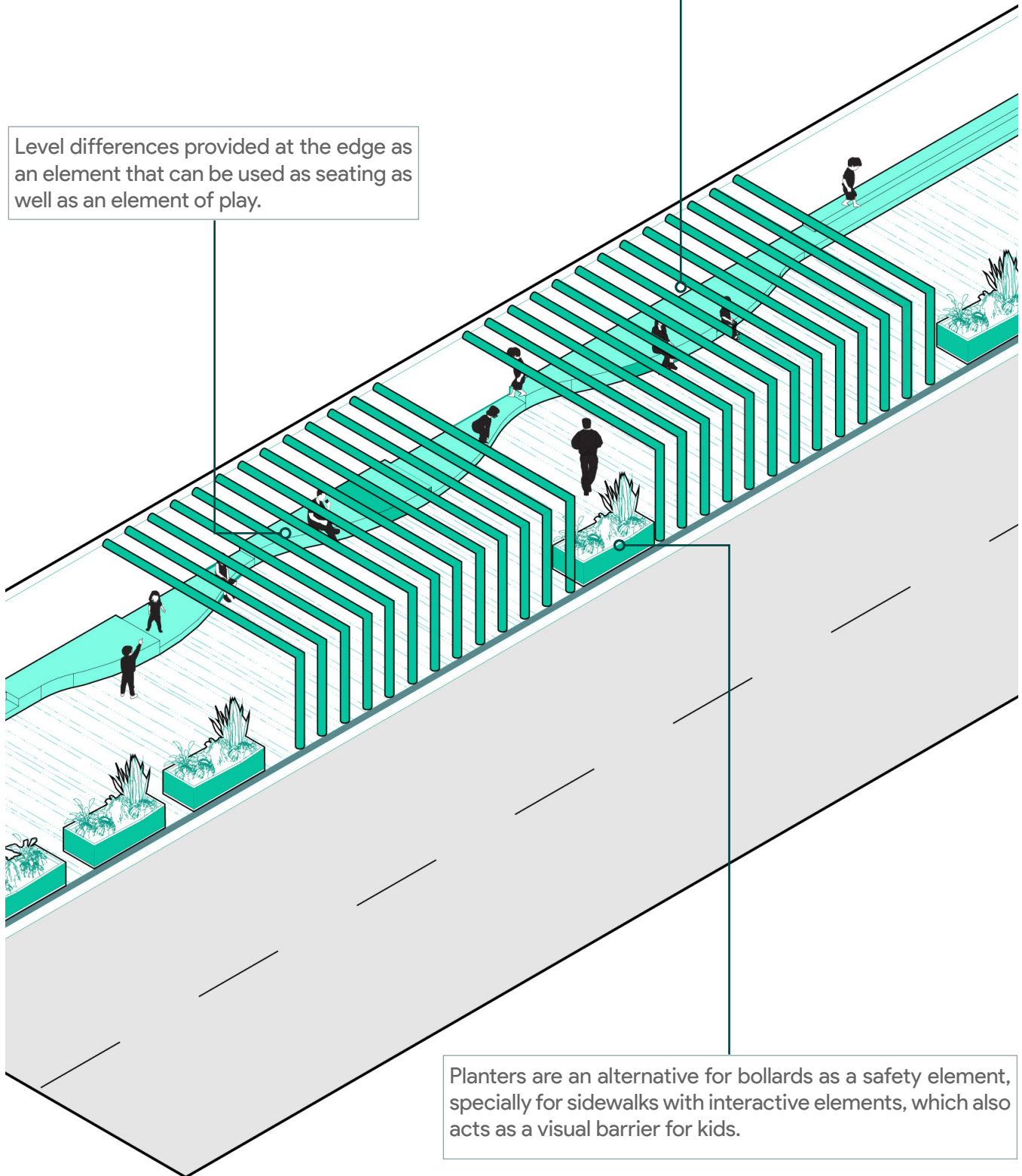


Streets

Footpath (Wide)

Framestructure can be used to create a shading element or can also work as an installation.

Level differences provided at the edge as an element that can be used as seating as well as an element of play.

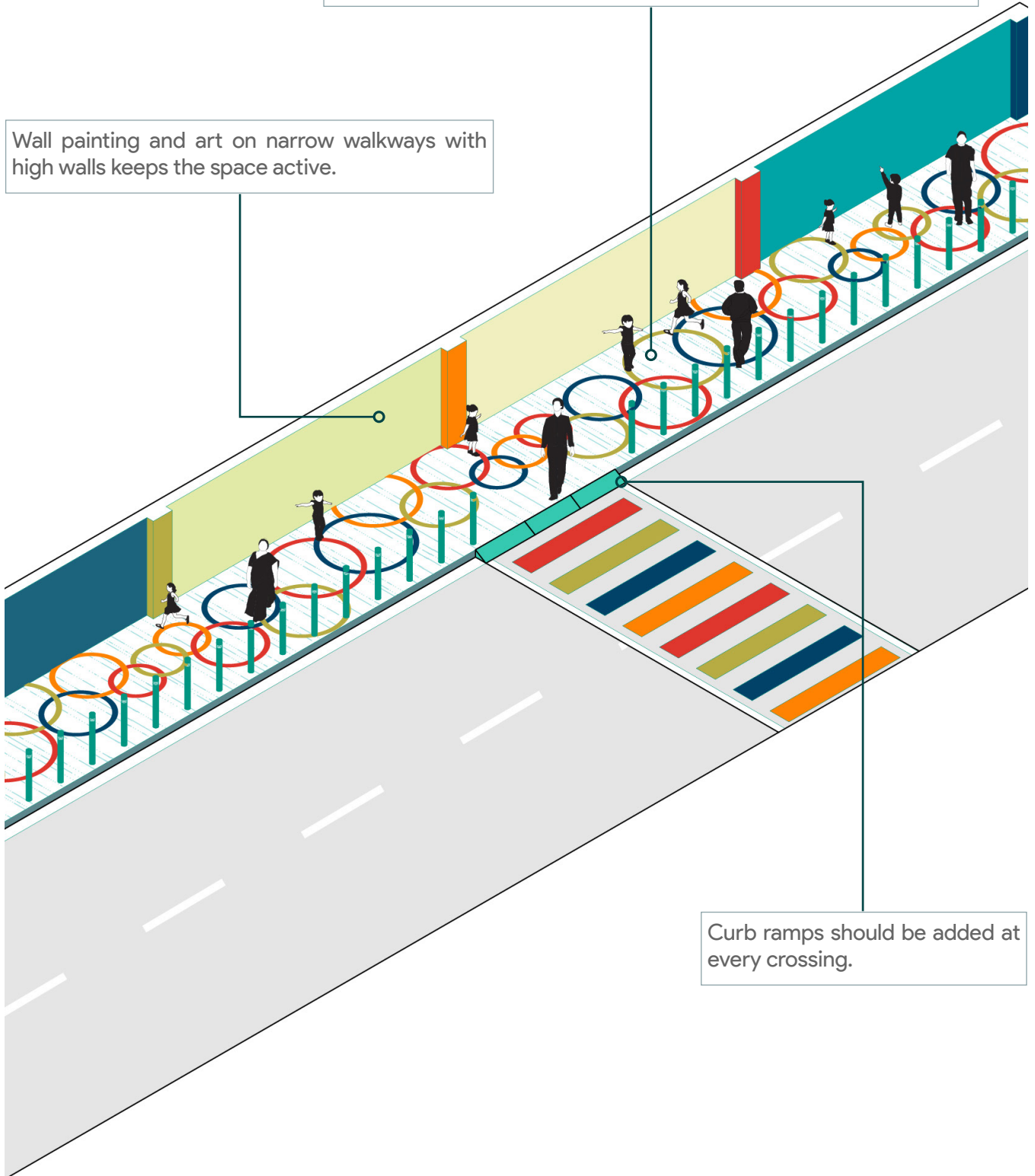


Planters are an alternative for bollards as a safety element, specially for sidewalks with interactive elements, which also acts as a visual barrier for kids.

Footpath (Narrow)

Continuation of flooring pattern on footpaths helps maintaining the connection and the neighbourhood does not look disconnected.

Wall painting and art on narrow walkways with high walls keeps the space active.

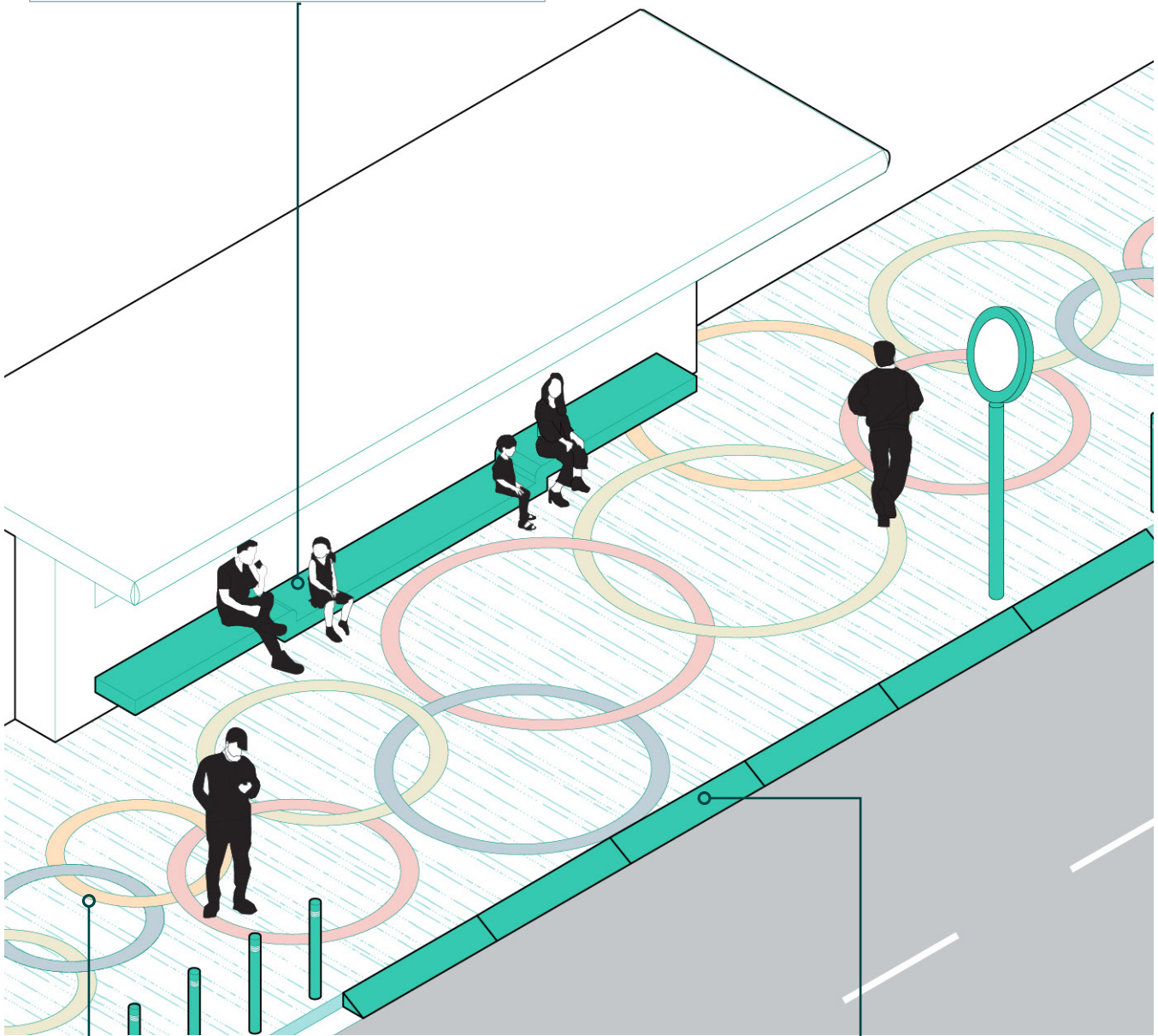


Curb ramps should be added at every crossing.

Streets

Bus Stop Seating (New)

New construction of seatigs should include a module with a height of 0.3m.

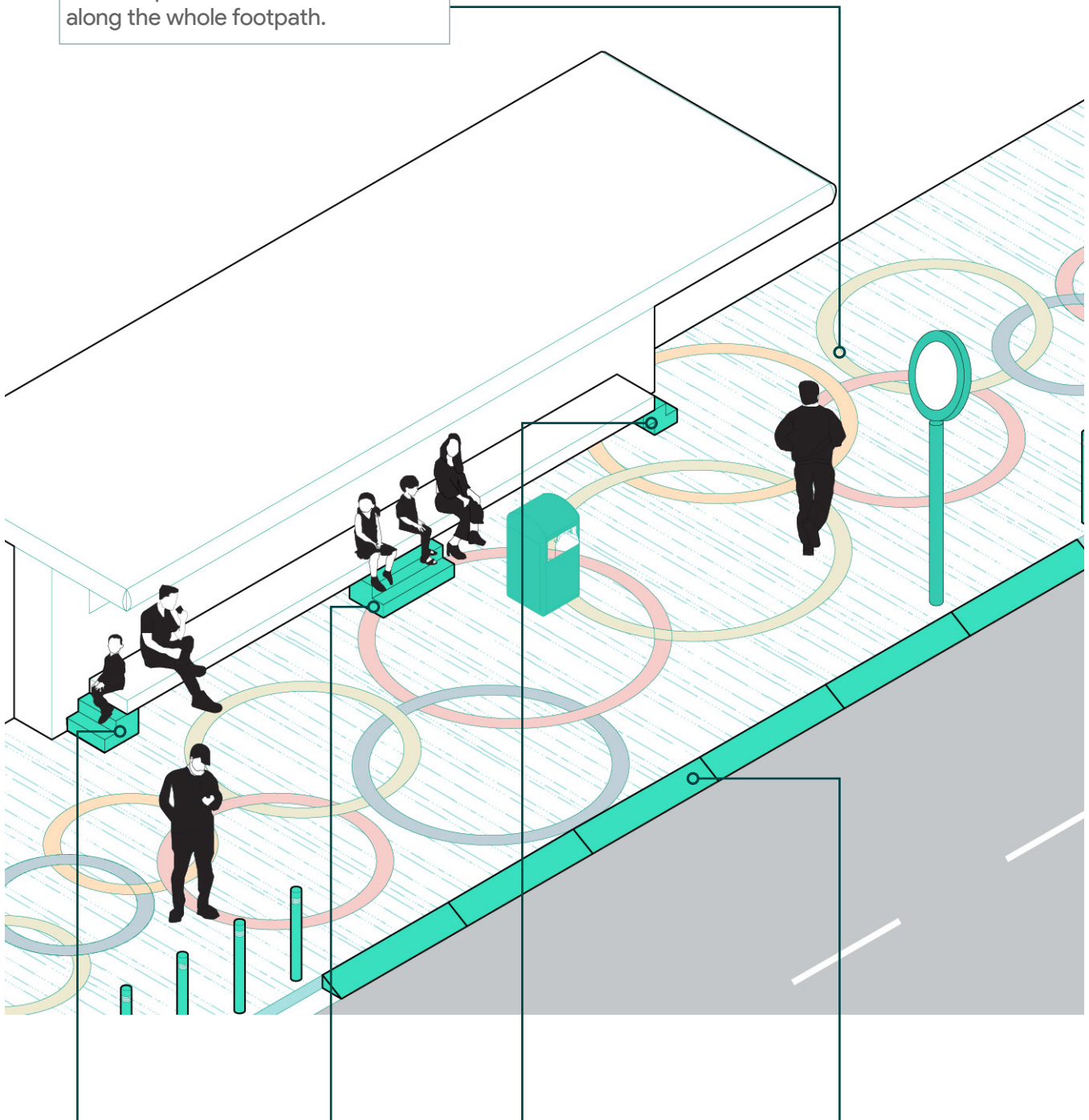


Painted patterns can be continued along the whole footpath.

Removable curb ramps should be added at bus stops for improved accessibility.

Bus Stop Seating (Existing)

Painted patterns can be continued along the whole footpath.



Steps to be added for seating spaces that are above 0.3m for ease of access.

Removable curb ramps should be added at bus stops for improved accessibility.

Parks & Open Spaces

Objectives to be achieved	Indicators
Playful 	Number of hours per day open areas are occupied in a neighbourhood. Totlot, housing area park, neighbourhood playground
	Average no of time per week caregivers engage with their 0-5 in outdoor playing/ activities in organized green spaces/recreation spaces
	Average duration of visits for infants, toddlers and their caregivers at park facilities
	% utilization of parks by infants, toddlers and their caregivers
	% of area in parks dedicated to play spaces suitable for young children 0-3
	Presence of natural materials in play equipment (y/n) by play space, presence of natural areas (eg greenery, sand, safe and clean water) as percentage of total play space
	Number of parks that have quality seating, facing 0-3 play areas
	Percentage distribution of children engaged in formal & informal play in organized green spaces
	% of municipal budget allocated for open spaces or parks (including management/ maintenance and programming)
Safe 	% of parks with adequate lighting
	Presence of stray animals in parks
	Frequency of maintenance of parks
Inclusive 	% of parks at neighbourhood level with free public drinking water, toilets and other facilities for families
Green 	Air Quality Index in the neighbourhood
	RSPM (Size less than 10 microns)

Link: https://issuu.com/bernardvanleerfoundation/docs/itcn_design_guidelines/14

Toddlers need a safe outdoor space for play. Babies and caregivers need fresh air and the stimulation of plants, trees, wind, and connection to the natural environment. Playing is a prime activity for small children. For the 0-5 age group especially, playing is a way to have fun, to socialize but also to learn. A big portion of this valuable playing time happens in designed playgrounds, where the playing environment is designed especially for playing. Small tot-lots, playgrounds in parks, squares or green areas, are all examples of designated play areas for children.



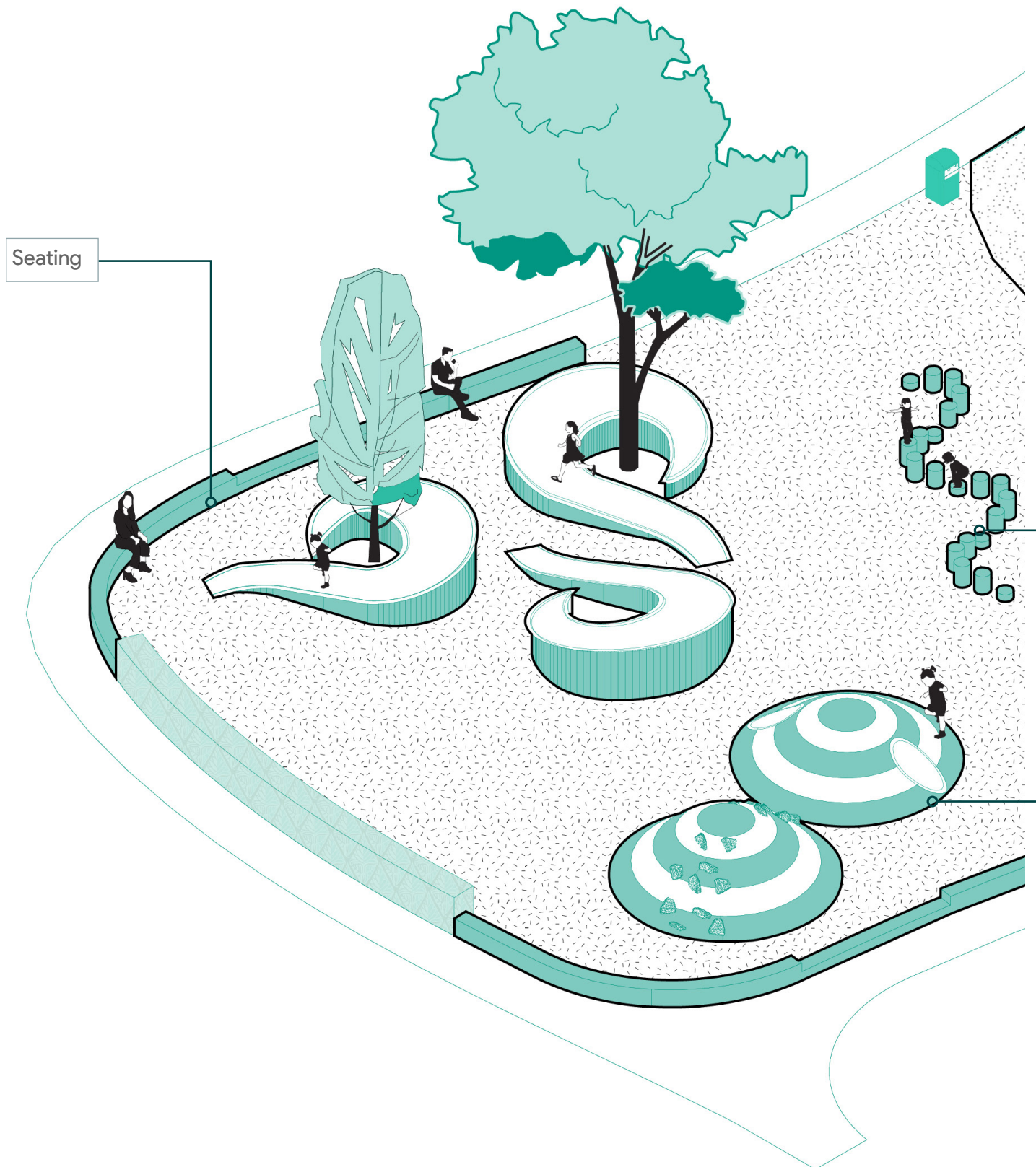
Image:22 Semi-permanent Intervention in Bharat Savant Palm Udyan Recreational Space, Pune
Source: Egis India

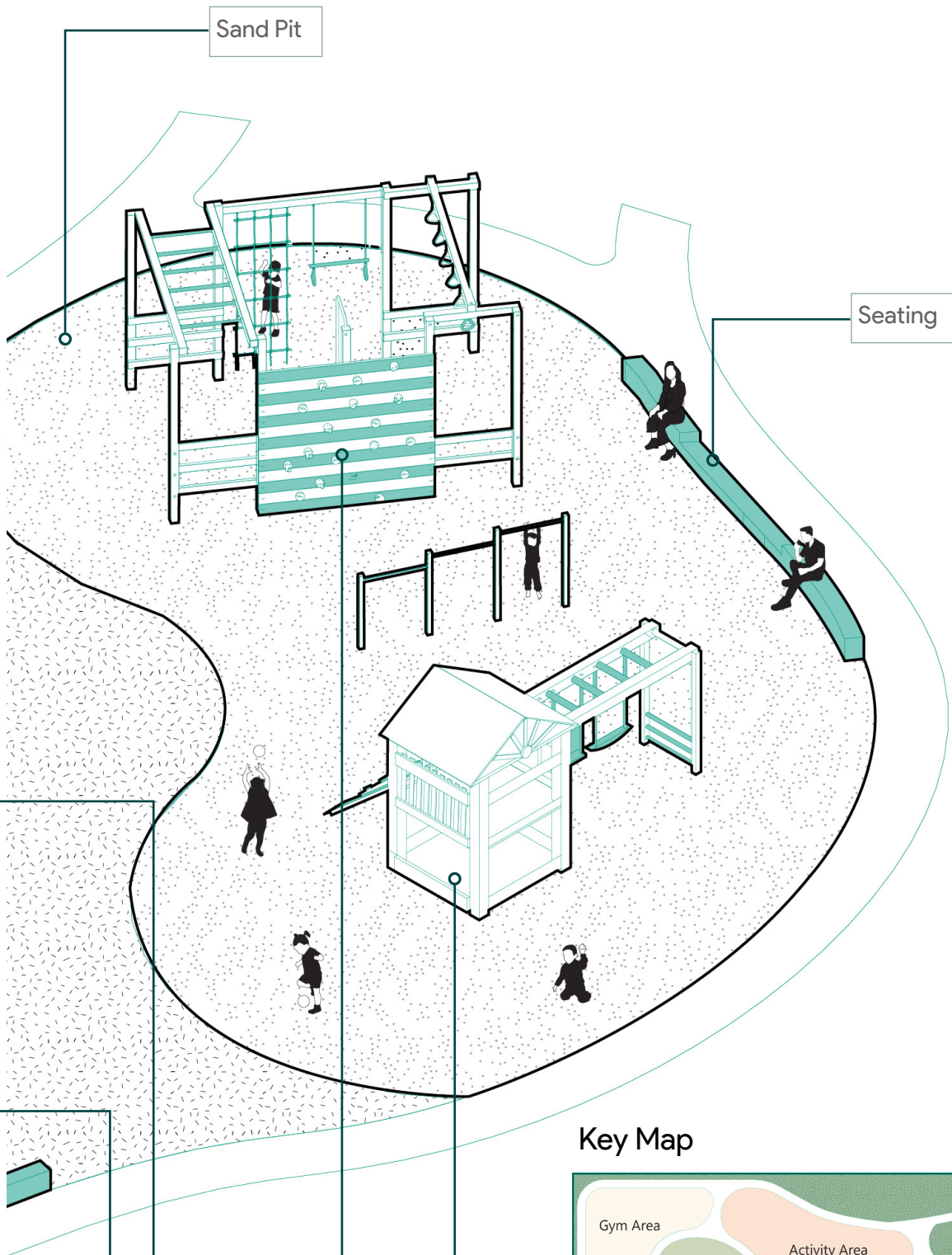


Image:23 Semi-permanent Intervention for Sensory Park in Sainath Nagar, Pune
Source: Egis India

Parks & Open Spaces

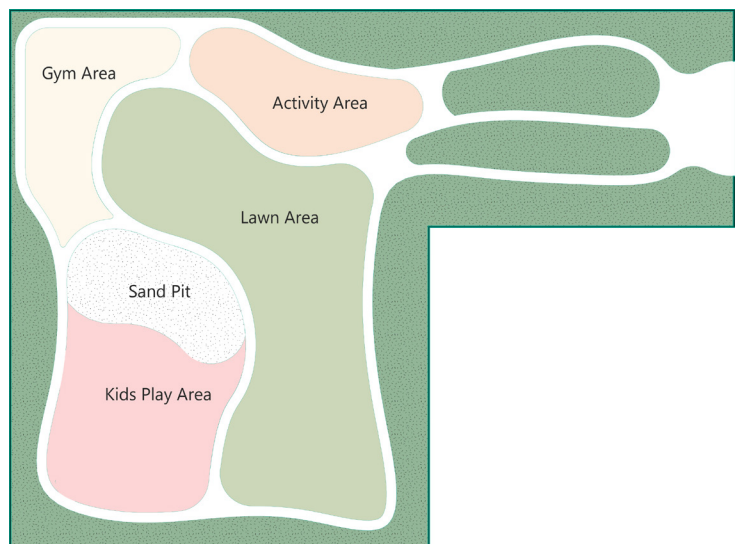
Kids Play Area





ECD: Play equipments focusing on developing motor skills Eg. Slides, Climbing, Play mounds, tunnel, etc.

Key Map



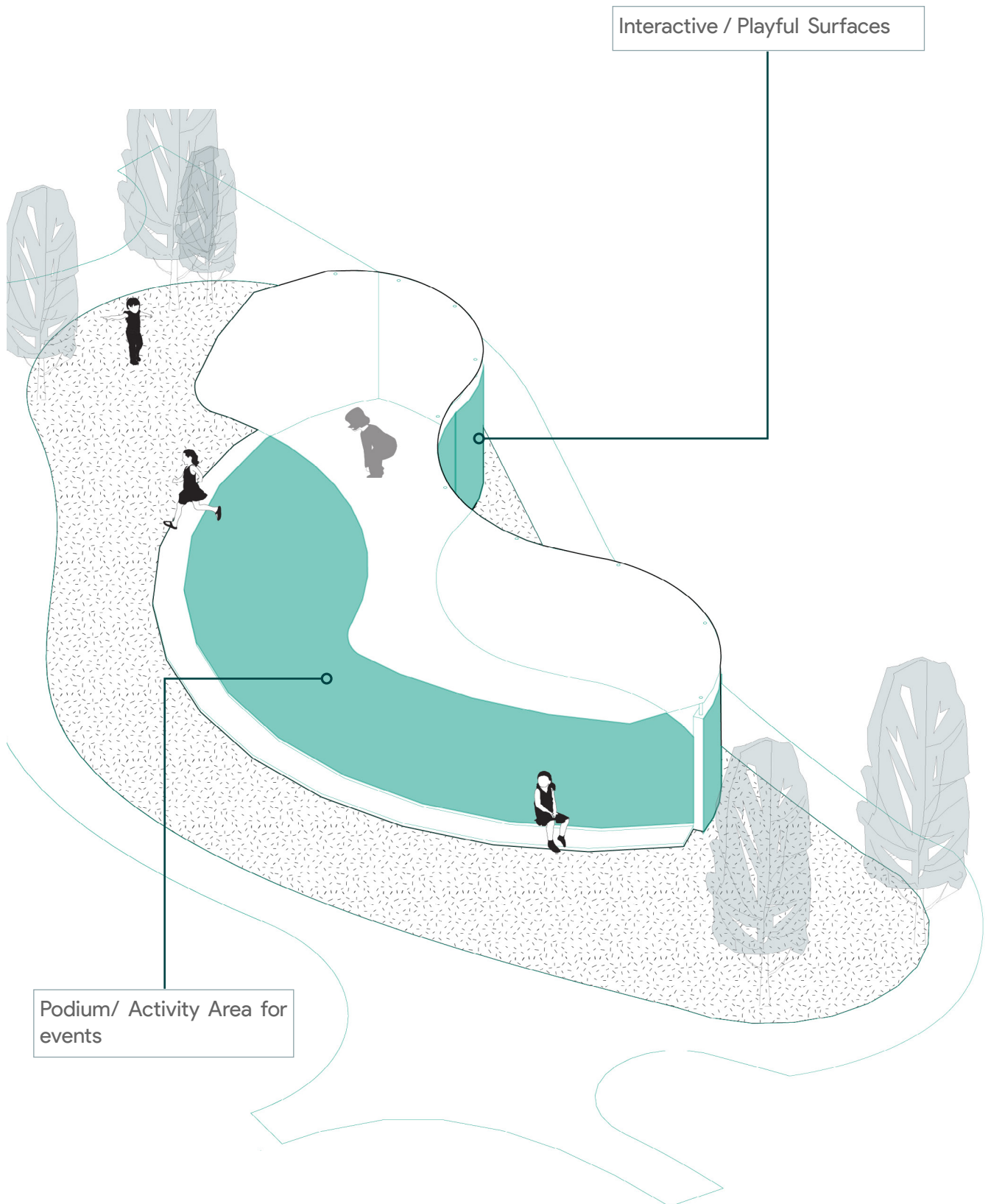
Parks & Open Spaces

Lawn Area




Seating + Natural Play element for activities



Activity Area



Social Infrastructure

Objectives to be achieved	Indicators
Accessible 	Total number of private kindergarten in the neighbourhood and whether they have attached outdoor space
Inclusive 	% of Government schools that allow usage of school campuses during non-school hours
	Presence of affordable health clinic inside (anganwadi) the neighbourhood
	Number of doctors employed within the neighbourhood
	Presence of Dispensary in the neighbourhood
Playful 	Provision of public art expenditure in the budget to enhance the aesthetic of public spaces - (Y/N) & Percentage change in investment in public art- year by year

Link: https://issuu.com/bernardvanleerfoundation/docs/itcn_design_guidelines/14

Every neighbourhood when planned by the city generally provides basic amenities as per the guidelines and norms set by the governance system. These are most of the time the 'minimum' possible solutions given. It's important to note that amenities like daily shopping, health care, cultural facilities and utilities like toilets are the most frequented spaces in a neighbourhood. Therefore its necessary to design such spots to be ITC friendly.



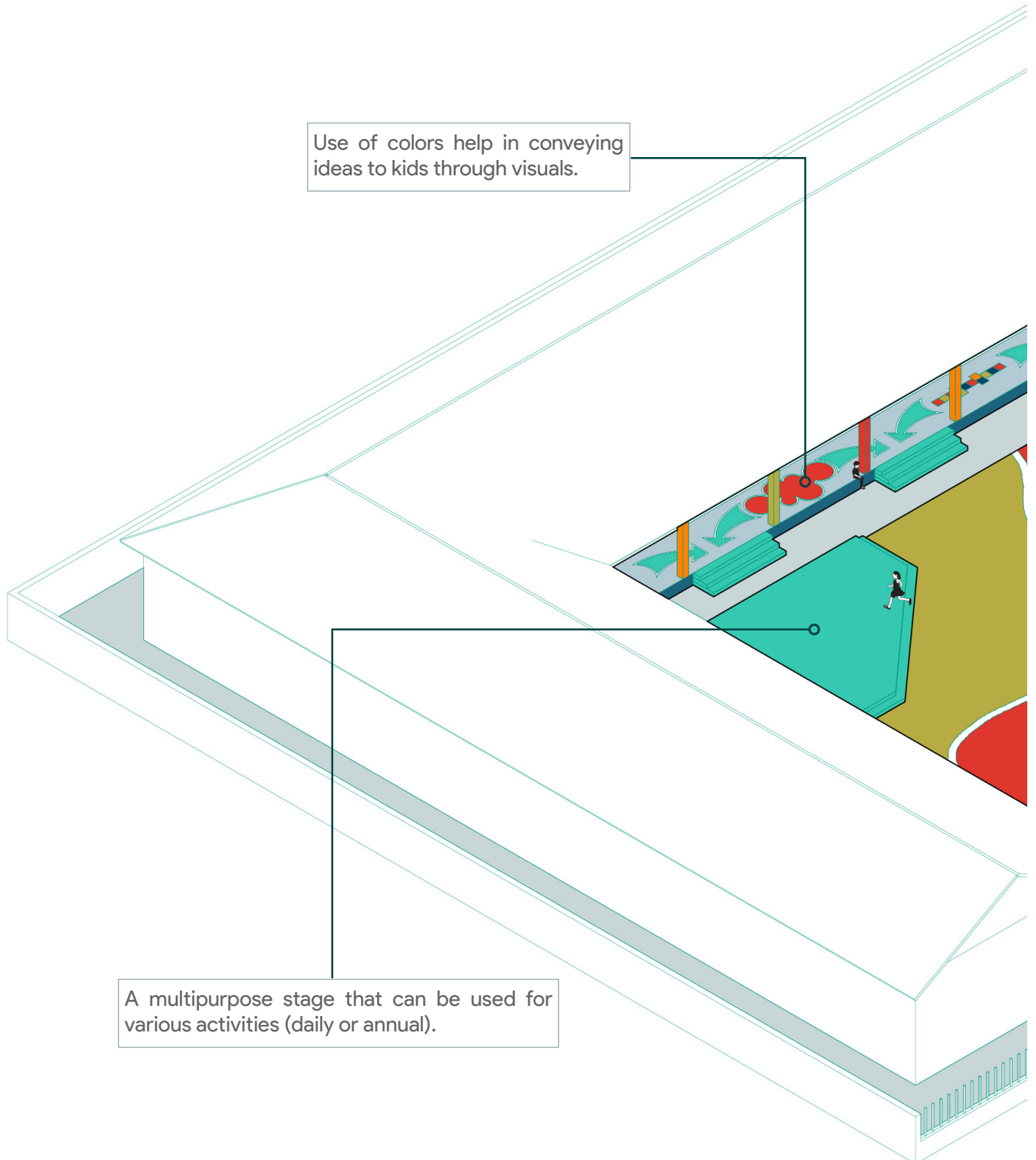
Image:24 Semi-permanent Intervention in Rajiv Gandhi Hospital, Pune
Source: Egis India

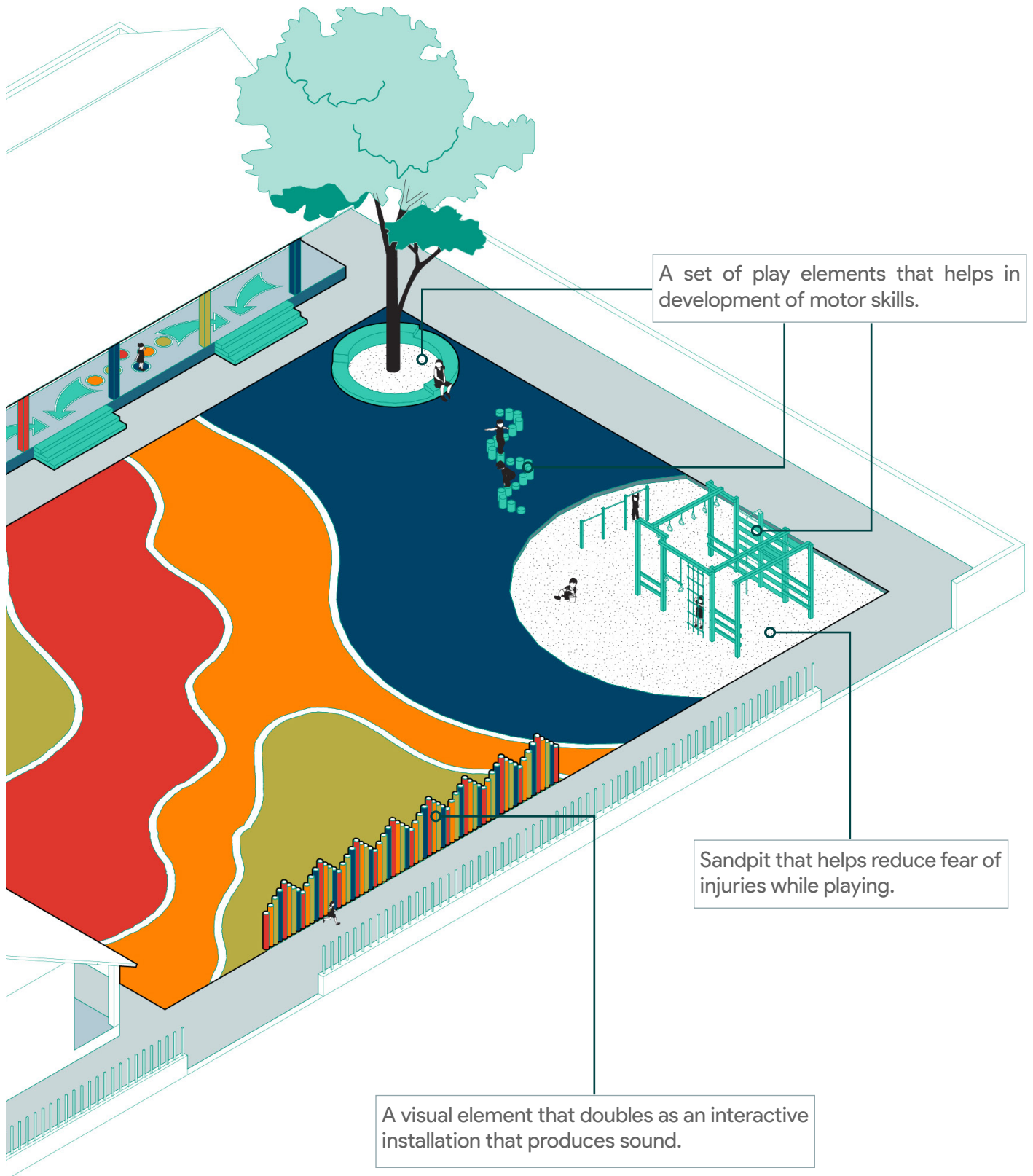


Image:25 Semi-permanent Intervention at Maharashtra Housing Board community space, Yerawada, Pune
Source: Egis India

Social Infrastructure

Anganwadi





Social Infrastructure

Hospital Waiting Room



Provide appropriate signages for spaces.

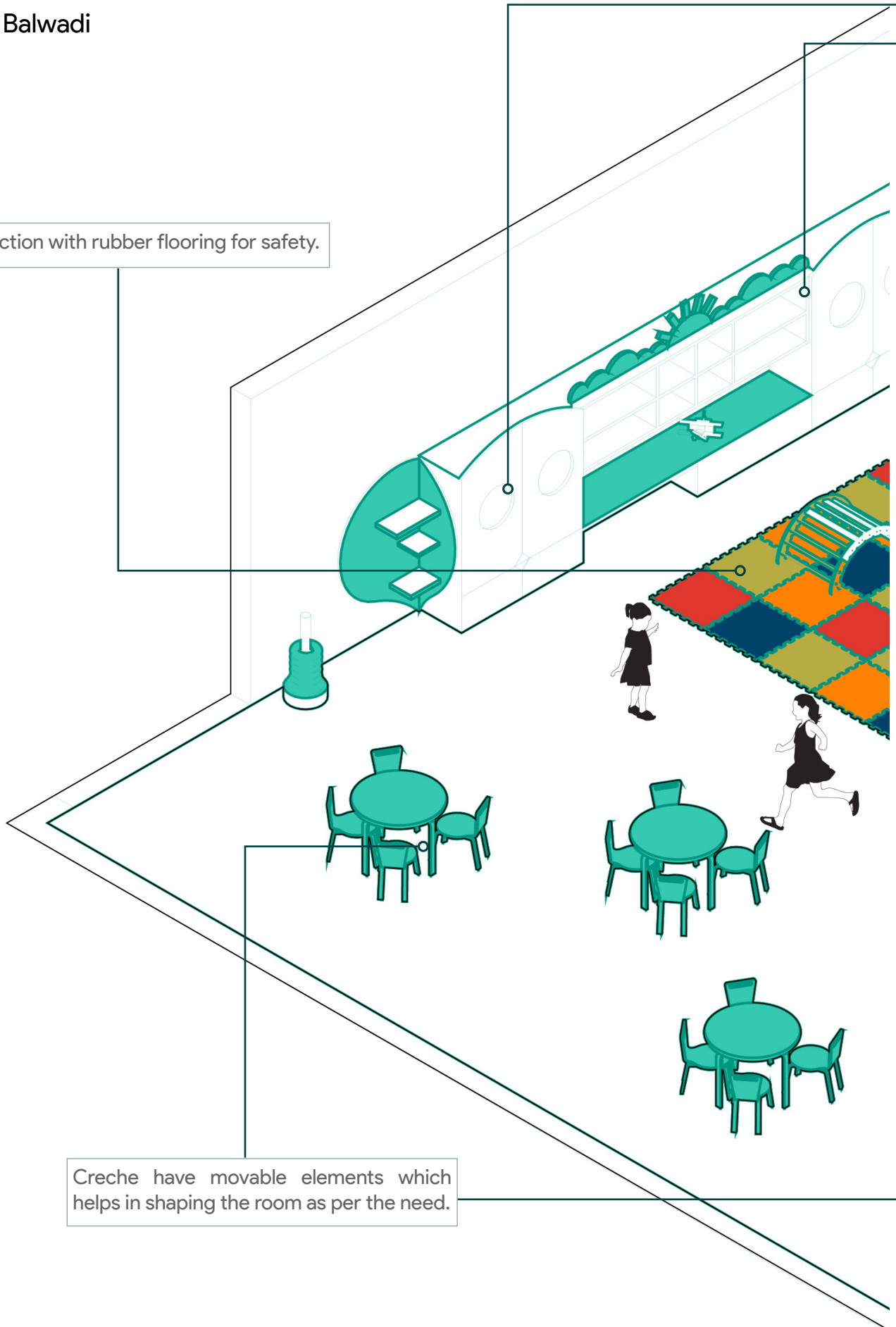
Using familiar cartoon characters to reduce general fear and stress of visiting a doctor.



Social Infrastructure

Creche/ Balwadi

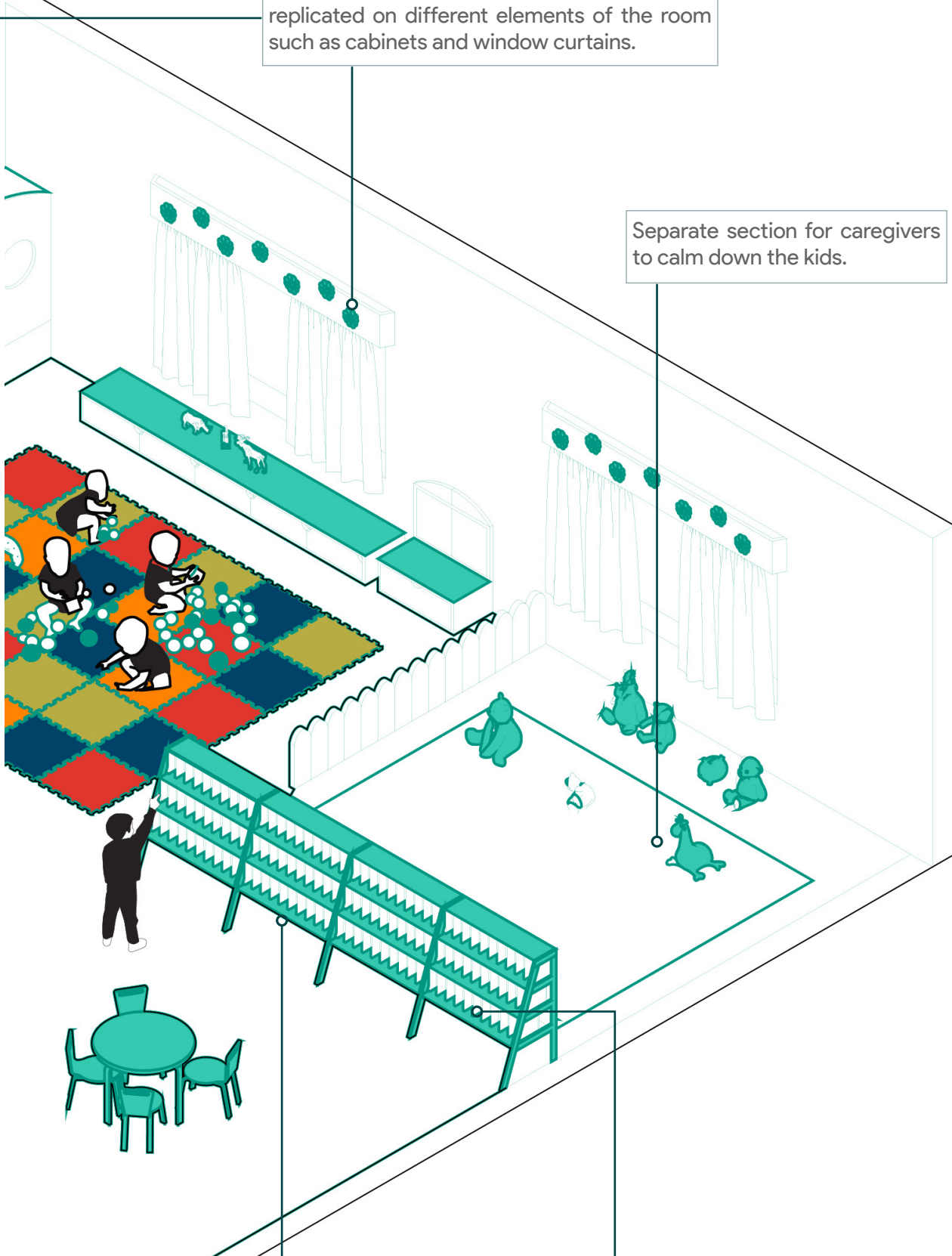
Play section with rubber flooring for safety.



Creche have movable elements which helps in shaping the room as per the need.



Interiors to be made on a theme that can be replicated on different elements of the room such as cabinets and window curtains.

Separate section for caregivers to calm down the kids.



Using furniture such as book shelves to demarcate boundaries in a room. The height of the furniture should be in a child's reach.

Urban Services

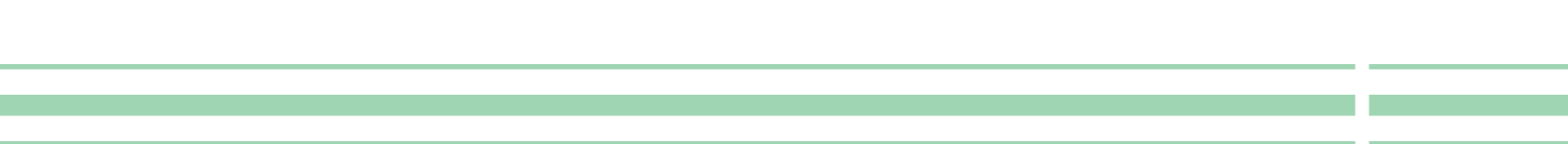
Objectives to be achieved	Indicators
Inclusive 	Household level coverage of SWM services through the door-to-door collection of waste
	Quality of water supplied to a household in the neighbourhood.
Green 	Presence of SWM collection facility and efficiency in the neighbourhood
	Presence of SWM segregation facilities in the neighbourhood
	Efficiency in Redressal of customer complaints on SWM
	Percentage of households with rainwater harvesting systems
	Percentage of parks, schools, and other public plots within the neighbourhood with rainwater harvesting systems
	Percentage of households with renewable source of energy like Solar/PNG, etc.
	Percentage of public buildings and plots using solar / wind or non-carbon means (mapped)
Presence of solar lighting in and immediately surrounding parks	

Link: https://issuu.com/bernardvanleerfoundation/docs/itcn_design_guidelines/14

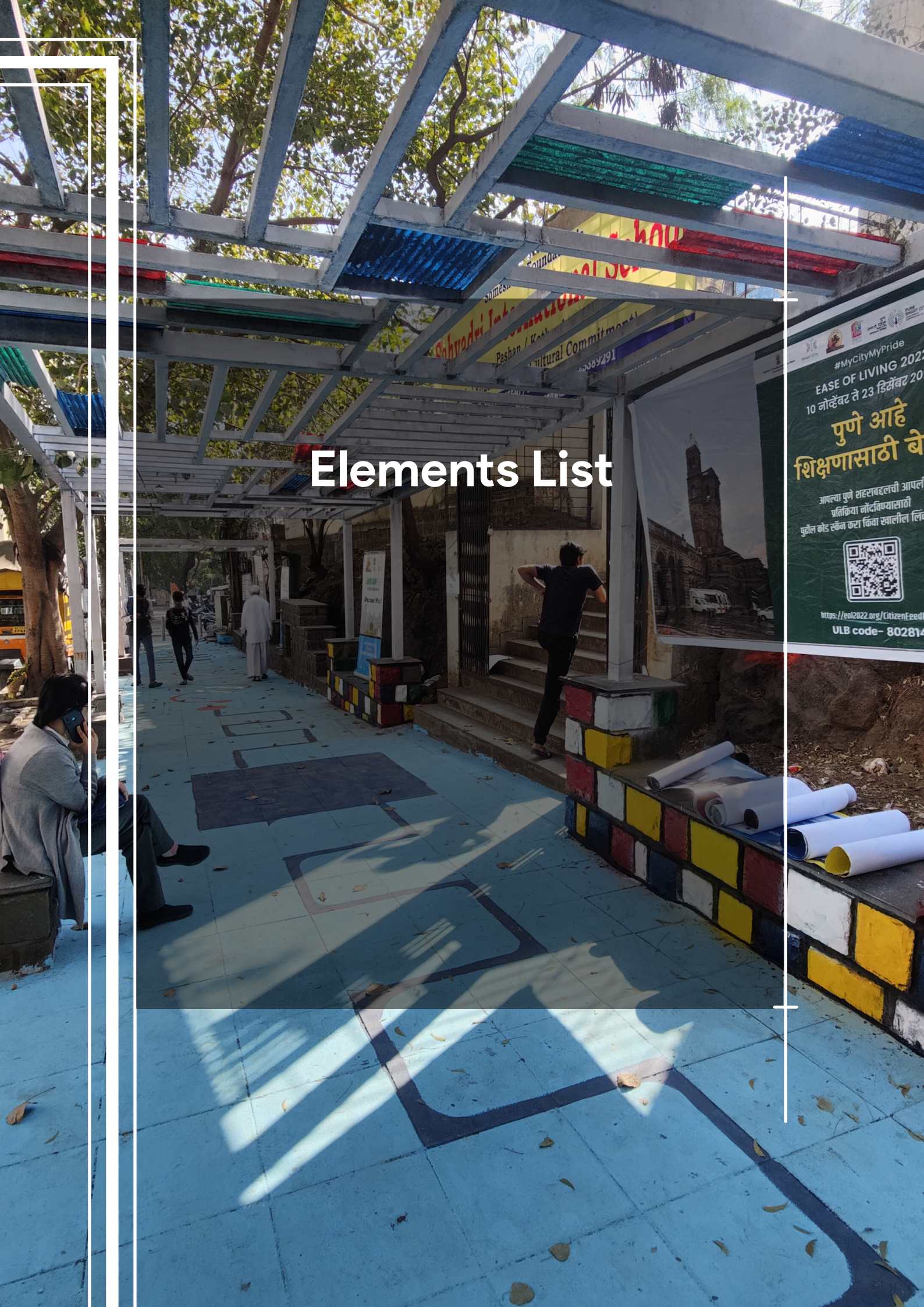
Utilities need both adequate provision, and constant management. Building trust is central both ways, both from the management system and also by the residents to use it properly. From the earliest stages of development, small children can be taught to contribute to keeping streets, parks and playgrounds tidy and free of waste, and contribute to economical use of resources. Not only it is necessary for our cities, but letting children learn about concepts of “Reduce, Re-use, Recycle” 36 at a young age is the best investment for the future of the cities.



Image:26 Signage at CPZ Samtanagar, Pune
Source: Egis India



Elements List



#MyCityMyPride
EASE OF LIVING 2022
10 नोव्हेंबर ते 23 डिसेंबर 2022
पुणे आहे शिक्षणासाठी बे
आपल्या पुणे शहराबद्दलची आपली प्रतिक्रिया नोंदविण्यासाठी पुढील कोड स्कॅन करा किंवा खालील लिंक
<https://eol2022.org/CitizenFeed>
ULB code- 802814

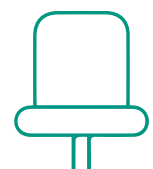
Elements List



AMENITIES

Play Elements

- Newborns (0 to 3 months)
- Infants (3 to 12 months)
- Toddlers (1 to 2 years)
- Preschooler Age (3 to 4 years)
- School Age (4 to 6 years)



SEATING

Standalone Seating

- PVC
- GI
- Wood
- WPC
- Granite
- Natural Stone
- Concrete

Integrated Seating

- Seating with Planter



FENCING/ BARRIER ELEMENTS

Road Safety

- Concrete Bollards
- Plastic Bollard covers
- Steel Bollards
- Polyurethane Bollard
- Natural Stone Bollard
- Jersey Barrier
- Traffic Cones

Access Safety

- Grab bars
- Steel Railing
- Wooden Railing
- Rubber coating for Railing

Site Boundary

- GI chain link
- Concrete jali
- WPC Jali
- Brick Jali

Elements List



LIGHTING

Outdoor

- Pole lamps
- Surface Lights
- Bollard Light
- Solar lamps
- Cast Iron Pole lamps
- Aluminum alloy street lamp pole
- Concrete pole lamps
- Invert light bollards
- Under water lights

Indoor

- Surface Lights
- Focus Lights
- Strip Lights
- Warm LED Lights



LANDSCAPE

Edible Plants

- Cynodon dactylon
- Wedelia
- Hibiscus hedge
- Vinca Rosea

Play area

- Sand Pit
- Waste tree stump/tree logs
- Swings from trees
- Stone boulders

Air Filtering Plants

- Wall flower plant
- Common Ivy plant
- Aster and Osmanthus plant
- Littleleaf Linden plant



A. Amenities

- Play Elements

1. Play Elements

1.1 Overview



Image:27 Toys

Source: <https://in.pinterest.com/>

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT THEME

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility



Image:28 Play time at preschool



Image:29 Children playing in class



Image:30 Toddlers playing in crèche

APPLICATION | NEWBORN (0-3 MONTHS)

Toys for this age are primarily for looking, listening, suncking, or fingering. They enjoy seeing and hearing interesting things. They also like to see mobile objects hanging or suspended from the top, human facial features, bright and contrasting colours, and clear lines and features. For active play, Push and pull toys, Ride-on toys, Outdoor or Gym Equipment, and Sports Equipment such as clutch balls, texture balls, soft squeeze balls, etc. are suitable. For manipulative play toys such as Construction toys, Puzzles, Pattern making toys, manipulative toys are applicable, such as, squeeze toys, interlocking plastic rings, simple rattles, etc. For Make-believe Play, Soft-bodied dolls, Stuffed toys, Puppets, and Role-play materials such as mirrors are applicable. For Creative play, Audio-Visual Equipment can be exciting. For Learning Play they can enjoy listening to a story being read from books.



Image:31 Newborn interacting with bright color bands



Image:32 Newborn explores toys with their feet



Image:33 Newborn need support to sit up straight in the beginning



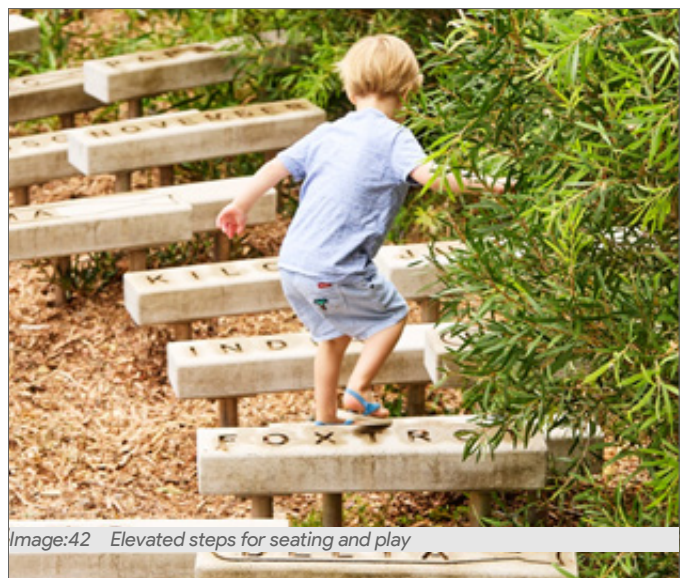
Image:34 Learning about plantation



Image:35 Infants interacting with bright colors



Image:36 Learning about shapes and colors



APPLICATION | INFANT (3-12 MONTHS)

They are interested in longer and more extensive exploration of toys like bang, insert, poke, twist, squeeze, drop, shake, bite, throw, open and shut, and empty and fill activities. They also involve in activities such as stacking, putting in and taking out, pouring out, fitting one into another, opening and closing, pressing levers, turning things, and pushing balls and cars. Manipulative toys such as Construction toys, puzzles, and toys like roly-poly toys, activity boxes, cubes, disks/keys on rings, teething, etc. are suitable.

For Active play, they like to play with transparent balls, chime balls, flutter balls, action balls, etc. For Make-believe Play, infants like to play with Soft toys, Stuffed toys, Puppets, and Role play materials such as low wall-mounted mirrors. For creative play, they can engage in Music or sound-generating toys, Art and Craft materials, and Audio-Visual Equipment.

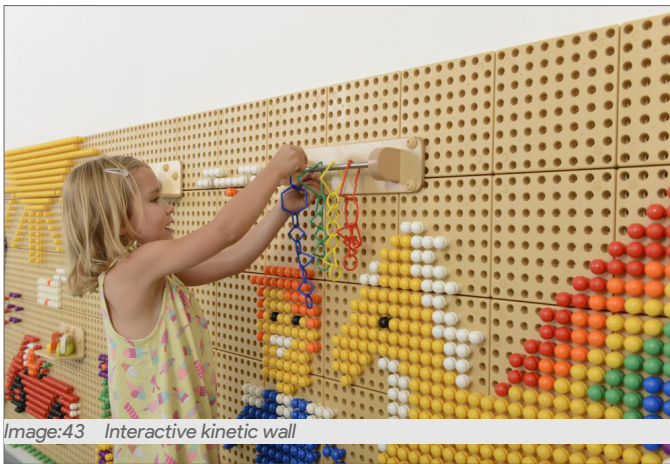


Image:43 Interactive kinetic wall



Image:44 Swing for 2



Image:45 Element of play integrated with seating

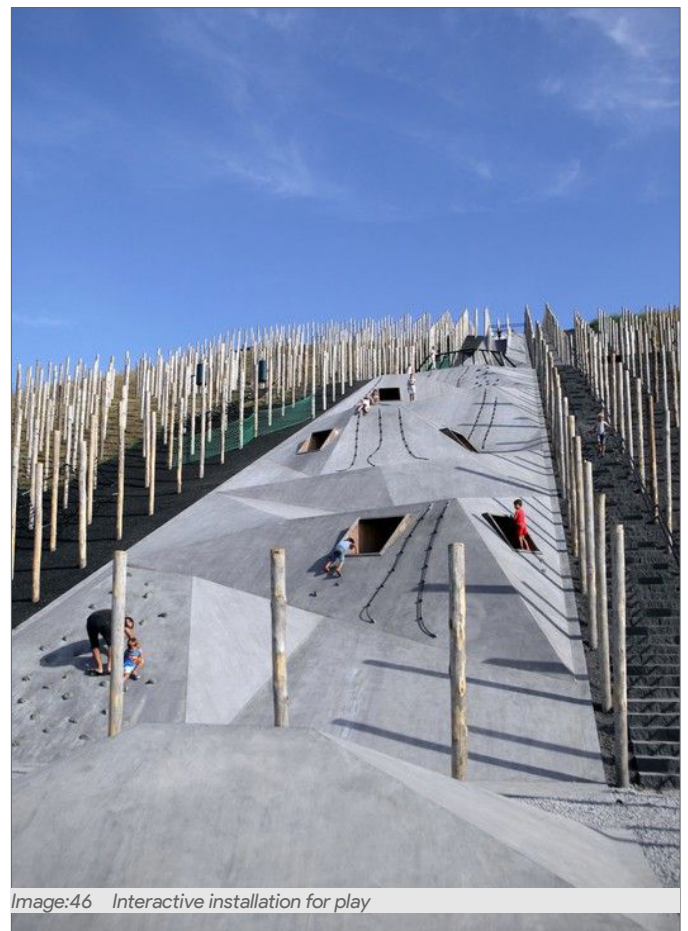


Image:46 Interactive installation for play



Image:47 Infant using toy as a support to walk



Image:48 Infant taking caregivers support to stand up and walk

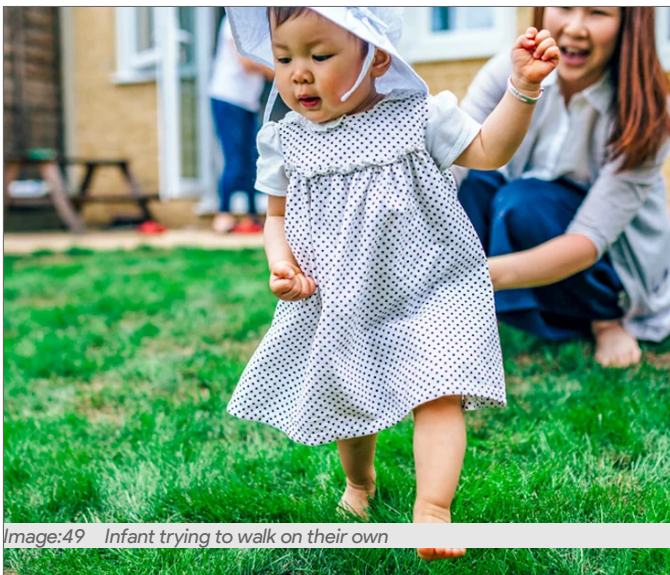


Image:49 Infant trying to walk on their own



Image:50 Infant holding object in single hand building their strength



Image:51 Biting toys



Image:52 Infant dragging their toys

APPLICATION | TODDLER (1-3 YEARS)

Toddlers like to engage in Imitative play, Large muscle activities, and other self-movements. For Active Play, they like to engage with push-and-pull toys with large handles on ends, special noise and action effects, wagons, small rocking horses, etc. They also enjoy Ride-on toys which are propelled by pushing with feet-no pedals, ride-on that make noise, look like animals, etc. Low climbing platforms, tunnels for crawling, and swings are good options for Active play. In Manipulative play, they like to engage with small lightweight stacking blocks and similar construction toys. Puzzles, Pattern making toys, shape sorters, hidden object toys, activity boxes, pounding, hammering, simple matching toys, lock, and key toys, etc. Sponges, a small shovel, and a pad for Water and sand play are enjoyed by them. Similarly, for Make-believe play, dolls, stuffed toys, puppets, and role-play materials are highly engaging for them. For Creative play, Rhythmic musical equipment, or toys, large crayons with sturdy large paper and Audio-visual equipment are beneficial. They can start with Learning to play through “Peek-a-Boo” books, and tactile books.



Image:53 Infant playing in water



Image:54 Infant playing in water



Image:55 Developing motor skills



Image:56 Developing motor skills

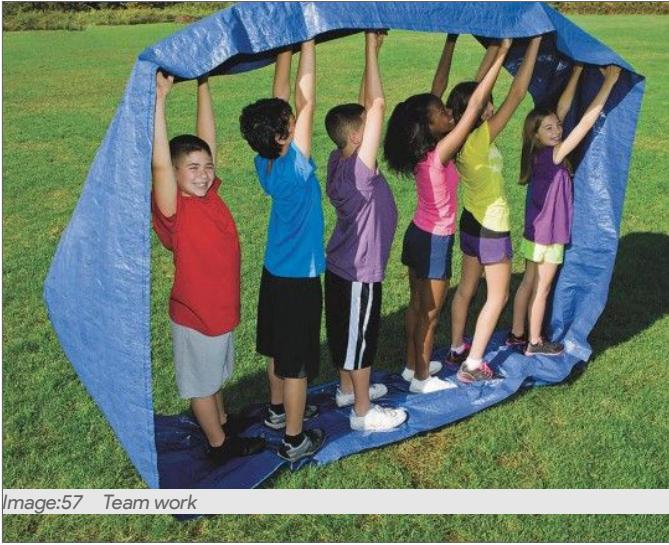


Image:57 Team work



Image:58 Playing with Building blocks



Image:59 Playing with buidligh blocks



Image:61 Playing catch



Image:60 Kid playing with ball



Image:62 Kids playing with scooters.

APPLICATION | PRE-SCHOOL AGE(3-4 YEARS) & SCHOOL AGE(4-6 YEARS)

They prefer toys with realistic detail and working parts. Increasing interest in dramatic and pretend play, by age 5, a peak period for dramatic play, with all sorts of props, play scenes, and small figures and cars. Period of peak interest in puppet play, increasing construction activity often with plan or goal. For Active play, Push and pull toys of appropriate size with enough mobile action, Ride-on Toys would include low-slung tricycles, small bicycles with training wheels, climbing, slides, swings, jump ropes, flying disks, etc. can help develop motor skills. For Manipulative toys, realistic models for Construction toys, puzzles, pattern-making toys, and other geometrically and visually intriguing toys can be enjoyable for them. For Make-believe play realistic figures and scales of dolls, stuffed toys, puppets, and Role-play materials are highly engaging. Theme-based roles playing such as work professionals, cooking, cleaning, etc. that they start observing by this age. For Creative play, Musical instruments, Art and Craft materials for complete engagement with colours, paper, and other materials is essential. For Learning play, apart from books, Specific Skills development Toys and games can become an integral part.



Image:63 Skipping rope

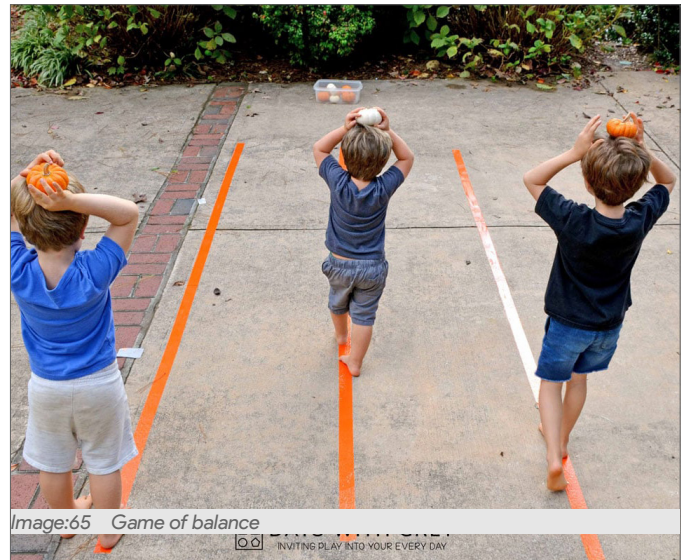


Image:65 Game of balance



Image:64 Playing with outdoor equipment



Image:66 Playing with outdoor equipment



Image:69 Learning about construction

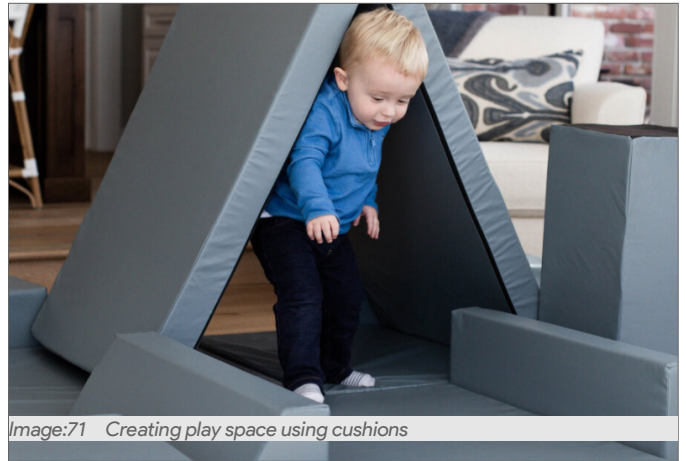


Image:71 Creating play space using cushions



Image:70 Kids playing board games with simple rules



Image:72 Kids playing games outdoor



Image:67 Kid playing with wooden blocks and thread



Image:68 Play at public park

GUIDELINES

These are some guidelines that must be followed when selecting toys for infants and toddlers:

For all ages:

- No shock or thermal hazards in electrical toys
- Amount of lead in toy paint is severely limited
- No toxic materials in or on toys
- Art materials used by children under 12 should be non-hazardous.
- Latex balloons and toys and games with latex balloons must be labeled warning of the choking and suffocation hazards associated with pieces of and uninflated balloons.

Under age 3:

- Unbreakable - will withstand use and abuse
- No small parts or pieces could become lodged in the throat.
- Infant rattles are large enough not to become lodged in a child's throat and are constructed so as not to separate into small pieces.
- No balls with diameters of 1.75 inches or less.

For Ages 3 through 6:

- All toys and games with small parts must be labeled to warn of the choking hazard to young children.

For 3 years and older:

- The following toys must be labeled to warn of the choking hazard to young children.
- All balls and toys and games with balls will be diameter 1.75 inches or less,
- All marbles and toys and games with marbles.

Under age 8:

- No electrically operated toys and heating elements.
- No sharp points on toys
- No sharp edges on toys.

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Amenities



Image:73 Play at public park

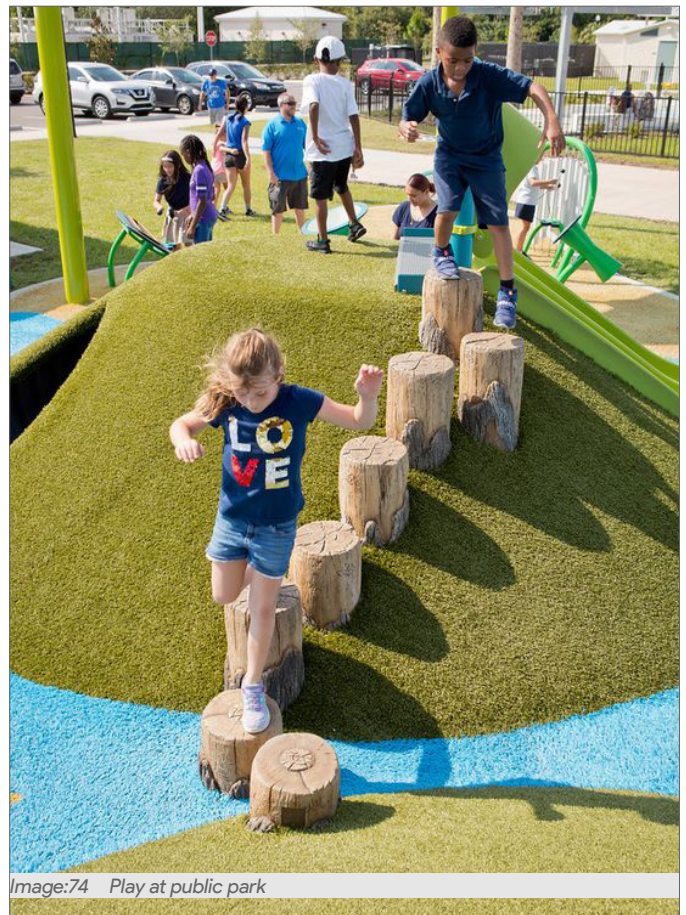


Image:74 Play at public park



Image:75 Climbing activity in form of play



Image:76 Tree logs as seating



Image:77 Green shading over seating



Image:78 Playful grass mound



Image:79 Natural trail



Image:80 Creating playful elements with different materials



Image:81 Indoor Play

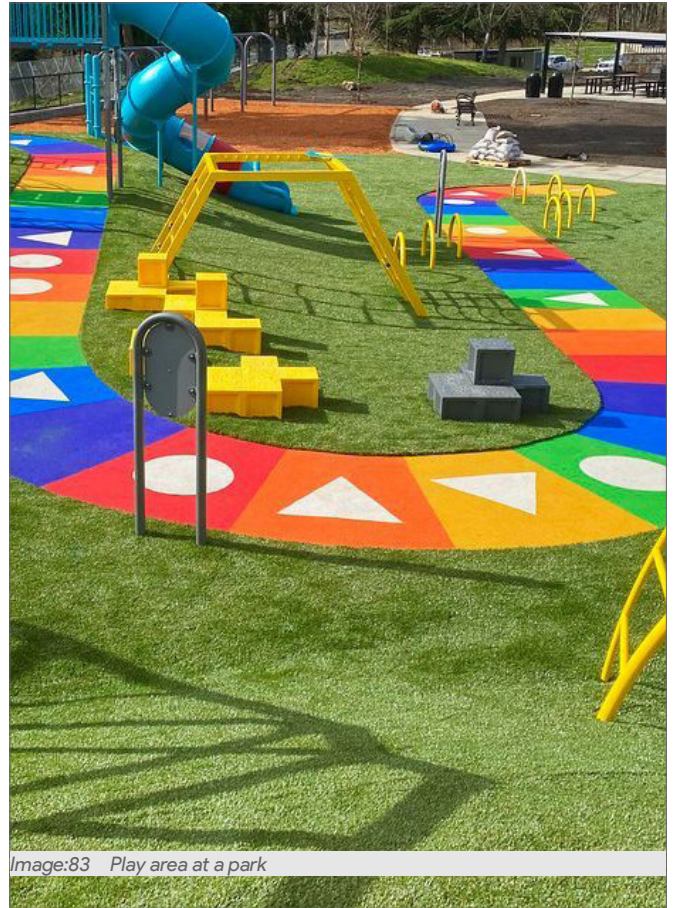


Image:83 Play area at a park



Image:82 Climbing activity in form of play



Image:84 Paintings to make flooring attractive for kids

Image Sources-Amenities

Image28: <https://images.squarespace-cdn.com/content/v1/5cb288cb809d8e4021259f15/1556836638232-E3WD4GU3L5YBHCVUGNW8/parachute.jpg?format=2500w>

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Image30: https://www.thelearningzoneonline.com/wplz/wp-content/uploads/2021/01/IMG_2322.jpg

Image31: <https://i.pinimg.com/564x/f7/f0/e1/f7f0e140084aaad660dca98377d1d1a1.jpg>

Image32: https://m.media-amazon.com/images/I/81bge1nO2YL._SL1500_.jpg

Image33: https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcTK_atbe0KgXiaQwunlOC0bhQjh2909izL0w4R1eXiVaCL8VJ0H

Image34: https://m.media-amazon.com/images/I/61ivu241rL._SL1242_.jpg

Image35: Pinterest

Image36: <https://www.care.com/c/wp-content/uploads/sites/2/2021/04/LaurenGarcia-2019111191930196.jpg.optimal.jpg>

Image37: <https://pin.it/7M4lOpJ>

Image38: https://i.moool.com/img/2021/12/P_laurel_03.jpg?x-oss-process=style%2Flarge

Image39: <https://ak-d.tripcdn.com/images/1A0c13000000valjv52FF.jpg?proc=source/trip>

Image40: https://assets.babycenter.com/ims/2014/02/177134655_wide.jpg

Image41: <https://moool.com/poly-cloud-view-wuhan-by-la-group.html>

Image42: <https://pin.it/5S39lKK>

Image43: <http://leker.pl/blog/wp-content/uploads/2019/03/IHF1551-1024x683.jpg>

Image44: <https://parametric-architecture.com/nest-interactive-exciting-playscape-designed-by-tri-lox/>

Image45: <https://i.pinimg.com/564x/54/f2/1f/54f21fc9fe803156f989bef7c7b32eab.jpg>

Image46: <https://i.pinimg.com/564x/3a/a7/bf/3aa7bfa92916d1dd2b178dc0de524103.jpg>

Image47: https://hips.hearstapps.com/hmg-prod.s3.amazonaws.com/images/baby-walker-toys-1587137196.jpg?crop=0.502xw:1.00xh;0.0176xw,0&resize=640:*

Image48: https://post.healthline.com/wp-content/uploads/2019/10/baby_walking-1200x628-facebook.jpg

Image49: <https://health.clevelandclinic.org/wp-content/uploads/sites/3/2017/04/BabyTeethingToy-1200x630.jpg>

Image50: <https://littlestepspt.com/wp-content/uploads/2020/03/baby-learning-to-walk.jpg>

Image51: https://media.istockphoto.com/id/636457918/photo/baby-girl-having-fun-at-home.jpg?s=612x612&w=0&k=20&c=eq35WV1WRV8cbixX257OQok4W-SZ0wi5hU_hOGI-0Is=

Image52: https://lovevery.com/community/blog/wp-content/uploads/2020/11/Lovevery_5.23JaydenGianna1378-e1605734051680.jpg

Image53: <https://kidactivitieswithalexa.com/wp-content/uploads/2020/03/8347fa4e9137c67510d1375e85faa5ca-1.jpg>

Image54: https://upload.wikimedia.org/wikipedia/commons/thumb/b/b4/Playground_Days_%287713193228%29.jpg/640px-Playground_Days_%287713193228%29.jpg

Image55: <https://www.newfolks.com/wp-content/uploads/sites/6/2021/05/toddler-dipping-feet-in-pool.jpg?p=1>

Image56: https://www.kidkraft.com/media/magefan_blog/10278.jpg

Image57: <https://i.pinimg.com/564x/e9/62/34/e962340778a9eb7b18130d69b6fa87aa.jpg>

Image58: <https://www.lifesavvy.com/p/uploads/2021/03/5ea780cb.jpg>

Image59: https://www.babycenter.com.au/ims/2014/05/185834484_wide.jpg

Image60: https://www.familyeducation.com/sites/default/files/styles/desktop_jpeg_fallback/public/2020-10/10%20Best%20Blocks_featured.jpg?itok=tvxBnkDn

Image61: <https://cdn.cdnparenting.com/articles/2018/10/26113352/7-simple-steps-to-teach-your-child-to-catch.jpg>

Image62: <https://static.standard.co.uk/s3fs-public/thumbnails/image/2018/06/15/12/mini-micro-deluxe.jpg?width=968&auto=webp&quality=50&crop=968%3A645%2Csmart>

Image63: https://media.kidadl.com/5ec67b5427fc309e4ea3dd72_11_best_low_and_no_contact_outdoor_games_for_kids_eb8c11ca14.jpeg

Image64: <https://i.pinimg.com/564x/96/6d/f6/966df66148a946489be5d471f2abaf78.jpg>

Image65: <https://dayswithgrey.com/wp-content/uploads/2022/10/outdoor-activities-for-kids-110.jpg>

Image66: <https://i.pinimg.com/564x/2c/f3/37/2cf337d4921225456590087342ace773.jpg>

Image67: https://inventorsof tomorrowdotcom.files.wordpress.com/2016/03/img_20160305_105459525.jpg

Image68: <https://www.oxfordlearning.com/wp-content/uploads/2007/10/board-games-860x420.jpg>

Image69: <https://i.pinimg.com/564x/77/78/27/777827b86a4b8656b9fb2fe7128021c0.jpg>

Image70: https://media-cldnry.s-nbcnews.com/image/upload/newscms/2021_40/1785364/screen_shot_2021-10-08_at_11-18-02_am.png

Image71: <https://domf5oio6qrcc.cloudfront.net/medialibrary/10992/b8b237ee-7cfe-4eab-b79b-dac389707899.jpg>

Image72: <https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcRnxaAxNCHKZsI7HB8Lc-L8m8WF7Nt61YA5Ht3l0LejWkFrWIKE>

Image73: <https://i.pinimg.com/564x/6e/ce/29/6ece2992a2ebdaddeb5d103b06ad3424.jpg>

Image74: <https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSoe8n5uxb0J2hY2DOlxocA4UbxEQQq6uCtdTr3cSeECJlnN7T>

Image75: <https://i.pinimg.com/564x/e5/b5/1a/e5b51a1dd09c3f4ee64dd70b0bf4713a.jpg>

Image76: <https://pin.it/6l1FVJS>

Image77: <https://pin.it/3lAMR2F>

Image78: https://www.earlyyearsresources.co.uk/images/stump-seats-pack-of-2-p30655-817996_medium.jpg

Image79: <https://i.pinimg.com/originals/13/41/45/1341457d330c76868388fccd43829fb4.jpg>

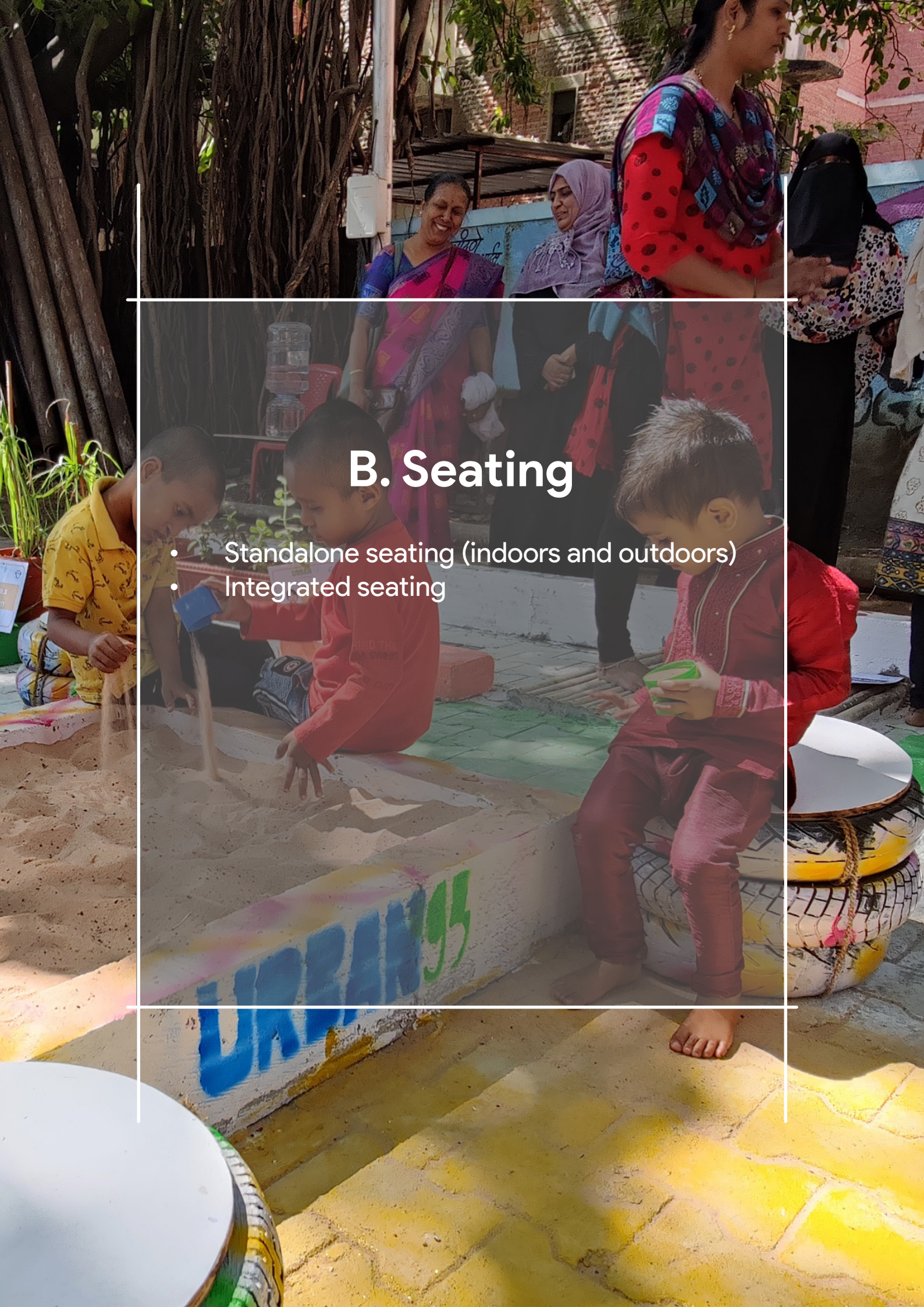
Image80: <https://i.pinimg.com/564x/bf/18/47/bf18470beccd14dfac3f15841f96a15c.jpg>

Image81: <https://i.pinimg.com/564x/8a/a7/37/8aa737f020c30fd803cf41f0375aa19b.jpg>

Image82: <https://i.pinimg.com/564x/26/eb/ff/26ebffb218e1f1361a76f615bc63cee4.jpg>

Image83: <https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcQTYvL9y1Ak7S9HljXsRKQ2r2eG8-NypLLShEjb5WT7FVGS2pe>

Image84: <https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcSLKKSyVgoiA1W4G7xN3tgFe6TkYdFpcilzEMaJ6fMhQiMvXKqA>



B. Seating

- Standalone seating (indoors and outdoors)
- Integrated seating

2. Standalone seating

2.1 PVC



Image:85 PVC Chair

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT THEME



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Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:86 Colorful variations of pvc chair for kids



Image:87 Foldable pvc benches



Image:88 Chair height suitable for a toddler

APPLICATION

Indoor and outdoor:

This is an inexpensive option that is highly viable to use when short-term interventions are planned for ITC-friendly spaces. The flexibility in its dimension gives control over the site to create multiple variations in design and dimension for different age groups of ITCs. Its resistance to weathering, round corners, and durability makes it useful around children while adding an element of playfulness due to the use of attractive fabric around the PVC framework.

PROS

- Massively produced and cheaply obtained
- Is virtually strong and unbreakable making and is more durable as compared to other counterparts
- Very durable furniture material
- Low Maintenance
- The material is non-toxic and safe to use around young children

CONS

- Choice of colour and design gets limited

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 1

Image85: <https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcTZ4NQOWOzAznLlfYx1TjAV0MvQd843-GyktUgljN2IZIXQyl>

Image86: <https://i.pinimg.com/564x/69/75/5c/69755cab53be3c4c4fb375b697d88994.jpg>

Image87: <https://i.pinimg.com/564x/69/2b/7e/692b7ee8cc174e95589b82d326d7f5b2.jpg>

Image88: <https://i.pinimg.com/564x/aa/f4/70/aaf470da3dba8844aafaf9591e232eca.jpg>

2.2 Galvanized Iron



Image:89 GI Chairs

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

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Image:90 Kid sitting on a GI park bench



Image:91 Colorful options for GI chairs



Image:92 Colorful bench options for GI

APPLICATION

Indoor and outdoor:

GI pipes, rods and sheets are durable and strong options for both indoor and outdoor play and waiting areas. They are easy to install due to their flexible properties yet durable enough to cater to heavy traffic. The samples shown here as reference are lightweight options that can be fixed or placed anywhere in the as per requirement and based on the type of activity. The flexibility in design allows to customise of the dimensions as per the standards indicated.

PROS

- Durable than synthetic option
- Resistant to outdoor weathering
- Safe and aesthetically attractive
- Environmentally safe and low maintenance
- Pest resistant
- Economically viable and consumes less space.
- Good surface finish
- Corrosion-resistant

CONS

- Its' self-weight limits its mobility to re-utilize spaces.
- Absorbs heat hence creating uncomfortable living conditions during summers

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 1

Image89: Target

Image90: <https://th.bing.com/th/id/R.c213fc71616e39ecee2a0eaa3cc3c8e5?rik=ZNi%2fhcQbckmBCA&riu=http%3a%2f%2fwww.mhphotography.net%2fblog%2fwp-content%2fuploads%2f2019%2f05%2f0020-6.jpg&ehk=ktlfqjO3JjnAHzEdUqgGsEjteSPXalER%2fjSKzWcjC7U%3d&risl=&pid=ImgRaw&r=0>

Image91: <https://i.pinimg.com/564x/7b/a6/8d/7ba68d11180fd78ae372924a70a09fcc.jpg>

Image92: <https://i.pinimg.com/564x/24/42/be/2442be1fc4774bf5fe14724db00f77c7.jpg>

2.3 Wooden



Image:93 Wooden Bench

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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Image:94 Wooden benches in a park



Image:95 Kids of all ages can use the bench

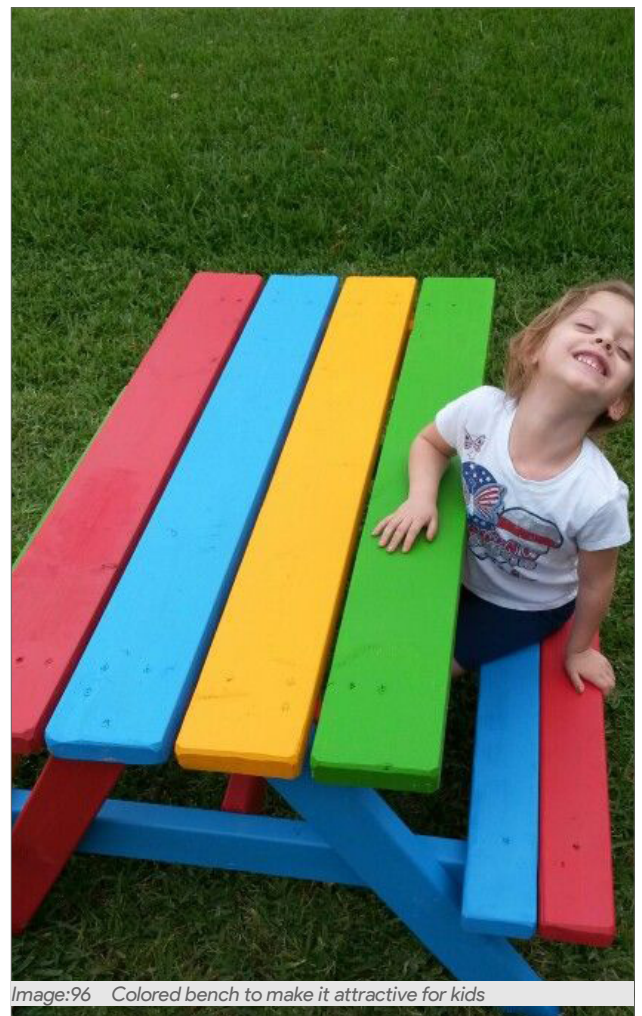


Image:96 Colored bench to make it attractive for kids

APPLICATION

Indoor and outdoor:

Wooden structures help in stimulating a child's imagination and hence are recommended strongly to be used in ITC-oriented spaces. Wooden seating has the least probability of causing damage to young children in any accidents. Not only are they aesthetically attractive but also is durable for longer periods of time. Wooden seating gives the flexibility to re-install without any deep excavation. Both options of benches or detached chairs can be used as desired in the ITC-friendly area.

PROS

- Flawless Natural Look
- Strong and durable to stress
- Eco-Friendly and highly adaptable

CONS

- Vulnerable to water
- Ultraviolet light can change wood's color and damage its surface
- Finishes can be scratched or damaged by sharp objects
- Can be expensive than most other alternatives

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 1

Image93: <https://www.bransonleisure.com/wp-content/uploads/2018/10/Cranham3-500x333.jpg>

Image94: https://images.esi.info/Images/685359_1475068874531_Pf.jpg?tr=w-720.0,h-594.0,cm-extract,x-123.0,y-123.0:w-450:q-80

Image95: <https://pin.it/osJDdF8>

Image96: <https://i.pinimg.com/564x/dd/5c/24/dd5c249030fc13af3945ad59445e4ed8.jpg>

2.4 WPC - Wood Plastic composite



Image:97 WPC Bench

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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Image:98 Children enjoying the bench with statue



Image:99 WPC bench used in public parks



Image:100 WPC bench used in public parks

APPLICATION

Indoor and outdoor:

The WPC (Wood Plastic Composite) material is made of 70% recycled wood and 30% recycled plastic. WPC seatings are suited for both indoors and outdoors. WPC is a modern and long-lasting material replacing traditional construction materials due to its strength and modern designs. The smooth finish and non-toxic nature of this material help provide safety to young children from accidents.

PROS

- Environmentally-Friendly
- Can withstand harsh weather environments like constant moisture (or submersion in water) and extreme temperature fluctuations.
- Anti-impact, anti-corrosive, and anti-termites with high density
- Have high capacity of UV-resistance, colour stability
- It does not crack or splinter

CONS

- Expensive compared to other similar material
- Doesn't have the natural wood texture
- Resistance to extreme temperature is low compared to wood

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 1

Image97: <https://encrypted-tbn1.gstatic.com/images?q=tbn:ANd9GcRxZS61l8DmvYUWcUgxFWWhSPaKKGsQckGONXhPE3N08BctRtgOZ>

Image98: <https://thumbs.dreamstime.com/b/children-sitting-bench-next-to-sculpture-sortavala-karelia-229601027.jpg>

Image99: <https://i.pinimg.com/564x/af/50/70/af50704e3e4382af634634601252fad3.jpg>

Image100: https://d2gg9evh47fn9z.cloudfront.net/800px_COLOURBOX18006705.jpg

2.5 Granite

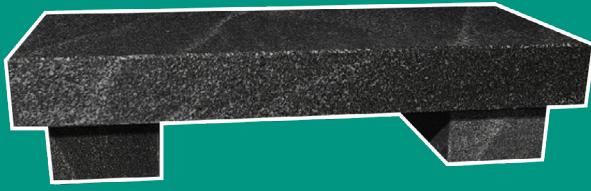


Image:101 Granite bench

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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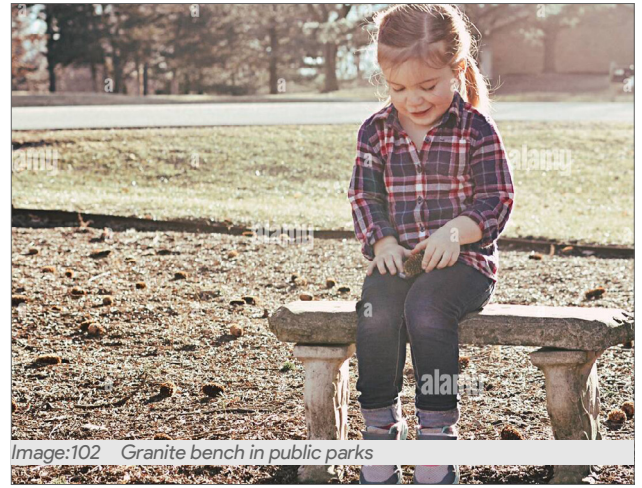


Image:102 Granite bench in public parks

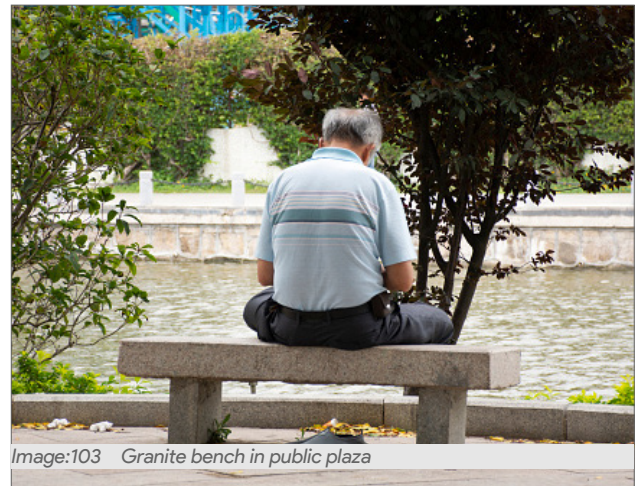


Image:103 Granite bench in public plaza



Image:104 Granite bench on street

APPLICATION

Outdoor:

Granite brightens up a space and brings in a subtle earthy effect to the surroundings. It does not get scratched or dent easily, stays solid, and can handle being treated a little tougher than other materials which are excellent with children. It is safe for children due to its attractive aesthetics and textured surface which prevents slips and accidents. The edges of the granite top can be smoothed to make it more children friendly.

PROS

- Prevents bacteria infestation
- Is Naturally Weather Resistant
- Easy to Clean
- Extremely Durable and resists heat especially during summers
- Is a Natural and Sustainable Material
- Stains don't soak in

CONS

- Costlier than most the similar materials
- Complicated installation process

Refer to Annexure 2, Approved SOR list for DSR items, Section: Seating - Sr.no. 1

Image101: https://cdn11.bigcommerce.com/s-gvvnvbimkc/images/stencil/1280x1280/products/267/1506/Zen_Bench_American_Black_Brushed__05260.1615671785.jpg?c=2

Image102: <https://c8.alamy.com/comp/WK73X7/little-girl-sitting-on-stone-bench-at-park-WK73X7.jpg>

Image103: <https://media.istockphoto.com/photos/chinese-old-man-people-sitting-alone-on-stone-bench-and-relaxing-in-picture-id1145427493?k=20&m=1145427493&s=170667a&w=0&h=3bEZaAX33NEwFff1V6uWmHfSUfQsPj26bwUiOPgO9oM=>

Image104: https://www.shutterstock.com/shutterstock/photos/1443390494/display_1500/stock-photo-huizhou-china-apr-people-are-sitting-on-the-stone-benches-on-the-side-of-the-road-and-1443390494.jpg

2.6 Natural Stone bench



Image:105 Stone Bench

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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Image:106 Natural stone bench



Image:107 Natural stone bench in use



Image:108 Kids playing with the levels of benches

APPLICATION

Outdoor:

Granite brightens up a space and brings in a subtle earthy effect to the surroundings. It does not get scratched or dent easily, stays solid, and can handle being treated a little tougher than other materials which are excellent with children. It is safe for children due to its attractive aesthetics and textured surface which prevents slips and accidents. The edges of the granite top can be smoothed to make it more children friendly.

PROS

- Prevents bacteria infestation
- Is Naturally Weather Resistant
- Easy to Clean
- Extremely Durable and resists heat especially during summers
- Is a Natural and Sustainable Material
- Stains don't soak in

CONS

- Costlier than most the similar materials
- Complicated installation process

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 1

Image105: <https://5.imimg.com/data5/MT/MW/MQ/SELLER-21632390/stone-benches-500x500.jpeg>

Image106: <https://carolynshadegardensdotcom.files.wordpress.com/2012/08/20120805-144035.jpg?w=450>

Image107: <https://c8.alamy.com/comp/CWN8FJ/elderly-italian-men-sitting-on-a-bench-in-taormina-sicily-CWN8FJ.jpg>

Image108: <https://i.pinimg.com/564x/19/6a/a7/196aa7664063d84d8c020fea7fa75018.jpg>

2.7 Concrete Bench

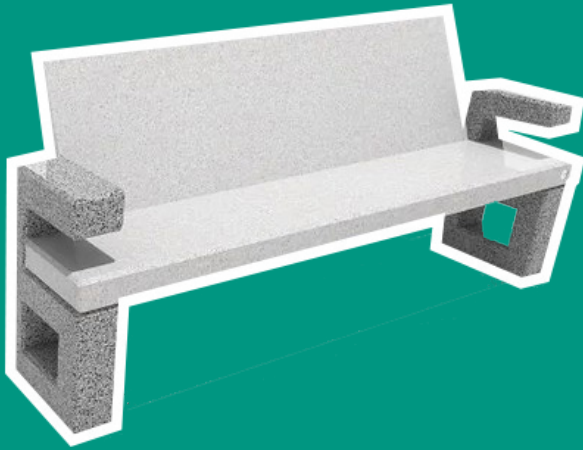


Image:109 Concrete bench

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

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Image:110 Concrete base with wooden top for bench



Image:111 Concrete benches in public park



Image:112 Concrete benches in public park

APPLICATION

Outdoor:

Apart from being a durable and low-maintenance option for making seatings for children, concrete gives the flexibility to customise the need as per design economically. The smooth yet anti-skid surface of concrete keeps the children safe from using it. The workmanship for making in-situ concrete benches can be easily considered with the rest of the construction work on site decreasing the bulk of procuring items. Concrete gives the flexibility to paint or stain the surface to make them look more appealing and playful to young children. It is easier to maintain and manufacture as per need.

PROS

- Low cost and maintenance
- Type of Furniture item can be crafted to any size dimension and design.
- Multiple attractive finishes or colours can be added to the concrete surface.

CONS

- Since it is heavy, it cannot be moved around.
- It easily develops cracks into its walls.
- It is not comfortable for a long duration of the seating.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Seating - Sr.no. 1

Image109: https://img.edilportale.com/product-thumbs/h_252-Concrete-Bench-ENCHO-ENCHEV-ETE-463285-relb48d4f6b.jpg

Image110: <https://i.pinimg.com/564x/79/19/46/7919464b3cd76e8344e7df508d50acf0.jpg>

Image111: <https://pin.it/6ibDQ55>

Image112: <https://i.pinimg.com/564x/36/7f/50/367f5047fab7c02a44830521c00ec595.jpg>

3. Integrated Seating

3.1 Planter



Image:113 Wooden bench with planter

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

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Image:114 Planter with seating

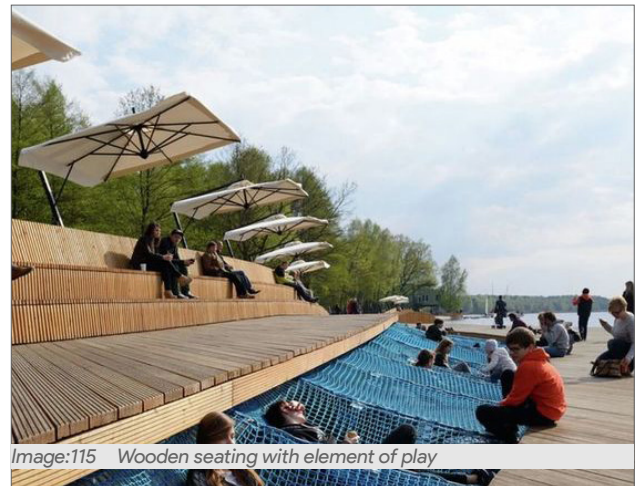


Image:115 Wooden seating with element of play

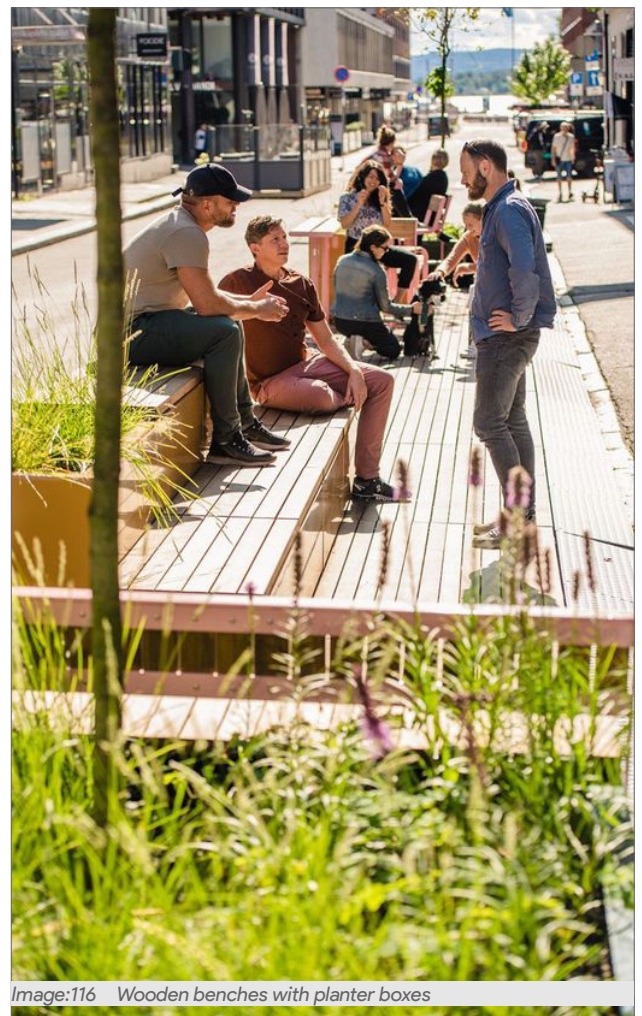


Image:116 Wooden benches with planter boxes

APPLICATION

Indoor and outdoor:

Planters with integrated seats and benches are a simple way to ensure that the ITCs enjoy spending time in these outdoor spaces and can help to make people stay for longer – which in turn keeps towns and cities thriving and vibrant. This element allows to make the space more desirable and playful in nature. The use of shapes and heights adds variety and architectural value, with round, square and rectangular planters.

PROS

- Adds an element of freshness to the sitting area
- Provides scope for learning about the vegetation for young children.
- Adds playfulness and aesthetic value to the area.

CONS

- Regular maintenance of the plants would be necessary
- Might attract mosquitoes and flies if proper care is not taken.

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Seating - Sr.no. 2

Image113: <https://rhinoplay.co.uk/wp-content/uploads/2019/12/Corner-Seat-Planter-800x560.jpg>

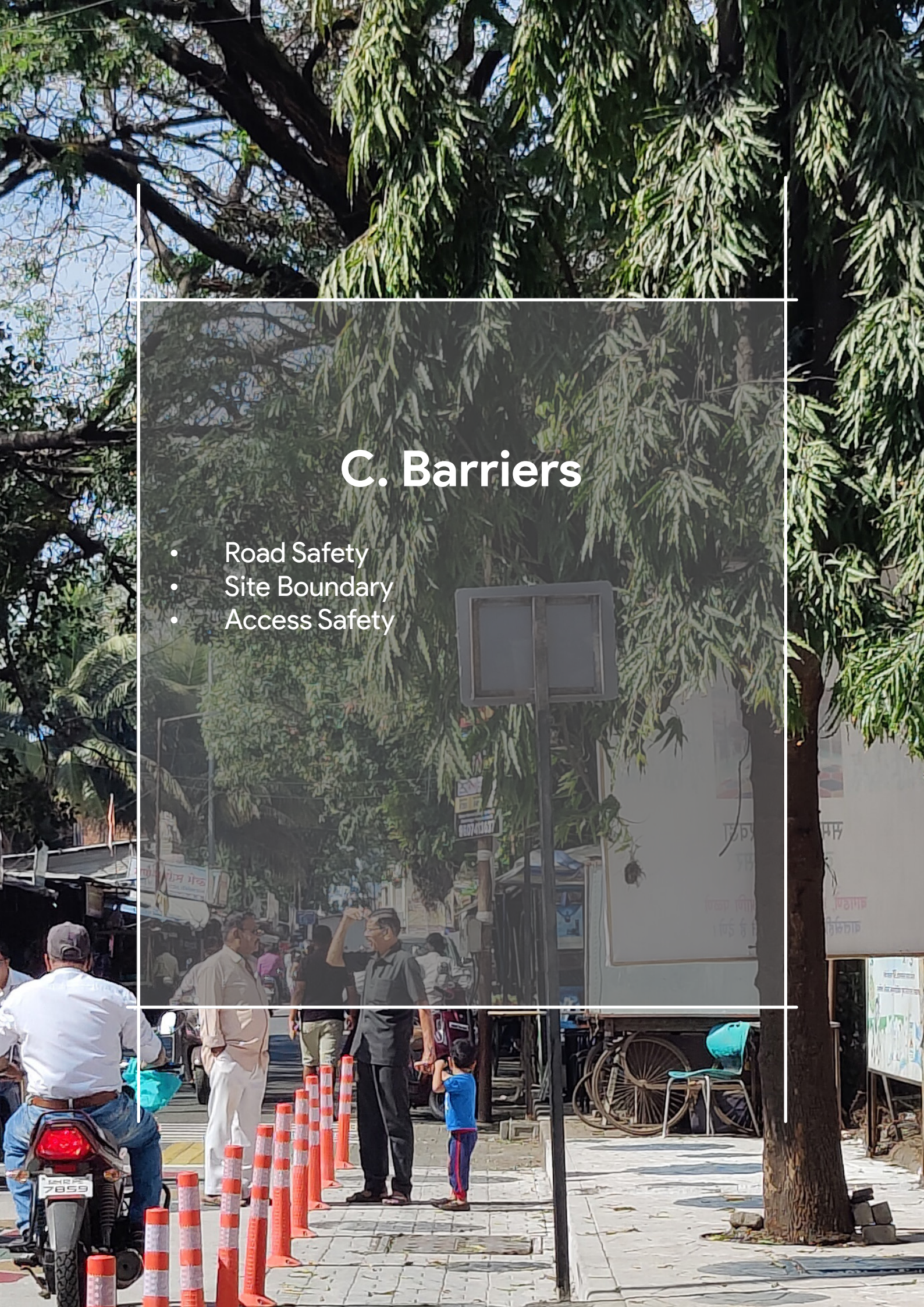
Image114: <https://i.pinimg.com/736x/18/d5/1e/18d51e8d2e92e8df4f2f5f3639370e5d-retaining-wall-blocks-concrete-blocks.jpg>

Image115: <https://www.archdaily.com/775301/paprocany-lake-shore-redevelopment-rs-plus/561df889e58ece0d5a0004bf-paprocany-lake-shore-redevelopment-rs-plus-photo>

Image116: <https://i.pinimg.com/564x/d3/f5/bd/d3f5bd02d5ef8888c6d357ae559c443a.jpg>

C. Barriers

- Road Safety
- Site Boundary
- Access Safety



4. Road Safety

4.1 Concrete Bollards



Image:117 Concrete Bollard

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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Image:118 Cylindrical Bollards used as sitting space



Image:119 Spherical Bollards used as sitting space



Image:120 Colourful character painted on concrete bollards



Image:121 Colourfully painted on concrete balls as bollards

APPLICATION

Walkway:

Concrete bollards act as a barrier for separating pedestrian and vehicular traffic, especially near private plot entries. This helps prevent vehicles to use the footpaths while safeguarding pedestrians. Concrete bollards can be cast on-site and can be made of pigmented concrete. The surface of concrete bollards allows the scope for painting them into colourful and attractive entities with children to interact.

Cycling Track:

Allowing cycles to pass through while preventing access to motor vehicles is a challenge that can be managed through low-heightened bollards. The gap between this is managed in such a way that only cycles can pass through. This is necessary to protect both pedestrians and cyclists and maintain the continuum of accessibility on footpaths and cycle tracks.

Plaza:

Plazas can accommodate multiple activities simultaneously while also providing access to vehicular movement through them or up to some extent. To segregate spaces based on pedestrian and vehicular activity, bollards can be used. Bollards can also be used for safeguarding pedestrians from hazards or high movement activities or any natural element.

PROS

- Concrete bollards are durable and can withstand minor impacts due to the strength of concrete
- Eco-friendly when made with sustainable materials
- Can be painted or made up of pigmented concrete to make the bollards attractive for children
- Can be used as a seating space when made with the appropriate diameter, which is possible for concrete bollards as they can be made on-site as well.

CONS

- Concrete bollards do require some maintenance, but the proper sealant and regular cleaning should keep them looking new for years to come.
- Needs maintenance due to weathering.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 1

Image117: [https://www.surabh.com/productdetails.aspx?Pid=31&Pname=Cylindrical%20Bollared%20\(Type%202\)](https://www.surabh.com/productdetails.aspx?Pid=31&Pname=Cylindrical%20Bollared%20(Type%202))

Image118: <https://www.sociallifeproject.org/bollards-mental-speed-bumps-and-gateways-to-your-community/>

Image119: <https://www.sociallifeproject.org/bollards-mental-speed-bumps-and-gateways-to-your-community/>

Image120: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQ1PR_lmAOav45fq8A7z8DUvqJLadJF6dU4m4uOek3PabCxP7uD

Image121: <https://www.crowdcontrolwarehouse.com/products/beach-ball-bollard>

4.2 Plastic bollard Covers



Image:122 Plastic Bollard Cover

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



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Image:123 Multiple option of bright colours available

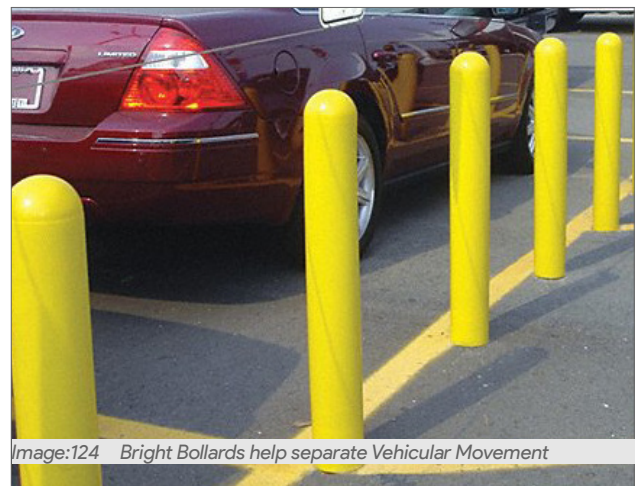


Image:124 Bright Bollards help separate Vehicular Movement



Image:125 Covering a weathered bollard with Plastic Bollard

APPLICATION

Carriageway:

Plastic bollards have high visibility since they can be made into bright colours. These bollards should be used in spaces that need visual guidance for accessibility and space separation. In carriageways, plastic bollards can help keep the vehicles on lanes and calm their movement close to pedestrian activities.

PROS

- Bright colors provide high visibility
- Low cost
- UV resistant
- Durable

CONS

- Inflexible
- Can break on impact
- Aesthetics may not match the overall design as the bollards come in limited colors.

Image122: <https://www.1800bollards.com/product/4-5-plastic-bollard-covers/>

Image123: <https://www.reliance-foundry.com/blog/plastic-bollard-covers>

Image124: <https://fairfaxcontractor.com/bollard-contractor-northern-virginia/>

Image125: <https://industrialspill.com/ultratech-1528-post-protector-plus-for-8-posts-yellow.html>

4.3 Steel bollards



Image:126 Steel Bollard

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

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Image:127 Aesthetically segregates footpath from carrigeway



Image:128 Bollards with pre-fixed lights



Image:129 Helps segregate spaces based on activity

APPLICATION

Walkway:

Lightweight steel bollards are durable and can also add aesthetic value to the space. Steel adds strength and durability. Steel bollards are convenient to install and are sustainable to use as they can be re-installed and recycled.

PROS

- Can withstand impact
- Can be imprinted with colour to add aesthetic value
- Variations of steel bollards can be connected to power and used as a lighting element on the street
- Comparatively low cost than concrete bollards that can withstand a minor vehicular impact.
- Can be used as a temporary form of barrier.
- Weather resistant

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 3

Image126: <https://www.reliance-foundry.com/shop/bollard/retractable/r-8472-bollard>

Image127: <https://www.rnz.co.nz/news/national/466508/demand-for-bollards-skyrockets-as-shop-owners-look-for-protection-from-ram-raids>

Image128: <https://www.istockphoto.com/photo/black-light-steel-bollards-on-a-footpath-gm1325415009-410449063>

Image129: <https://www.externalworksindex.co.uk/entry/148412/ATG-Access/Security-bollards-for-St-Pancras-Station-and-hotel/>

4.4 Polyurethane Bollard



Image:130 Polyurethane Bollard

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:131 Flexibility can stop the car without much damage

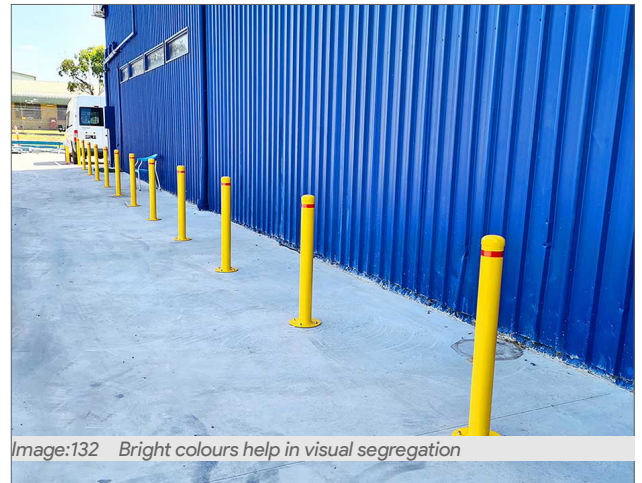


Image:132 Bright colours help in visual segregation



Image:133 Helps create temporary traffic islands

APPLICATION

Parking:

The flexible nature of the polyurethane bollard material makes it suitable for parking areas which can withstand an amount of impact and retain its shape. They come in different colours which can act as playful. This also helps in creating alert visually next to parking areas to warn the ITCs from getting closer to vehicle activated space.

Median:

These bollards can be used as medians or to separate lanes into two-ways

PROS

- Lightweight bollards, easy to install, can be installed as a fixed bollard or detachable bollard.
- very low maintenance cost
- Available in range of colors.

CONS

- The lightweight property and its flexibility restricts its use to spaces with low speed vehicles

Image130: <https://www.reliance-foundry.com/shop/bollard/retractable/r-8472-bollard>

Image131: <https://www.reliance-foundry.com/blog/parking-posts>

Image132: <https://www.enforcergroup.com.au/how-much-does-it-cost-to-install-a-bollard/gm1325415009-410449063>

Image133: <https://stock.adobe.com/in/search/images?k=traffic+pole>

4.5 Natural stone bollards



Image:134 Natural Stone Bollards

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



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Playful



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Image:135 Stone Bollards acting both as seating and barrier



Image:136 Child interacting bright red stone bollard



Image:137 Child interacting bright red stone bollard

APPLICATION

Plaza:

Stone bollards can also act as seating space, especially for high pedestrian traffic walkways and plazas. Stone texture gives an aesthetic finish and being heavy may not need a permanent fixture. This is mainly to be used in spaces or interventions planned for a very long duration of years.

PROS

- Decorative/aesthetic
- Eco friendly
- Available in different sizes and shapes which can also be used as a playful element for kids

CONS

- heavy weight makes it difficult to handle the installation of the bollards.
- Natural stone can face weathering
- Expensive material

Image134: <https://www.1stdibs.com/furniture/building-garden/pedestals-columns/material/brass/>

Image135: <https://www.canteraselcerro.com/en/granite-bollards/>

Image136: <https://www.alamy.com/stock-photo/child-bollard.html?sortBy=relevant>

Image137: <https://www.alamy.com/little-child-girl-sitting-on-a-red-concrete-bollard-at-sunset-in-urban-outdoor-location-with-golden-light-vertical-shot-image329401057.html?imageid=7E491A70-B979-45B3-8B78-0E7F889C1A3E&p=554803&pn=1&searchId=6e085f0239fcc367c0e3eb33dedb780e&searchtype=0>

4.6 Concrete Jersey Barrier

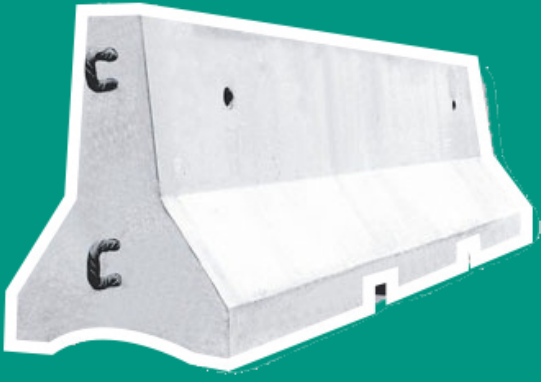


Image:138 Concrete Jersey Barrier

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT THEME

 Community Center


 Recreational Space


 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:139 Can act as base for fixing railings along median

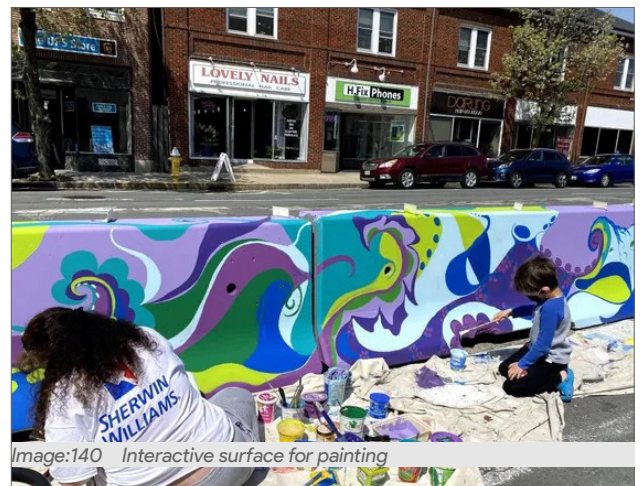


Image:140 Interactive surface for painting

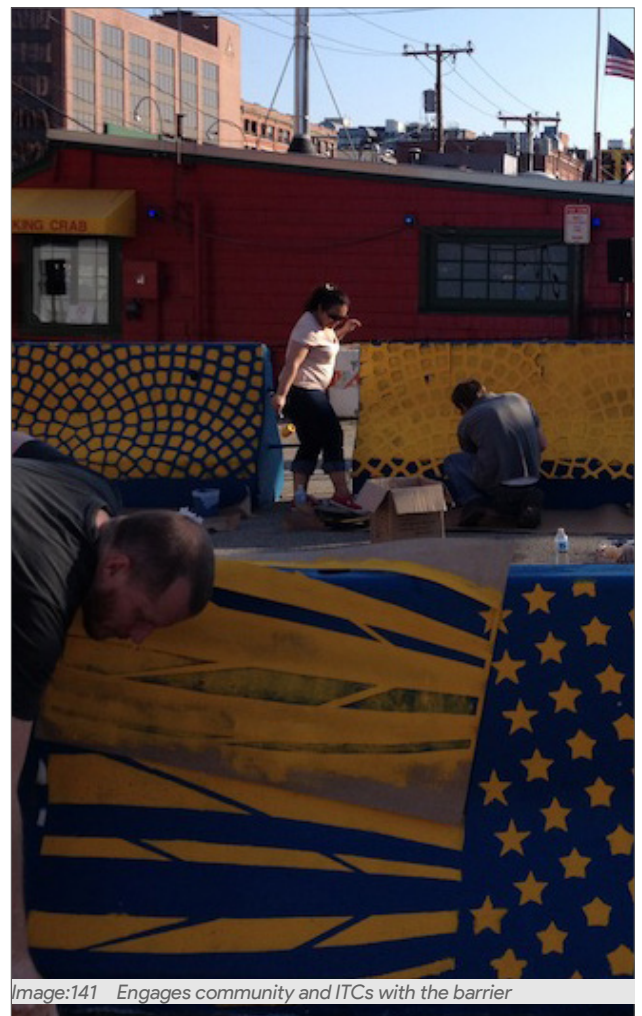


Image:141 Engages community and ITCs with the barrier

APPLICATION

Carriageway:

Jersey barriers are used for separating lanes while not compromising on the visual connection between 2 lanes. Usually, they are made up of concrete which is heavy in weight and can also prevent car crashes. This can also be used to separate pedestrian lanes and vehicular lanes. Jersey barriers are also made of plastic which is lightweight and is used for temporary road closures or lane separation, especially in Tactical interventions.

PROS

- Concrete jersey barriers are heavy weight which protects inter-lane collisions.
- Highly Durable
- Can be painted upon to make it attractive

CONS

- Concrete jersey barriers need high labour due to their weight.
- Being made of concrete restricts blocks thorough visibility across a carriageway.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 2

Image138: <https://www.surabhprecast.com/rcc-barrier.html>

Image139: <http://tacticalurbanismguide.com/materials/concrete-jersey-barrier/>

Image140: <https://www.wickedlocal.com/story/needham-times/2021/05/06/local-artists-create-art-outdoor-restaurant-barriers/4978482001/>

Image141: <https://www.bostonmagazine.com/news/2013/05/09/boston-outdoor-art/>

4.7 Traffic Cones



Image:142 Traffic Cones

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



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Playful



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PROJECT THEME



Community Center



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Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:143 Temporary lane separator



Image:144 Can be used to guide ITC activity movement



Image:145 Bright colour adds aesthetic value to the space

APPLICATION

Parking:

Mostly available in orange colour which makes them visible from long distance. These are used to warn people about various hazards within the premises or in public especially close to carriageways. Caution signs can be added to these cones to make the warning clearly visible to everyone. It helps to control the traffic and mark restricted areas as well.

Carriageway:

Traffic cones are the most used temporary traffic lane separator for guarding the work-in-progress section of the road to safeguard the professionals at work.

PROS

- Low cost alternative for temporary lane separator

Image142: <https://p-nt-www-amazon-in-kalias.amazon.in/Traffic-Reflective-Parking-Company-Hospital/dp/B09CYR33BD>

Image143: <https://in.pinterest.com/pin/684406474593790840/>

Image145: <https://www.bikewalkmontana.org/news-1/how-to-host-a-bicycle-rodeo>

Image144: <https://www.ridesmart.com/transit/page/smart-bike-rodeo-2022-0>

5. Site Boundary

5.1 Galvanized iron chainlink

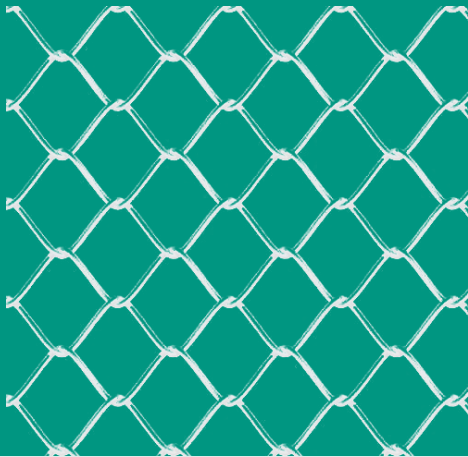


Image:146 Galvanised Iron Chainlink

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



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Junction / Traffic Plaza



Image:147 Acts as an interactive wired surface to play with



Image:148 Enables patterns for attractive surface



Image:149 Thread artwork on chainlink to attract ITC activity



Image:150 Colourful chainlink makes the space ITC friendly

APPLICATION

Addition to compound wall:

Zinc coating protect steel from corrosion which makes it an ideal choice for outdoor. It is also durable and strong. The mesh can be used to hang posters and other interactive elements on the surface of the boundary wall.

PROS

- Visually porous due to mesh
- Durable and high strength
- Easy to install
- Low maintenance cost

CONS

- Not aesthetic
- Due to visual porosity the use is limited for public spaces that can allow it

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 4

Image146: <https://in.pinterest.com/pin/536350636842557320/>

Image147: <https://www.sociallifeproject.org/bollards-mental-speed-bumps-and-gateways-to-your-community/>

Image148: <https://in.pinterest.com/pin/454793262368513462/>

Image149: <https://www.rockvandal.com/interviews/2019/03/28/interview-with-naomi-rag>

Image150: <https://i.pinimg.com/564x/6f/bb/47/6fbb47671dcb24af1fc79a61fd7f56d4.jpg>

5.2 Jali



Image:151 Concrete Jali

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



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Streets



Crèche Facility



Junction / Traffic Plaza



Image:152 Concrete Shades exposed fenestrations



Image:153 WPC Temporary kiosks or gazebos



Image:154 Brick Jali

APPLICATION

Addition to compound wall:

Concrete can be moulded into various design forms to create a concrete jali which increases the aesthetics of the boundary wall.

WPC Jali can be used as a partition wall to create temporary spaces for an event also giving it an aesthetic look.

Brick jali can be made either by placing bricks in a pattern or brick jaldi modules can be used which are premoulded in patterns and are available as square bricks.

PROS

Concrete	WPC	Brick
<ul style="list-style-type: none"> Free form which can be moulded as per the requirement of the site The patterns on the jali creates aesthetic shades on the ground 	<ul style="list-style-type: none"> It is a green material that can be recycled Water proof Non hazardous for health due to the materials antibacterial effect 	<ul style="list-style-type: none"> Low cost Eco friendly Add visual porosity for public spaces while also adding security.

CONS

Concrete	WPC	Brick
<ul style="list-style-type: none"> High cost of production 	<ul style="list-style-type: none"> High cost of production compared to other similar materials Lacks in natural wooden texture Cannot be used at spaces with high temperature 	<ul style="list-style-type: none"> Requires maintenance to reduce mold growth that poses health risks

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 5

Image151: <https://p-nt-www-amazon-in-kalias.amazon.in/Traffic-Reflective-Parking-Company-Hospital/dp/B09CYR33BD>

Image152: <https://www.exportersindia.com/product-detail/snow-white-and-required-grc-jali-5641925.htm>

Image153: <https://www.exportersindia.com/product-detail/snow-white-and-required-grc-jali-5641925.htm>

Image154: <https://royalmarblecraft.com/3d-wall-panel.php>

6. Access Safety

6.1 Steel grab bars



Image:155 Steel Grab Bar

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:156 Support for young children near toilets



Image:157 Support for older and physically challenged people



Image:158 Helps in avoiding accidents due to no support

APPLICATION

Property entrances with ramp:

Addition of grab bars with other accessibility elements such as ramps increases the safety of the user.

Washroom:

Addition of grab bars in washrooms helps make it accessible and safe for the elderly caregivers.

PROS

- Additional Safety.
- Increased Mobility.
- Takes Pressure Of Your Joints.
- Improves Stability.
- Slip Protection

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 6

Image155: <https://www.industrybuying.com/bathroom-accessories-jaquar-PLU.BAT.53136878/>

Image156: <https://www.aliexpress.com/item/32909192576.html>

Image157: https://img.freepik.com/premium-photo/asian-elderly-old-woman-patient-use-toilet-support-rail-bathroom-handrail-safety-grab-bar-security-nursing-hospital_622428-755.jpg?w=1380

Image158: <https://www.amazon.in/HealthSmart-Chrome-Grab-Bactix-Inches/dp/B0069A7VBQ>

6.2 Steel Hand Rail

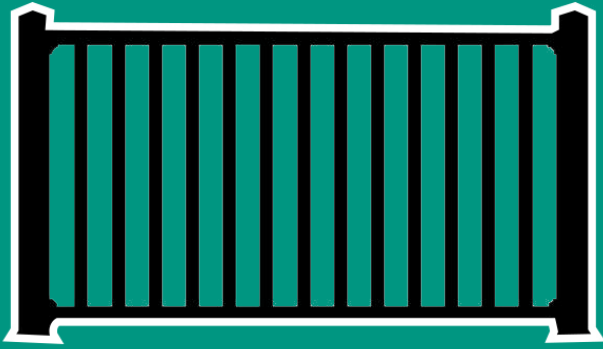


Image:159 Steel Hand Rail

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:160 Support at wide stairway



Image:161 Provides support at ramps



Image:162 Segregates spaces to safeguard ITCs

APPLICATION

Ramps and Stairs:

Railings are safety elements for circulation areas. Steel railing can blend in with any type of material due to its natural glossy finish. Some handrails also allow play for kids.

PROS

- High durability
- easy to maintain
- aesthetically appealing
- variety of design

CONS

- High cost of production

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 7

Image159: <https://www.diggerspecialties.com/products/fencing-2/vinyl-fencing/ornamental-fence/good-neighbor-yard-fence/>

Image160: <https://www.josephpercival.co.uk/our-service/handrails/>

Image161: https://en.wikipedia.org/wiki/Guard_rail

Image162: <https://www.facebook.com/zaunlimited/photos/a.291703927654359/1631543837003688/?type=3>

6.3 Wooden Hand Rail



Image:163 Wooden Hand rail

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT TYPE

 Community Center

 Recreational Space

 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:164 Scope to paint the wooden handrails

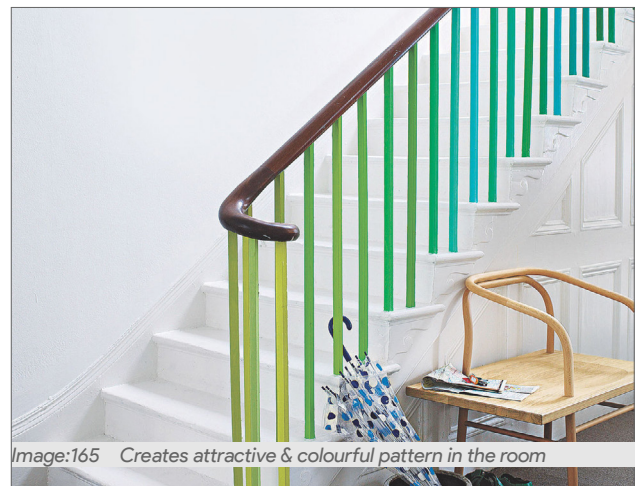


Image:165 Creates attractive & colourful pattern in the room



Image:166 Safe material to avoid painful accidents

APPLICATION

Ramps and Stairs:

Railings are safety elements for circulation areas. Wooden railing can blend in with majority of materials and provide an aesthetic finish. Its antislip property makes it a suitable choice for hand rails

PROS

- Durable
- High strength
- tactile surface

CONS

- High cost of production
- high cost of maintenance

Refer to Annexure 2, Approved SOR list for DSR items, Section: Barrier - Sr.no. 8

Image163: <https://www.etsy.com/au/listing/1105672589/traditional-style-6710-handrail-red>

Image164: <https://in.pinterest.com/pin/167759154857310567/>

Image165: <https://thisoldhouse.tumblr.com/post/179225188663/rainbow-painted-staircase-balusters-give-a>

Image166: <https://www.homedit.com/stair-slide/>

6.4 Rubber coatings for railing

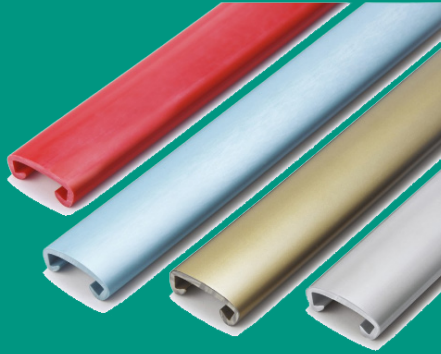


Image:167 Rubber Coatings for Railing

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



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Junction / Traffic Plaza



Image:168 Saves the material from weathering in outdoors



Image:169 Creates a safe grip for ITCs to hold to



Image:170 Allows flexibility with colour.

APPLICATION

Handrails:

Rubber coatings are mainly used on metal railings to adds durability of the material

PROS

- anti slip property for better grip
- does not crack under extreme weather conditions
- flexible

Image167: <https://www.indiamart.com/proddetail/pvc-hand-rail-for-staircase-5659114912.html>

Image168: <https://www.aluminumhandraildirect.com/how-to-treat-slippery-aluminum-handrails/>

Image169: <https://westmidlandsupdate.co.uk/stainless-steel-balustrade-warm-touch-handrail/>

Image170: <https://www.handrailsuk.co.uk/balustrades-healthcare>

A photograph of a man and a young child looking through a metal grate at an exhibit. The man is in the foreground, wearing a dark grey t-shirt with red accents on the sleeves and dark pants. The child is in the background, wearing a white top with a red and white striped skirt and dark pants. They are standing on a green floor with yellow stars. A yellow bag with the word 'Mubarak' is visible on the floor. The background shows a brightly lit indoor space with other people and a metal grate.

D. Lighting

1. Outdoor
2. Indoor

7. Outdoor

7.1 Pole Lamps



Image:171 Stainless Steel Pole Lamps

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT THEME

 Community Center

 Recreational Space


 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:172 Pole lamps Street



Image:173 Pole lamps public plaza



Image:174 Pole lamp on Park

APPLICATION

Walkways | Plaza | Play Area

Pole lamps can be modified as per the need of the design which can help make a space feel safe as well as adds an aesthetic value.

Stainless steel pole lamps are suitable for outdoors due to the properties of steel which makes it highly durable. The cost of raw material maybe high but it is recommended by most engineers which find the investment worth it.

Cast iron lamp post are not corrosion free but that effect may add up as an aesthetic for some places

Aluminium alloy lamp posts are suitable for extreme weather conditions.

PROS

Stainless Steel	Cast Iron	Aluminium
<ul style="list-style-type: none"> • High resistance to corrosion • Adds Aesthetic Value • Low Maintenance • Better Security • Easily fabricated and modified • Temperature tolerance 	<ul style="list-style-type: none"> • High strength 	<ul style="list-style-type: none"> • Good corrosion resistance • Maintenance free • Light weight, • Easy installation • A lot of surface treatment methods available

CONS

Stainless Steel	Cast Iron	Aluminium
<ul style="list-style-type: none"> • Higher initial cost of raw materials 	<ul style="list-style-type: none"> • Easy corrosion rust • Three times weight then aluminum, high cost of transportation and installation cost • Insertion installation method impossible to be applied • Surface treatment is monotonous. 	<ul style="list-style-type: none"> • Low strength as compared to iron lamp posts

Image171: <https://cpimg.tistatic.com/07125465/b/4/LED-Light-Garden-Pole.jpg>

Image172: https://az276020.vo.msecnd.net/valmontproduction/images/librariesprovider94/default-album/street-light-pole888303196.jpg?sfvrsn=b6051439_0

Image173: <https://image.architonic.com/pro2-3/20126519/via-lactea-streetlamp-julio-cunill-viladecans-barcelona-urbidermis-pro-b-arcit18.jpg>

Image174: <https://i.pinimg.com/222x/a0/61/fb/a061fbbed3cb4fb9d0a34d267dfed9058.jpg>

7.2 Solar Lamps



Image:175 Solar Lamps

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



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PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:176 Solar lamp on street



Image:177 Solar lamp in park



Image:178 Solar Lamps Public plaza

APPLICATION

Walkways | Carriageway

An alternative for street lights that is eco freindly and energy efficient

PROS

- Energy saving
- Eco friendly
- Safety
- Durable
- High technical content and low maintenance cost
- Short payback period

CONS

- Large initial investment
- The service life of the battery
- Batteries are easy to be stolen
- Low conversion efficiency
- Maintenance required for keeping the solar panels dust free

Image175: <https://cpimg.tistatic.com/05013084/b/4/Solar-Light-Pole.jpg>

Image176: <https://mercomindia.com/wp-content/uploads/2018/12/streetpixa.png>

Image177: <https://www.sepco-solarlighting.com/hs-fs/hubfs/Projects%20by%20System/SolarCimarron/NWS-Charleston-2.jpg?width=743&name=NWS-Charleston-2.jpg>

Image178: <https://i.pinimg.com/564x/65/b9/af/65b9afeea54aee50e2b8a3d9e67d7e38.jpg>

7.3 Bollard Light



Image:179 Bollard Light

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



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PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:180 Bollard lights pattern

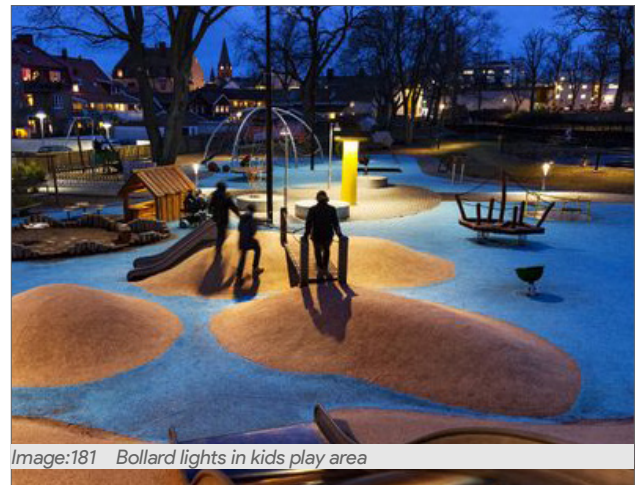


Image:181 Bollard lights in kids play area



Image:182 Bollards lights in park

APPLICATION

Walkways | Plaza

Multipurpose bollards that double as street lights provide safety for pedestrian at night and also increases the aesthetic value of the walkway. These bollards are usually placed at walkway of public places like parks and gardens

Concrete can be used in conjunction with steel pipe bollards or embedded rebar to create impact-resistant security bollards or can be formed on its own to create attractive bollards appropriate to certain architectural styles.

These bollards add aesthetic value and are mainly suitable for plazas with high commercial and pedestrian activities

PROS

Steel	Concrete
<ul style="list-style-type: none"> Bollard lights provide safety at night by doubling as a street light. Adds aesthetic value to the walkway 	<ul style="list-style-type: none"> Plug-in installation can be adopted Strength is good No spraying is needed.

CONS

Steel	Concrete
<ul style="list-style-type: none"> Maintenance cost 	<ul style="list-style-type: none"> Very heavy, very expensive transportation costs No recovery value Installation equipment is expensive, difficult to install More dangerous than other materials.

Image179: <https://5.imimg.com/data5/SU/SI/MY-31781914/9w-bajaj-led-bollard-light-500x500.jpg>

Image180: <https://www.attractionlights.com/wp-content/themes/yootheme/cache/22/Vine-6x6x80-Driveway-Lighting-418x315x81-2207bcb4.jpeg>

Image181: <https://i.pinimg.com/564x/88/96/b2/8896b29fa130175bdede350211ebc604.jpg>

Image182: https://cdn2.bigcommerce.com/server2200/5b16a/products/5629/images/26613/led-bollard-lighting-2__03772.1572976623.1280.1280.jpg?c=2

7.4 LED Lights

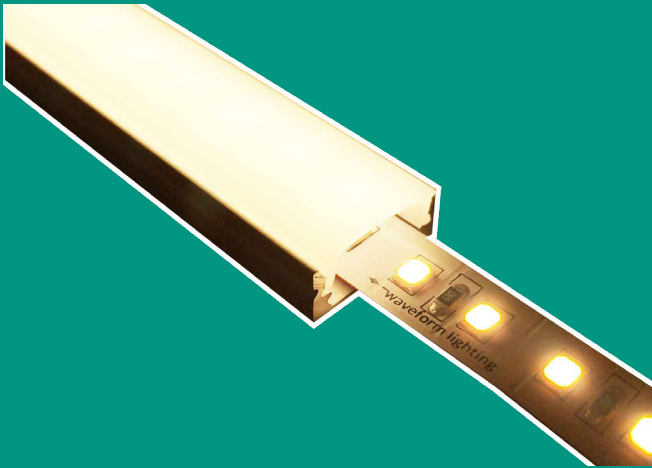


Image:183 Strip lights

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



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PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza

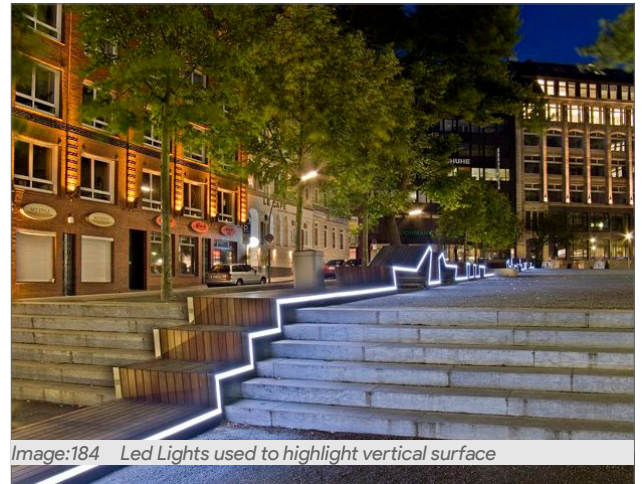


Image:184 Led Lights used to highlight vertical surface

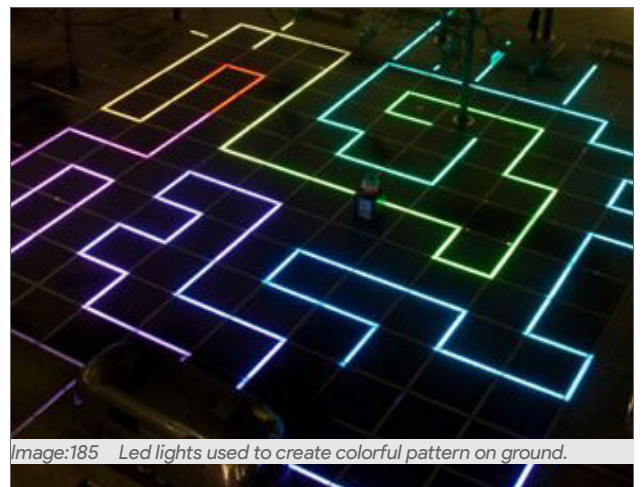


Image:185 Led lights used to create colorful pattern on ground.



Image:186 Led lights infused into ground in plaza

APPLICATION

Plaza

Led light strips can be used to create and highlight elements in a public plaza which increases the aesthetic value of the space.

PROS

- Less electricity
- Color-broader color selection
- Savings-less lighting cost
- Flexible- the strip can be bent to form any shape without any damage.
- Lifespan- long lifespan
- Cutting- you can cut the strip at some points without damaging it.

CONS

- Replacement of a single bulb from the strip can be tricky
- They produce low light
- High initial cost
- A varying voltage may cause the entire strip to burn

Image183: <https://www.waveformlighting.com/img/3061-ex-2.jpg>

Image184: <https://urbandesignaustalia.files.wordpress.com/2016/06/lighting-public-spaces.jpg>

Image185: <https://i.pinimg.com/originals/1a/ec/b1/1aecb1471f76240619624819fe583fc4.jpg>

Image186: <https://i.pinimg.com/564x/fd/1d/69/fd1d69356a9bd60821acec2283777ca1.jpg>

A young child in a red dress is the central focus, holding a small purple flower. The background is a blurred outdoor play area with other children and a woman in a pink sari. The scene is framed by a white border.

D. Landscape

1. Plants
2. Play Area

8. Plants

8.1 Air filtering plants



Image:187 Common Ivy Plant

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT THEME

Community Center

Balwadi Center

Recreational Space

Children priority zone

Sensory Park

Primary Health Center

Streets

Crèche Facility

Junction / Traffic Plaza

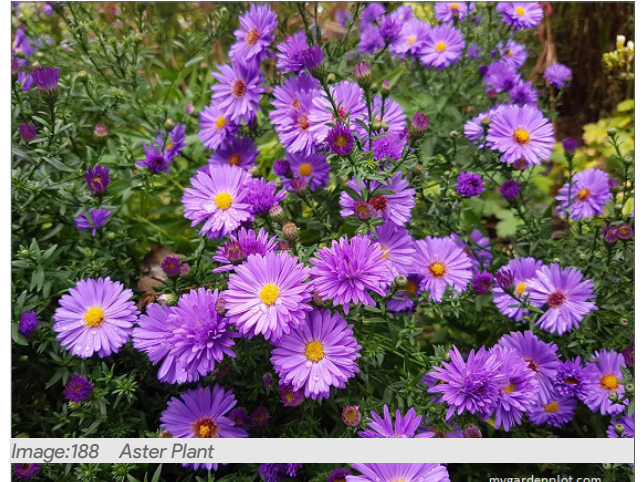


Image:188 Aster Plant



Image:189 Areca palm; air purifying plant



Image:190 Interactive plantation boxes for learning

APPLICATION

Outdoor

The following are some example of air filtering plants:

Wall Flower Plant

This plant can fight air pollution by filtering air. It can effectively filter pollutants of different sizes from the air like soot and dust and thus clean the air.

Common Ivy plant

This plant has leaves with large surface. This fact makes this plant the ideal choice for air purification. This plant pumps a good amount of oxygen into the atmosphere thereby freshening the air.

Aster and Osmanthus plant

Both these plants are known as bioindicator plants that can change their appearance when the air around them is polluted beyond a particular level. Thus you can get to know that the air quality is deteriorating and take the necessary steps to protect yourself.

Littleleaf Linden plant

This plant can reduce smog easily and also can clear the air from excess levels of CO₂.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Landscape - Sr.no. 1

Image187: <https://birthrightforall.com/wp-content/uploads/2021/07/English-Ivy-570x718.jpg>

Image188: https://c8j8c3n8.rocketcdn.me/wp-content/uploads/2020/09/My-Garden-Plot_Aster_Michaelmas-Daisy.jpg

Image189: https://miro.medium.com/max/1400/1*wIzwrBXYoDDkaAag_CT-AA.jpeg

Image190: <https://i.pinimg.com/564x/ff/fd/7c/ffd7c2753840502798f20f826c95cd7.jpg>

8.2 Edible plants



Image:191 Hibiscus hedge

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT THEME



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:192 Wedelia



Image:193 Lemon grass



Image:194 Vinca Rosea

APPLICATION

Outdoor

The following are some example of air filtering plants:

Hibiscus Hedge

Hibiscus plant hedege grows at a height of 0.6m which is in direct reach of a child. Its edible properties make it suitable for plantation at high activity areas.

Wedelia

This plant produces beautiful flowers which adds aesthetic value to the space in addition to its edible property.

Cynodon dactylon

This grass is easy to maintain and its edible properties makes it suitable for lawn areas and picnic spots in parks and gardens.

Vinca Rosea

Vinca rosea adds aesthetic value to the space and are easy to maintain.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Landscape - Sr.no. 1

Image191: <https://i.pinimg.com/originals/39/06/e8/3906e8ef66415bb128af36b815d27542.jpg>

Image192: <https://thumbs.dreamstime.com/z/wedelia-trilobata-sphagneticola-flowers-background-32968833.jpg>

Image193: <https://i.pinimg.com/564x/07/4a/1a/074a1a530bdd398d9275b14a0084ec41.jpg>

Image194: https://img.freepik.com/premium-photo/multicolor-periwinkle-flower-field-garden_484521-1419.jpg?w=2000

9. Play Area

9.1 Natural Play Elements



Image:195 Natural play elements

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT THEME

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility



Image:196 Swing from tree



Image:197 Sand pit for play area



Image:198 Tree logs used as an element of play

APPLICATION

Outdoor

Natural play elements include sandpits, tree logs, swings on trees, boulders, etc. Natural playscapes have proved to enhance child's curiosity, imagination, wonder, and discovery.

PROS

- Helps in cognitive development
- Easily available material
- Low cost

CONS

- Some elements such as boulders which are heavy needs appropriate machinery.

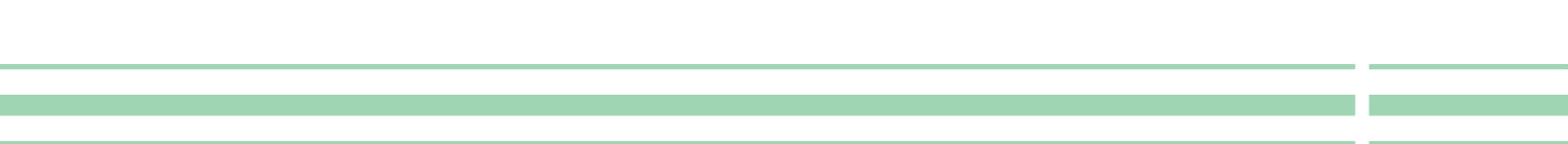
Refer to Annexure 2, Approved SOR list for DSR items, Section: Landscape - Sr.no. 2

Image195: <https://m.media-amazon.com/images/I/81EM4Ov01L.jpg>

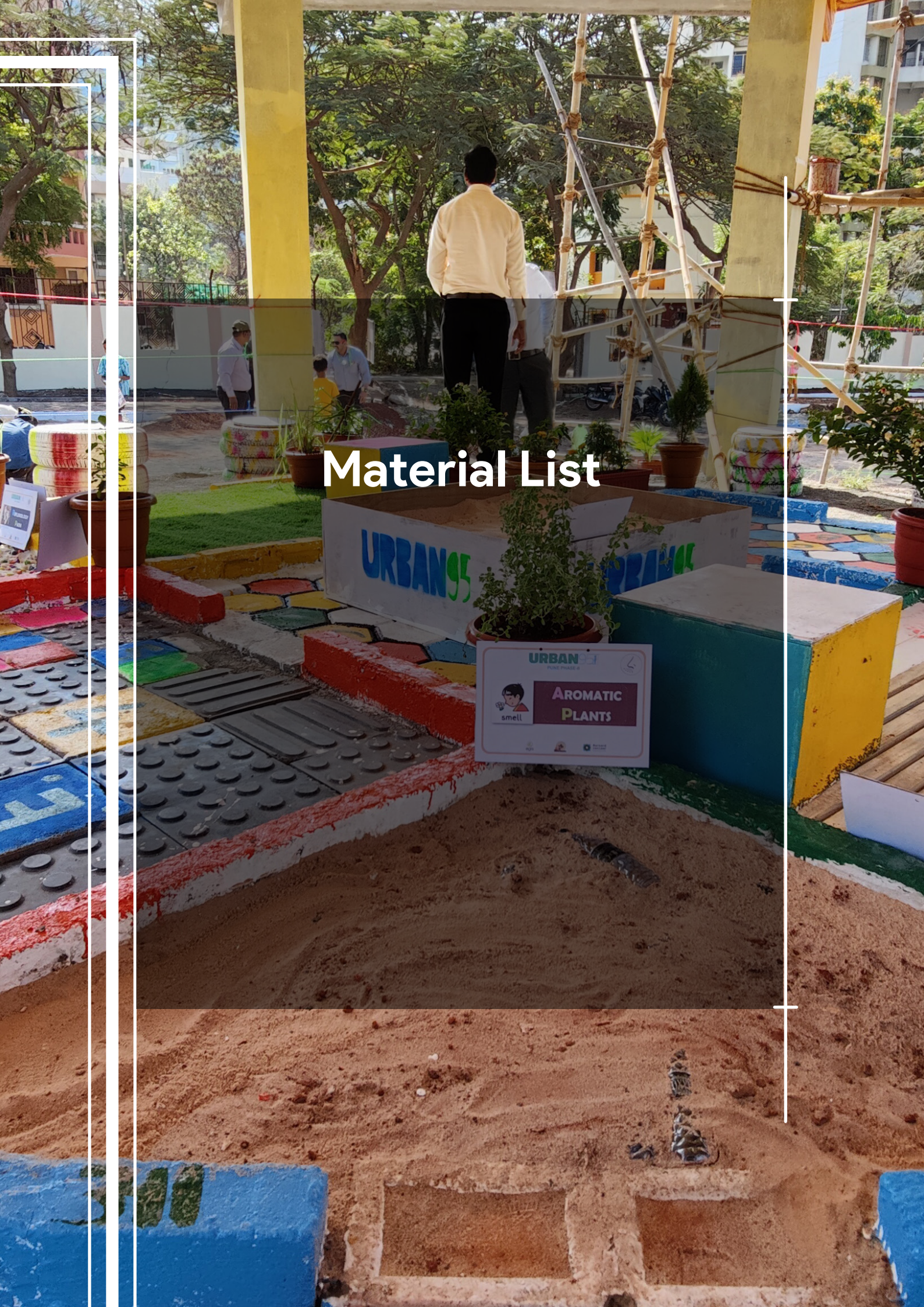
Image196: https://target.scene7.com/is/image/Target/GUEST_88a6b136-93b2-4ea4-b835-b8d300fd6699

Image197: <https://kmrschool.com/wp-content/uploads/2020/05/playarea.jpg>

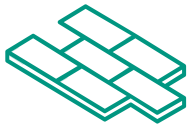
Image198: <https://www.vancouverplaygrounds.com/wp-content/uploads/2021/07/Beaconsfield-park-logs.jpeg>



Material List



Material List



FLOORING

Concrete

- Concrete Paver Block
- Concrete Tiles
- PCC Finish
- Concrete Grass Pavers block
- Tactile Paving

Brick

- Brick Pavers

Synthetic

- PVC Curb Ramp
- Synthetic Rumble Strips
- Interlocking anti-slip PVC Floor Mat
- Artificial Grass Carpet

Wood

- Hardwood Flooring

Stone/tiles

- Natural Stone Blocks
- Stone Tiles
- Vitrified Tiles

Metal

- Tactile Paving

Rubber

- Rubber Curb Ramp
- EPDM Rubber Flooring
- Raised Rubber Crossing

Bitumen

- Bitmac
- Coloured Asphalt

Paint

- level difference marking with paint
- Radium strip for marking level difference



ROOFING

Shading

- Polycarbonate sheet
- GI sheet shading
- Solar panel shading
- Green Net
- WPC(Wood plastic composite material)

A photograph of a man and a young child looking through a metal grate at an exhibit. The man is on the left, wearing a black and red shirt and black pants. The child is on the right, wearing a white and red striped shirt and black pants. The grate is made of metal bars and a mesh. The background shows a brightly lit area with other people. The text 'A. Flooring' and a list of materials are overlaid on the image.

A. Flooring

1. Concrete
2. Stone
3. Brick
4. Metal
5. Synthetic
6. Rubber
7. Wood
8. Bituman
9. Paint

10. Concrete

10.1 Concrete Paver Block



Image:199 Concrete paver block

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:200 Colorful patterns from paver blocks



Image:201 Paint on concrete paver to make it attractive

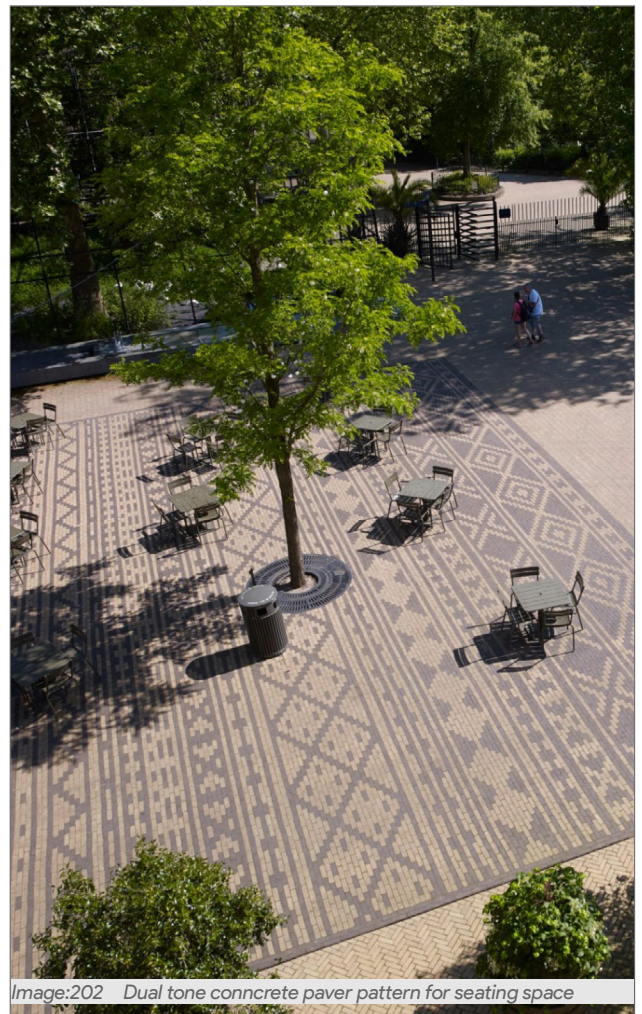


Image:202 Dual tone concrete paver pattern for seating space

APPLICATION

Walkway:

Interlocking Concrete Block Pavement (ICBP) has been extensively used due to its feasible construction and laying approach for high durability and strength. This is highly adopted in walkways since it provides a highly feasible option for all kinds of users irrespective of age, gender, and abilities.

Plaza:

Concrete blocks are available in different colors and shapes which can be used to create aesthetic patterns without using any paint hence creating an interesting space in waiting areas or plazas for children. Besides aesthetics, it also helps facilitate permanent traffic markings.

PROS

- Natural anti-skid properties
- Strong and durable
- Low Maintenance
- Quick installation and individual blocks can be replaced
- Available in different sizes, shapes and colors to create different aesthetic patterns.

CONS

- If not compacted properly, chances of individual block getting settled at different level creating an uneven surface.
- Fading of Color.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 1

Image199: <https://5.imimg.com/data5/YH/GS/NY/SELLER-3143489/shaped-paver-block-500x500.jpg>

Image200: <https://5.imimg.com/data5/XA/PB/MY-11952561/cosmic-paver-basic-block-500x500.jpg>

Image201: PMU, EGIS

Image202: https://www.wienerberger.nl/referentie/openbare-ruimte/filter-tussen-stad-en-park-artisplein-amsterdam/jcr%3Acontent/root/responsivegrid_copy_526148119/image_copy/image.imgTransformer/web-freehand/lg-5/1632735644769/NL_MKT_PHO_REF_GAP_dierentuin-artis-plein-amsterdam_001.jpg

10.2 Concrete Tiles

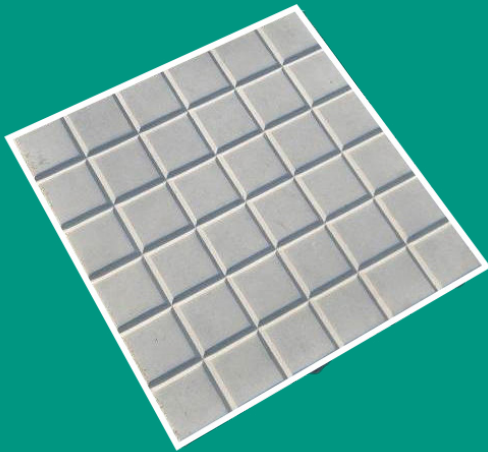


Image:203 Concrete Tiles

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza

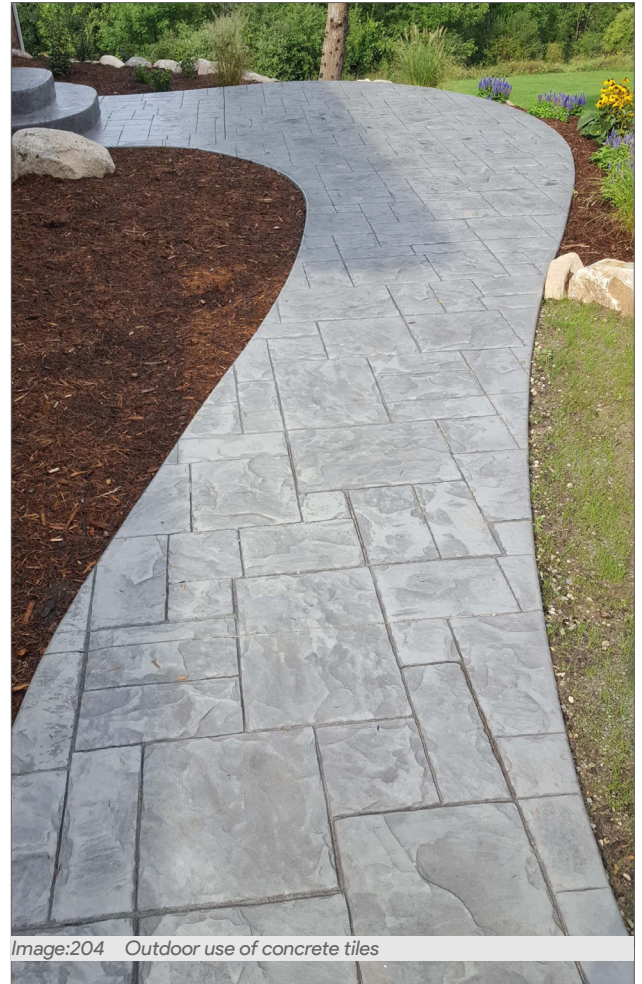


Image:204 Outdoor use of concrete tiles

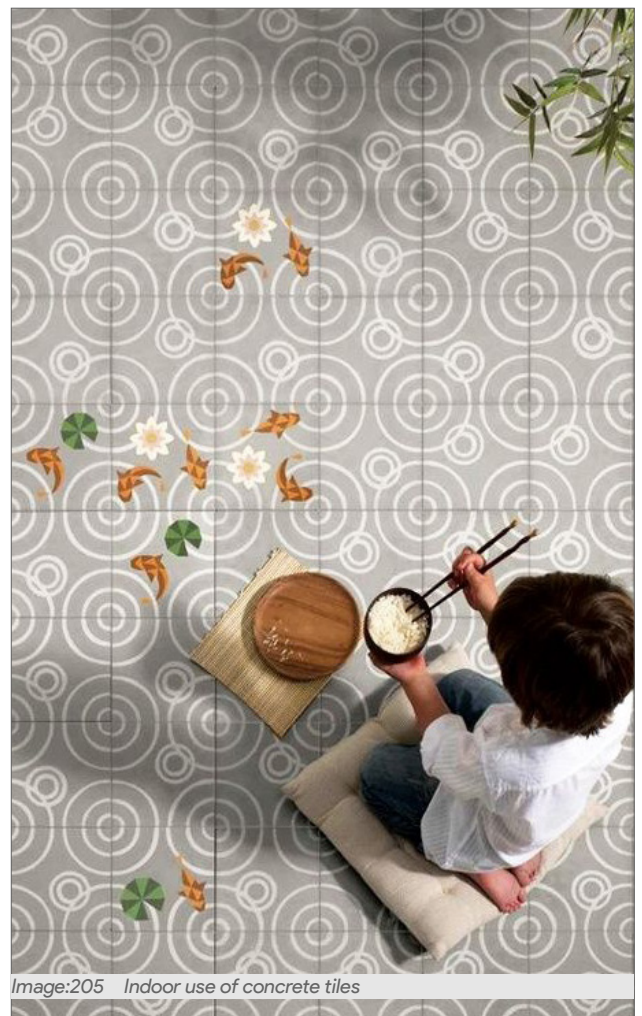


Image:205 Indoor use of concrete tiles

APPLICATION

Building Premises:

The neutral colour tone of the tiles gives a welcoming effect to the ITC-friendly space.

Ramps:

Due to its high resistance, it can be used in any space both around and inside building premises.

PROS

- Slip-resistant
- Can be easily molded into desired shapes and choice of colour
- Minimal maintenance is required and multipurpose functionality
- Convenient to install and environmentally friendly

CONS

- Aesthetic quality can be poor when compared to the overall design versatility of the space.
- Heavier than conventional tiles

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 2

Image203: Indiamart

Image204: <https://i.pinimg.com/564x/aa/20/31/aa203180c2412900d06949d9ec337b3e.jpg>

Image205: <https://i.pinimg.com/564x/b5/85/80/b58580afa1297e9917bb5705a1686996.jpg>

10.3 PCC Finish



Image:206 PCC Finish

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Recreational Space



Sensory Park



Streets



Junction / Traffic Plaza



Balwadi Center



Children priority zone



Primary Health Center



Crèche Facility



Image:207 Process



Image:208 PCC Finish cycle track

APPLICATION

Cycling Track:

This is an inexpensive option for creating a smooth cycle ride pathway that can be maintained easily and provide flexibility for pigmenting or applying paint over the surface.

PROS

- Good Compressive strength that can hold heavy weights and medium frequency of cycle rides.
- Can be easily repaired and maintained.
- Quicker construction method

CONS

- Requires a significant amount of time to cure.
- Cannot support a high volume of cycle traffic.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 4

Image206: Indiamart

Image207: <https://4.imimg.com/data4/CW/WM/ANDROID-3850524/product-500x500.jpeg>

Image208: <https://i.pinimg.com/564x/6c/3f/3b/6c3f3bdc657c663dba55483a1746ed90.jpg>

10.4 Stamp concrete

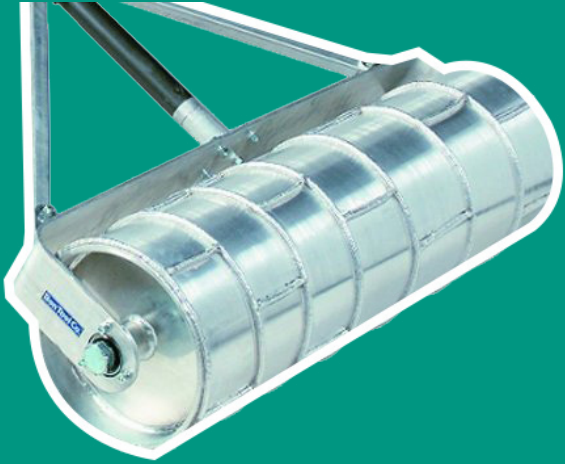


Image:209 Stamp concrete roller

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:210 Stamped concrete walkway



Image:211 Process



Image:212 Process

APPLICATION

Indoor and outdoor:

Stamped concrete is called imprinted concrete or textured concrete. These types of concrete after completion of their construction will look similar to stones such as slates or flagstones, brick, and tile, and with the proper skill, they can look similar to wood. This replicates expensive tiles and stone hence being a cheap yet durable alternative for flooring both indoors and outdoors.

PROS

- Is more affordable than natural stone, brick, or pavers
- Enhances outdoor spaces and adds value
- Offers nearly limitless pattern and color choices
- Slip-resistant with a non-skid additive
- Is durable and long-lasting
- Easy to maintain when sealed

CONS

- Can develop minor cracks
- Needs periodic cleaning and resealing
- Can be damaged by freeze/thaw cycles and deicing salts
- Repairs can be difficult

Refer to Annexure 2, Approved SOR list for DSR items, Section: Landscape - Sr.no. 3

Image209: <https://adarehire.ie/wp-content/uploads/2019/12/star-roller.jpg>

Image210: <https://cf.specifyconcrete.org/img/iBGLq2MY-1-1024x682.jpeg>

Image211: https://images.landscapingnetwork.com/pictures/images/300x250Exact/swimming-pool_6/stamped-concrete-decorative-concrete-institute_4680.jpg

Image212: <https://engineeringdiscoveries.com/how-to-build-concrete-decorative-finishing-idea/>

10.5 Concrete Grass Paver block



Image:215 Concrete grass paver block

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT TYPE

 Community Center


 Recreational Space


 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:213 Grass paver blocks used as parking surface



Image:214 Grass paver blocks used as parking surface



Image:216 Grass Paver block variations

APPLICATION

Parking:

Creates a visually appealing parking area or driveway that blends in with the surrounding lawn and other natural features and allows storm-water to seep into the ground

PROS

- Provides a strong surface that protects the underlying grass.
- Easy to dismantle in case of future repairs
- Eco-friendly than parking spaces made of asphalt/concrete due to its ability to allow storm water to seep into the ground for recharge of groundwater.

CONS

- The gap in the pavers can become an issue for toddlers as well as their strollers for movement
- Can be easily dismantled if not properly installed.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 6

Image213: <https://www.indiamart.com/proddetail/rcc-grass-paver-7228730830.html>

Image214: <https://i.pinimg.com/564x/5a/eb/29/5aeb29ec1c06e76be0396cce08db7212.jpg>

Image215: <https://i.pinimg.com/564x/84/a6/aa/84a6aaaa0442b6e9772f858dbb2a0872.jpg>

Image216: <https://i.pinimg.com/564x/98/b1/02/98b102413ec03450633783af8cb2a8e8.jpg>

10.6 Concrete Tactile Pavers

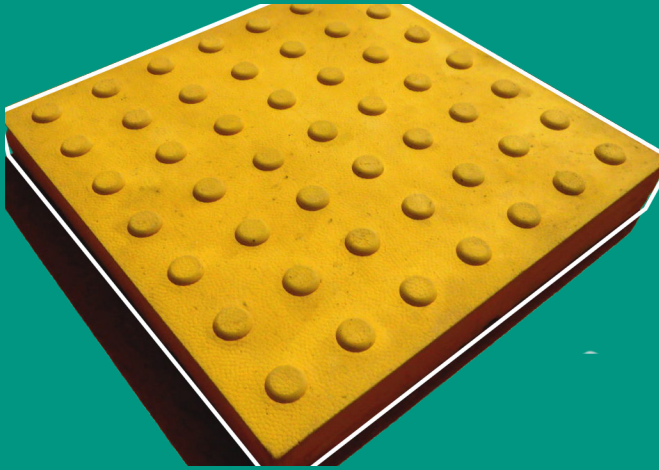


Image:219 Concrete Tactile pavers

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza

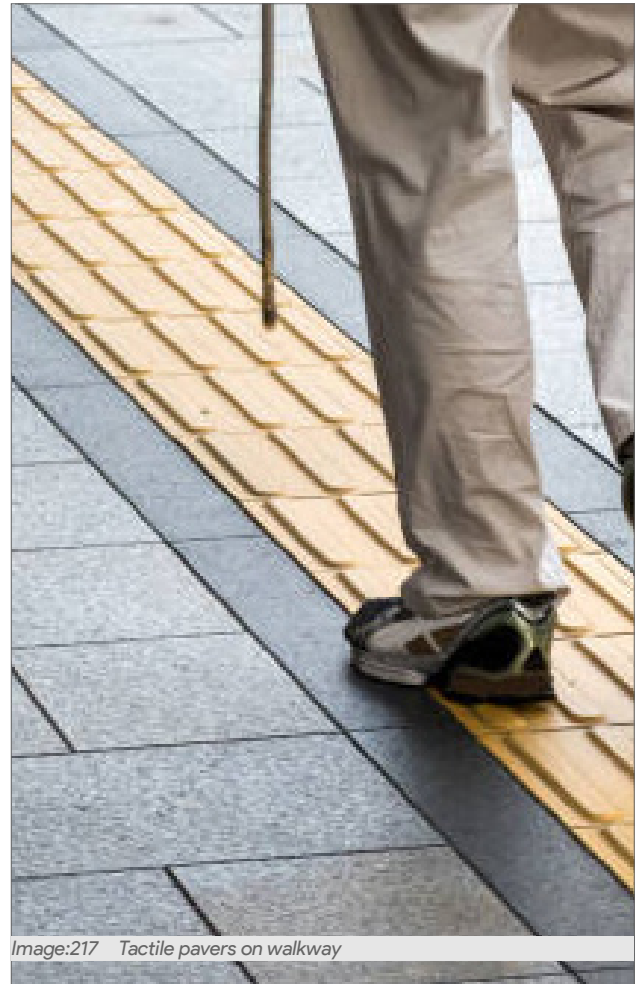


Image:217 Tactile pavers on walkway

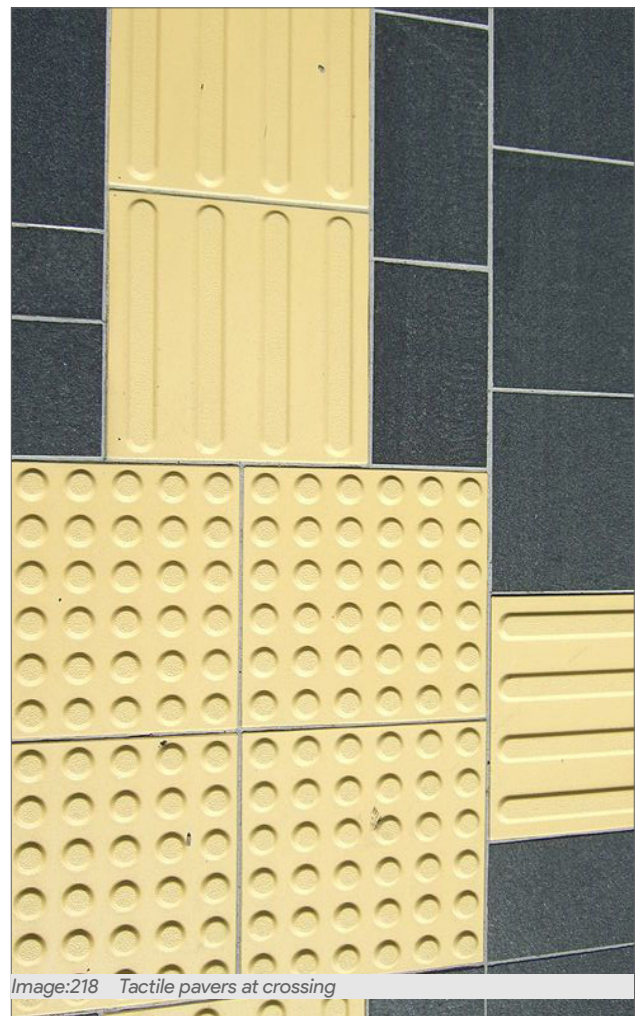


Image:218 Tactile pavers at crossing

APPLICATION

Walkway:

This provides direction and guidance along the walkways for the ITCs and specially-abled individuals.

Ramps:

Tactile paving as warning plates at ramps indicates change of terrain or surface. Detachable warning plates can be used which are easy to maintain and replace.

Plaza:

Tactile paving indicates the change in usage of the space along with providing directional guidance and warning indications while walking.

PROS

- Easier to install for working sites
- Low maintenance
- Can be replaced easily without dismantling the sub-base layer.
- Available in different pigments as required

CONS

- Surface Erosion leads to a regressive form
- Shorter Life Span compared to cast iron tactile pavers

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 7

Image217: https://red.square.com.ph/?page_id=2030

Image218: <https://media.istockphoto.com/id/1187709903/photo/blind-unrecognizable-person-walking-on-a-tactile-paving-path-rear-view-outdoors.jpg?s=612x612&w=0&k=20&c=HWChIJGWB91pN4rfh7xz7Nftr4u4DuMRXUe-zr5eHfs=>

Image219: <https://i.pinimg.com/originals/d5/8c/de/d58cdef782a5beb9776149b0c7f770ba.jpg>

11. Stone/Tiles

11.1 Natural stone Blocks



Image:220 Natural Stone block

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT TYPE

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility



Image:221 Natural stone block as curbs



Image:222 Colorful patterns from natural stone blocks



Image:223 Patterns from natural stone blocks

APPLICATION

Walkway:

Intended to separate surfaces at the same or at different levels to provide a physical and visual delineation or containment. Dedicated pedestrian walkways with high footfall, waiting areas or activity areas. Premise of Facility, Access point, near road crossing, junctions

Plaza:

Stone blocks are available in different colors and shapes which can be used to create aesthetic patterns without using any paint. This is typically ideal for places with high frequency and volume of humans and activities in an ITC-friendly public space.

Curb:

They also provide a separation between surfaces submitted to different kinds of traffic. Stone blocks can be customized as per the design needs to make durable and safe curbs or retaining walls that can also act as sitting spaces for the ITCs.

PROS

- Safe, durable, low maintenance and availability in many shapes and colors.
- The multiple uses of stone blocks to be molded according to the need to create a playful and close to nature environment for the ITCs.

CONS

- Weed and moss growth can occur between the blocks
- Fading of colors due to exposure to UV lights
- Stone surfaces sometimes become uncomfortable when walking for long distance.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 9

Image220: <https://www.awbsltd.com/image/cache/catalog/New%20Exclusives/SGSett40-650x455.jpg>

Image221: <https://5.imimg.com/data5/ND/TI/GLADMIN-43023697/curb-stones-500x500.png>

Image222: https://img3.exportersindia.com/product_images/bc-small/2020/8/5775618/stone-finish-4x4-squer-cobble-paver-block-60-mm-1598441764-5565716.jpeg

Image223: https://img3.exportersindia.com/product_images/bc-small/2020/8/5775618/stone-finish-4x4-squer-cobble-paver-block-60-mm-1598441764-5565716.jpeg

11.2 Stone tiles



Image:226 Stone Tiles

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:224 Stone tiles with grass



Image:225 Stone tiles with grass



Image:227 Stone tiles

APPLICATION

Ramp:

It can be used to build ramps for roads, footpaths, Premise of Facility, Access point, near road crossing, junctions.

PROS

- Using stone or any other paving material as a ramp surface will help maintain the material continuity.
- Due to the better anti-skid properties of stone tiles, it is recommended for ramp flooring.

CONS

- If not sealed properly, it might lead to leaching and cracking due to weathering.
- The growth of algae can be not unsafe for the ITCs and might lead to health issues.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 10

Image224: <https://www.indiamart.com/proddetail/kandla-grey-sandstone-3956187988.html>

Image225: <https://i.pinimg.com/564x/38/38/20/383820db08c21273e716e56627993328.jpg>

Image226: <https://i.pinimg.com/750x/a3/e2/5c/a3e25c58759fb8967099a70cddb64d55.jpg>

Image227: <https://i.pinimg.com/564x/6e/14/d3/6e14d37c2311cb582f96cc5029c4a7b0.jpg>

11.3 Vitrified tiles

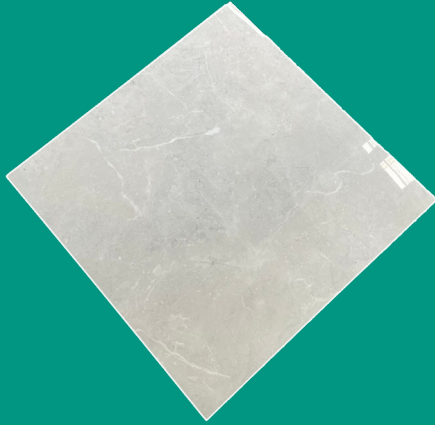


Image:230 Vitrified tiles

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Recreational Space



Sensory Park



Streets



Junction / Traffic Plaza



Balwadi Center



Children priority zone



Primary Health Center



Crèche Facility



Image:228 Safe for children



Image:229 Process

APPLICATION

Indoor Flooring:

Its aesthetic appearance due to consistent design, pattern, and texture with high strength makes it a suitable choice for indoor areas with low to medium pedestrian footfall.

PROS

- Strong and hard material due to its process of making
- Scratch and stain-resistant.
- Easy installation and maintenance
- Stronger than ceramic and porcelain tiles

CONS

- Expensive
- Requires skilled labour to install

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 11

Image228: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTSrXe5M1UgrozqI8Dzg1V75UulXb6gvgY7G-Nkj_nuTFqVVIvj

Image229: https://media.istockphoto.com/photos/happy-redhead-on-tile-floor-picture-id185407087?k=20&m=185407087&s=612x612&w=0&h=_ASQIYDZtNEa07m3o0qV725C1iH2nFwdSV42h-SB28s=

Image230: <https://simcreteindia.com/wp-content/uploads/2020/04/Floor-Tile-adhesive-Blog-Image-1024x681.jpg>

12. Brick

12.1 Brick Pavers



Image:233 Brick Paver

PROPERTIES

Durability: LOW **MEDIUM** HIGH

Duration of Use: **TEMPORARY** PERMANENT

Life Cycle cost: LOW **MEDIUM** HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Recreational Space



Sensory Park



Streets



Junction / Traffic Plaza



Balwadi Center



Children priority zone



Primary Health Center



Crèche Facility



Image:231 Brick pavers used on walkway



Image:232 Bricks pavers used on play ramps

APPLICATION

Walkway:

Dedicated pedestrian walkways with low to moderate footfall for aesthetically pleasing walkways.

Plaza:

Brick pavers can be arranged to create visual patterns and their natural color provides an aesthetic finish to the area.

PROS

- Non-slip surface
- Sustainable
- Low cost and easily replaceable
- Gives an earthy look and feel to the environment

CONS

- Bricks pavers can easily be damaged due to heavy traffic volume
- Due to poor water-resistant quality, moss and algae growth demands regular cleaning and maintenance.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 12

Image231: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTSrXe5M1UgrozqI8Dzg1V75UulXb6gvgY7G-Nkj_nuTFqVVlvj

Image232: https://brick.com/sites/default/files/articles/screen_shot_2019-02-26_at_5.28.31_pm_0.png

Image233: <https://i.pinimg.com/564x/9e/a5/5e/9ea55ed7599763c6653a4aaa165d1cff.jpg>

13. Metal

13.1 Metal tactile paving

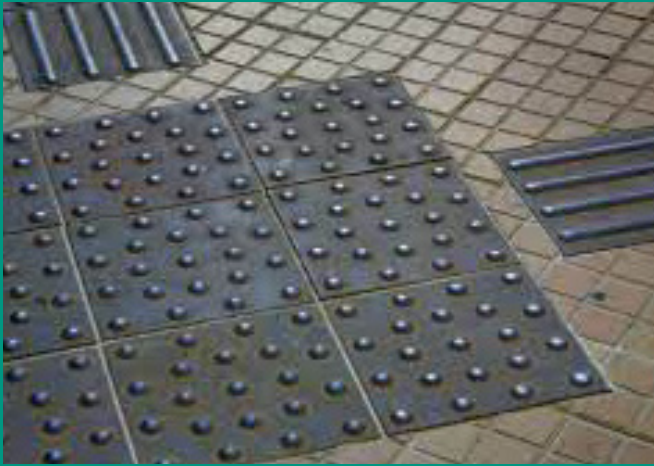


Image:236 Metal tactile paver

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: ██████████ ██████████

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Recreational Space



Sensory Park



Streets



Junction / Traffic Plaza



Balwadi Center



Children priority zone



Primary Health Center



Crèche Facility



Image:234 Metal tactile paving in built public spaces

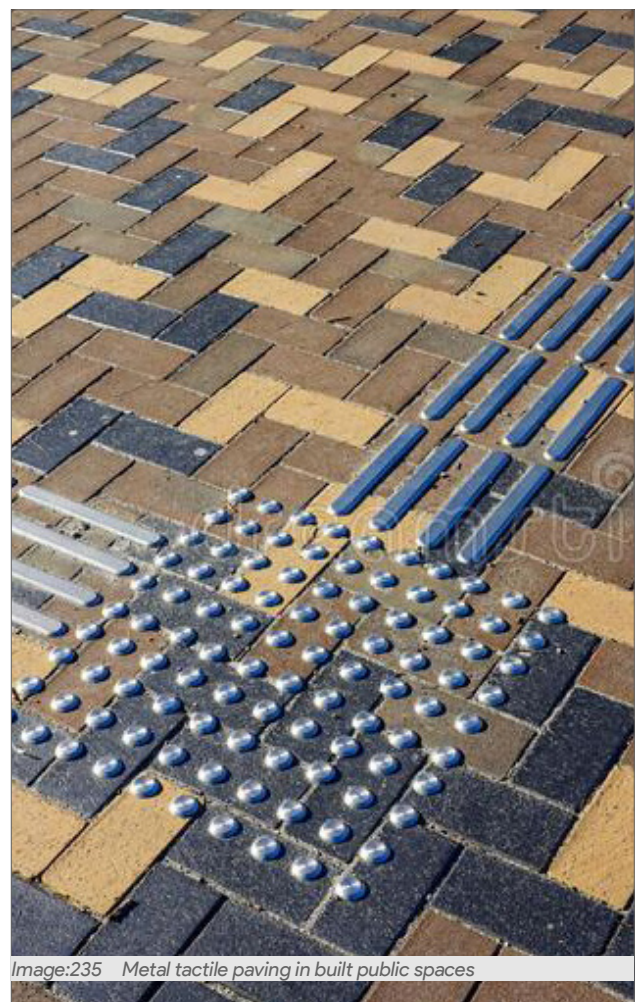


Image:235 Metal tactile paving in built public spaces

APPLICATION

Walkway:

Available in cast iron, polyurethane, and stainless steel. Detachable warning plates can be used which are easy to maintain and replace. Provides a sense of direction to the ITCs and specially-abled individuals.

Ramp:

Tactile paving indicates the change in usage of the space.

Plaza:

Tactile paving as warning plates at ramps indicates a change of terrain or surface. Detachable warning plates can be used which are easy to maintain and replace.

PROS

- Cast iron plates are considered to be the most durable.

CONS

- Security of cast iron plates is required as they can be stolen for reselling.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 13

Image234: https://www.gottliebpaludan.com/sites/default/files/styles/large/public/project/1/gallery/gottlieb_paludan_architects_intactila_01_photo.jpg?itok=4MDoPGZK

Image235: <https://www.researchgate.net/profile/Laura-Martins-8/publication/261861118/figure/fig4/AS:392502587740167@1470591317926/Example-of-tactile-floor.png>

Image236: <https://thumbs.dreamstime.com/b/modern-design-colorful-paving-metal-tactile-tiles-blind-people-visually-impaired-stylish-area-care-disabled-252532160.jpg>

14. Synthetic

14.1 PVC/HDPE Curb Ramp



Image:237 PVC Ramp

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:238 Use of PVC curb ramp at footpath



Image:239 PVC ramp used for wheelchair access



Image:240 PVC ramp at pedestrian walkway

APPLICATION

Walkway:

Can be used as a temporary solution to add a Curb ramp for wheelchair access. The transition between the carriageway or any other surface to the footpath would need Curb ramps for barrier-free access to ITC pedestrians, wheelchairs, and strollers.

Driveway:

Can be used as a temporary solution to add a curb ramp for motor vehicular access. This provides access to vehicular entry to private plots across the footpath lane.

PROS

- It suits all vehicular weight and has high impact strength.
- Excellent dimensional stability
- High stiffness
- 100% recyclable
- Portable

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Amenities - Sr.no. 11

Image237: <https://www.materialshandling.com.au/wp-content/uploads/Portable-Trolley-Ramp-PTR1-hero-600x588.jpg>

Image238: https://startsafety.com/image/cache/catalog/product/photo/oxford-plastics/safe-curb/safe-kerb-kerb-ramp-walking-up-1800x1200_0.jpg

Image239: <https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTMWWjBzI311qO3qNB6047nM1uV72VXpww-eNqPfsSXevbYHiC>

Image240: https://m.media-amazon.com/images/I/81s+BWRa8CL._SX679_.jpg

14.2 Synthetic Rumble Strips



Image:241 Rumble strips

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:242 Rumble strips to reduce vehicle speed



Image:243 Rumble strips at property entrance

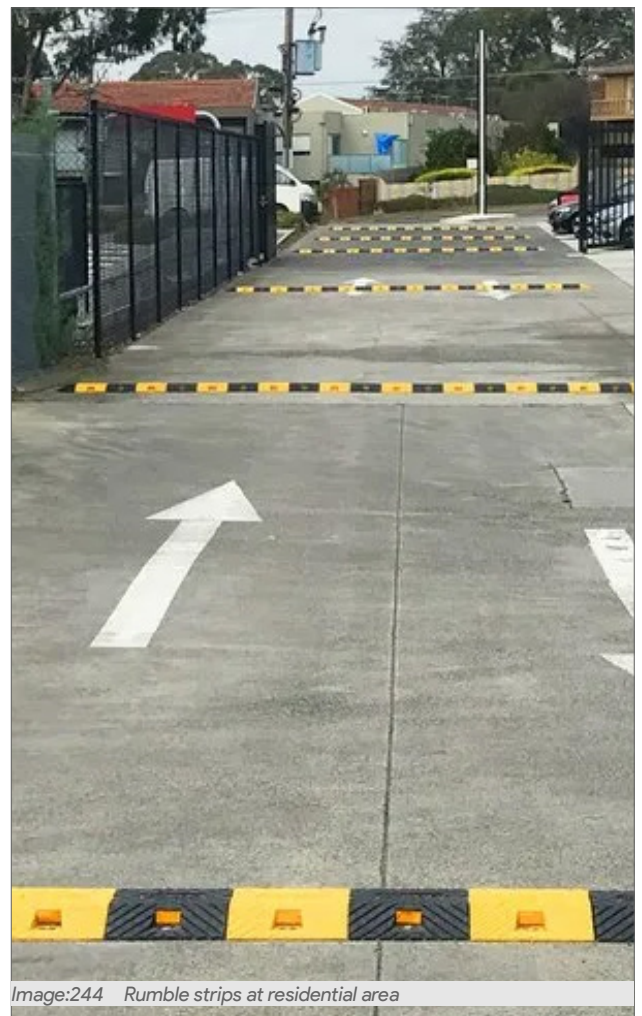


Image:244 Rumble strips at residential area

APPLICATION

Carriageway:

This is to be used for advanced warning of hazards on high-speed roads, transverse bar markings have been shown to reduce speeds on approaches to intersections such as roundabouts, pedestrian zebra crossing, ITC Zones and hospitals.

PROS

- Weather Resistant
- Withstands high vehicular traffic weight
- Higher durability
- Low maintenance
- Reduced run-off-road and head-on crashes.
- Reduced collision at diverge gores
- Improved visibility of edge lines or center lines during wet weather.
- Potential for reduced maintenance of road shoulder.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 14

Image241: <https://www.materialshandling.com.au/wp-content/uploads/Portable-Trolley-Ramp-PTR1-hero-600x588.jpg>

Image242: https://www.barsec.com.au/images/jch-optimize/ng/images_products_landing_images_rumble-strips.webp

Image243: https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcQLvgYJmTjSFMNKNedGYVoyjazllYxupZnjtD_G_lvzTGmjOZYC

Image244: <https://www.indiamart.com/proddetail/road-speed-bump-21370720530.html>

14.3 Interlocking PVC floor-mat

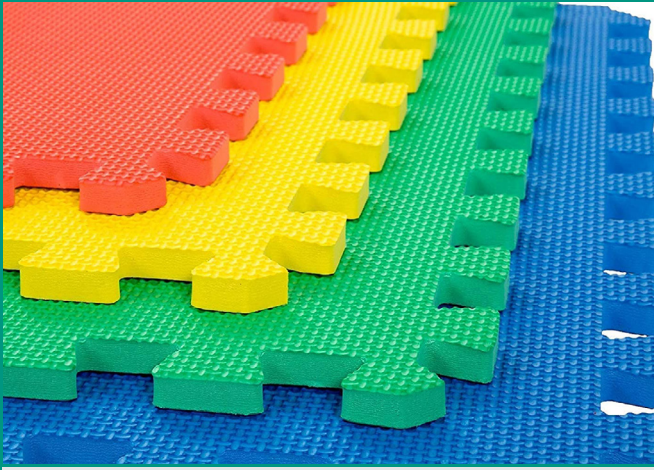


Image:245 PVC Floor mat

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT TYPE

 Community Center

 Recreational Space

 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:246 Safe for young infants



Image:247 Suitable for kids Play area

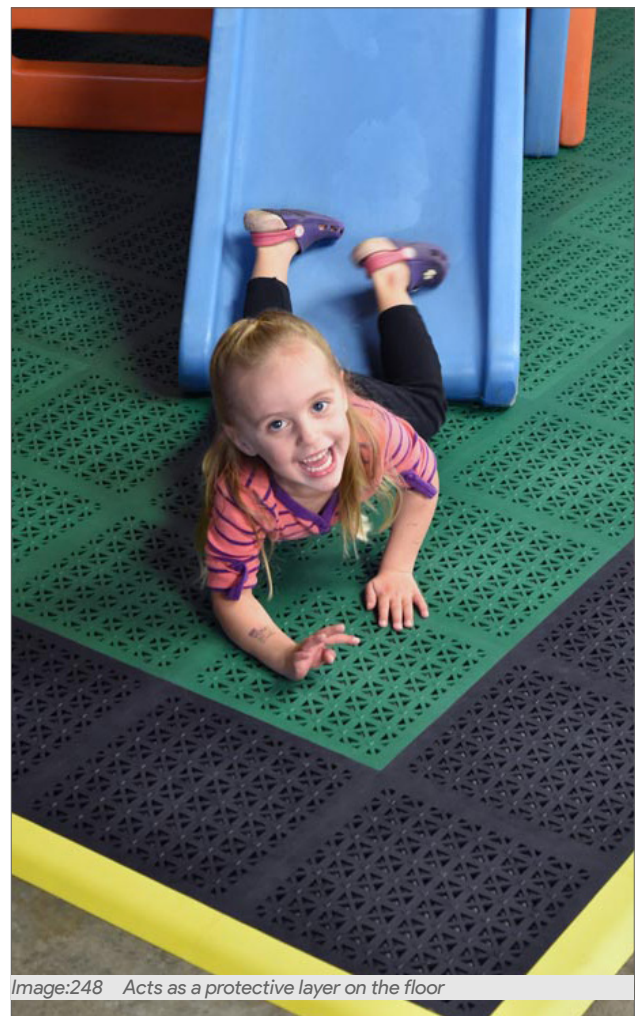


Image:248 Acts as a protective layer on the floor

APPLICATION

Indoor Play:

This temporary floor covering helps protect young children and toddlers playing on the floor. This can be installed on any kind of hard surface flooring indoors. The soft and shockproof property of the material helps avoid accidents and promotes free movement and play on the ground.

PROS

- Convenient to lift and install.
- Washable and easy to use
- Non-toxic for children.
- Soft and colourful

CONS

- It traps dirt easily and there is a need for the removal of the item for cleaning, hence the concern for the health of the young children would be required to be prioritized.
- The material is not stain-proof.

Image245: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTIW0W0Kkm4NwkSN9JA_s4HdSsoTjlwd4apoTvUJCUj7my8Jrb6

Image246: https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcTLrQ_N5a59pzQmh_bF2yeoeLCMy2m7sxz6SlhZDZ7m6zLG0h6f

Image247: <https://www.flooringinc.com/blog/wp-content/uploads/2019/11/formamide-in-foam-featured-image.jpg>

Image248: <https://www.greatmats.com/images/content/staylock-perforated-playground.jpg>

14.4 Artificial Grass carpet



Image:249 Artificial grass carpet

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:250 Grass carpet for kids play area

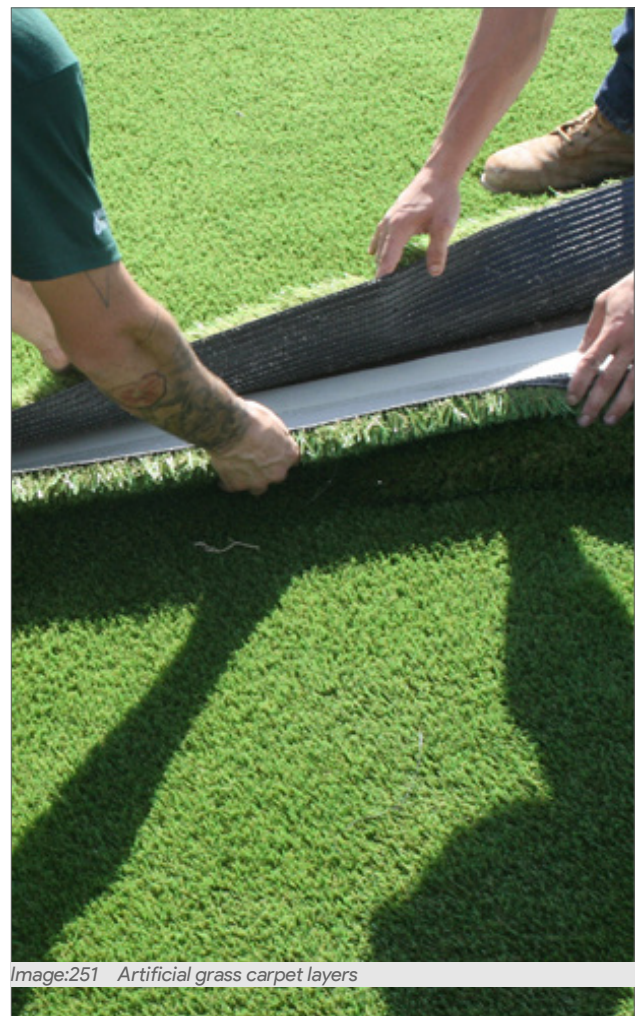


Image:251 Artificial grass carpet layers

APPLICATION

Indoor Play:

This is a semi-permanent solution to be used in indoor or semi-indoor areas for children to stay attached to the element of nature from the outdoors. It upkeeps the feeling of playing outdoors and provides a comfortable experience. Young children can play how they want without getting messy and eliminate puddles that can result in soaking wet and muddy clothing.

PROS

- Artificial grass is highly durable.
- It can withstand wear and tear, is weather-proof
- Does not dry out, does not get waterlogged, and will not fall victim to pest infestations.
- Puts less stress on the joints when children run and play on the surface.

CONS

- Low durability if point pressure is applied or come in contact with a sharp surface.
- Damage in any single part would require re-installation of the complete unit/roll.

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 15

Image249: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSqdX9sQaQQPRzbOh1fjhF_RkmPIVsSILpEdw8-IHtSIFv3MmMF

Image250: https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcRew-Llu9xkYmBzjZ2Xlo1S8Fn15X5HQN6_OPEVZguVkDMbkdAF

Image251: <https://ilkesport.com/wp-content/uploads/2021/04/Contractors-installing-artificial-turf.jpg>

15. Rubber

15.1 Rubber Curb ramp

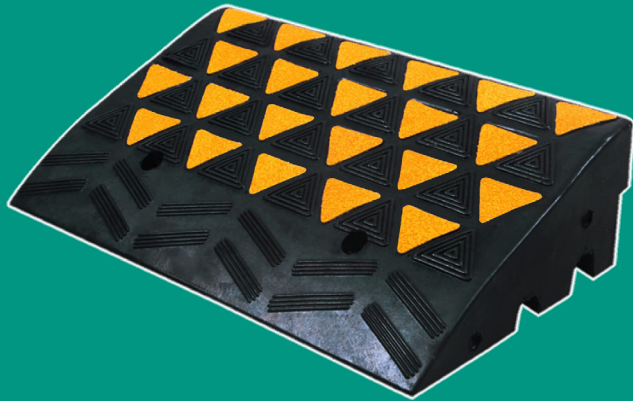


Image:252 Curb ramp

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:253 Curb ramp at property entrances



Image:254 Curb ramp for temporary access of vehicles

APPLICATION

Walkway:

Can be used as a temporary solution to add a curb ramp for wheelchair access. The transition between the carriageway or any other surface to the footpath would need curb ramps for barrier-free access to ITC pedestrians, wheelchairs, and strollers.

DRIVEWAY:

Can be used as a temporary solution to add a kerb ramp for motor vehicular access. This provides access to vehicular entry to private plots across the footpath lane.

PROS

- It suits all vehicular weight and has high impact strength.
- Excellent dimensional stability
- High stiffness and durability than PVC
- 100% recyclable
- Portable
- Resists wear and tear for a longer period.

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Amenities - Sr.no. 11

Image252: <https://m.media-amazon.com/images/I/61lmH9tuceL.SS700.jpg>

Image253: <https://mlysbyxezcx4.i.optimole.com/cb:AC1p.34f67/w:auto/h:auto/q:mauto/f:avif/https://www.vanguardgroup.co.nz/wp-content/uploads/2021/12/Car-on-Ramp-e1642272912452.jpg>

Image254: <https://www.theworkplacedepot.co.uk/kerb-ramps>

15.2 EPDM RUBBER FLOORING

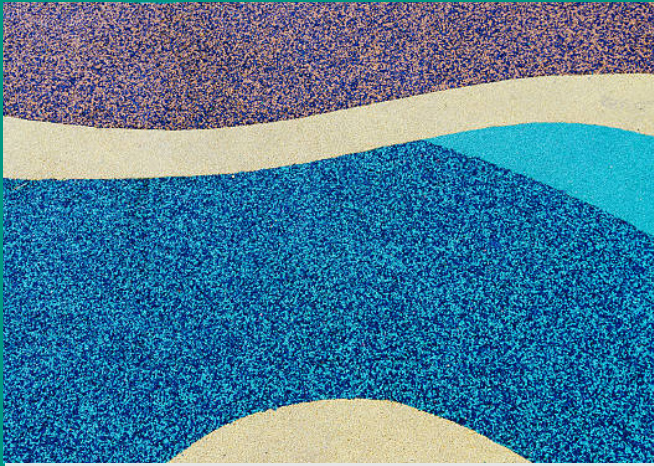


Image:255 EPDM Flooring

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:256 Outdoor kids play area

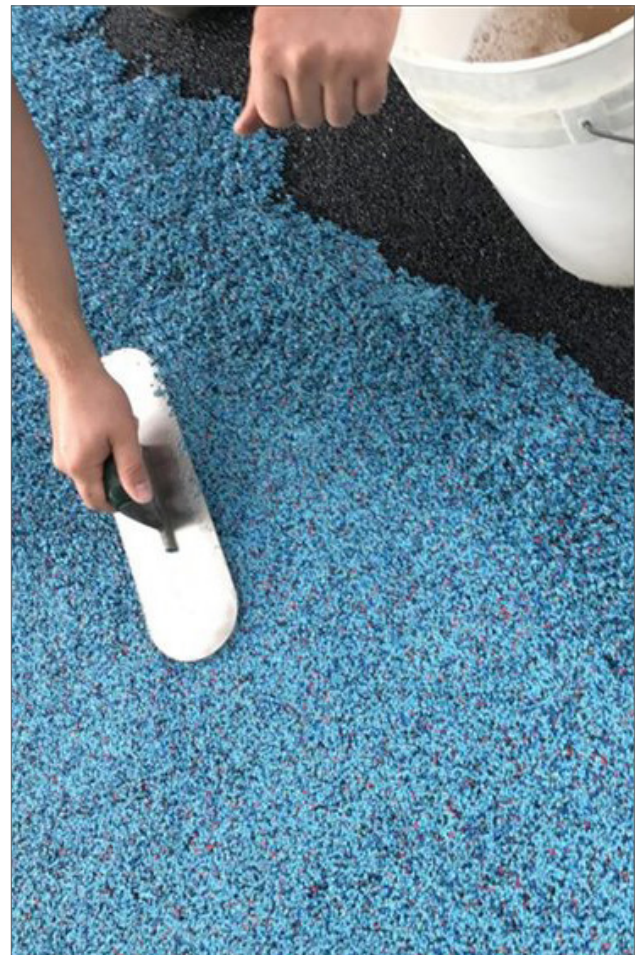


Image:257 Process

APPLICATION

Outdoor Play:

Play area for ITC where chances of accidental falls is high in the outdoors. The outdoor play elements/equipment can be appropriately placed or fixed along with the rubber flooring for a permanent intervention.

Indoor Play:

This is viable and easier to maintain as compared to outdoor flooring due to weathering and higher play traffic. Maintaining this material would be equivalent to any other flooring material for indoors.

PROS

- Easy to take care of and clean
- Provides extra cushioning for accidental falls
- Flexible implementation due to loose rubber granules
- Durable material that retains its colour well
- Slip-resistant
- Shock and sound-absorbing creates a safe and playful surface for any kids' corner

CONS

- Synthetic rubber flooring is usually more stain-resistant than natural rubber flooring
- Sharp items might damage the flooring and lead to exposure to the sub-base. This can become unsafe for the children.

Refer to Annexure 1, Recommended vendors list for Non-DSR items, Section: Flooring - Sr.no. 1

Image255: <https://media.istockphoto.com/photos/colored-rubber-floor-on-a-playground-picture-id183151741?k=20&m=183151741&s=612x612&w=0&h=1twjWAzWwXRlkHGUukzn5KDH5IGzvDUst5ITGCpgXsE=>

Image256: <https://i.pinimg.com/564x/62/a5/e5/62a5e543d419a32deff0c8c4f9b344ed.jpg>

Image257: https://cdn.rona.ca/webassets/images/330780583_AlternatImage1_l.jpg

15.3 Raised Rubber Crossing

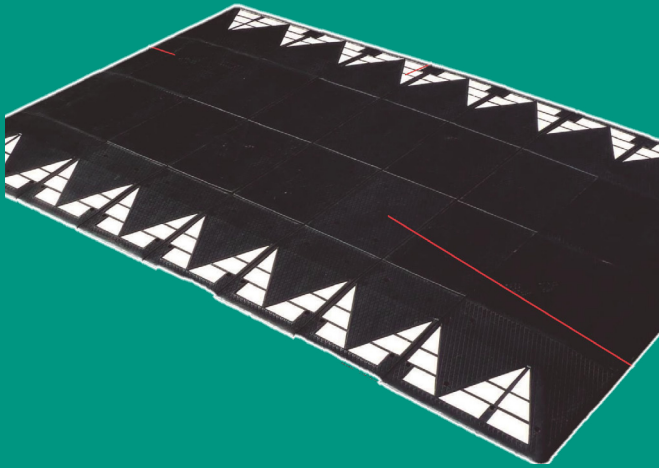


Image:258 Raised rubber crossing

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:259 Raised rubber crossing at low speed streets

APPLICATION

Table Top Crossing:

At a junction pedestrians, especially ITCs with or without strollers need extra attention in more than one direction of the lanes that they are crossing as well as the time limit. To remove the action of paying extra attention to the infrastructure and its barriers, a raised tabletop crossing not only makes it easier for them to cross but also helps slow down the motor vehicles before approaching the crossing and limits the speed due to high friction rubber flooring while crossing.

Zebra crossing:

This helps maintain the continuity of pedestrians and strollers to move seamlessly and be free from multiple decision-making during crossing the road. This becomes convenient, especially for children to cross with their caregivers or parents to avoid any change in surface level. The raised form also slows down the motor vehicles from approaching the crossing hence helping with traffic calming.

PROS

- Surface fixed with no excavation required
- Fast and effective installation
- Curb to curb or taper end systems
- Tough and flexible – follows surface undulations
- Impact resistant – retains form
- The soft nature of this product absorbs energy from vehicles passing over it keeping the noise down and making for a more comfortable passing for pedestrians.

CONS

- Needs maintenance on short-term basis if vehicular traffic volume is high

Image259: https://www.traficiserveis.cat/img/galeria/pasos_elevats/PASO_ELEVADO_EUROPA_INGLES.jpg

Image258: https://img.edilportale.com/product-thumbs/b_SG735-Speed-bump-Lazzari-572303-relbc68a21a.jpg

16. Wood

16.1 Hardwood flooring

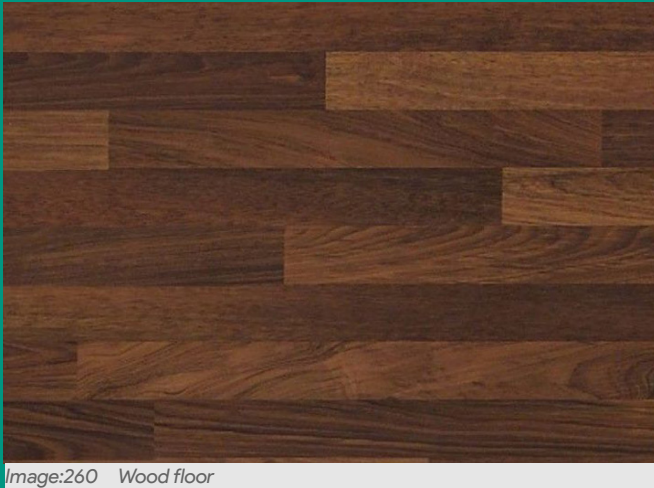


Image:260 Wood floor

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

 Accessible

 Inclusive

 Playful

 Safe

 Green

PROJECT TYPE

 Community Center

 Recreational Space


 Sensory Park

 Streets

 Junction / Traffic Plaza

 Balwadi Center

 Children priority zone

 Primary Health Center

 Crèche Facility



Image:261 Indoor play area

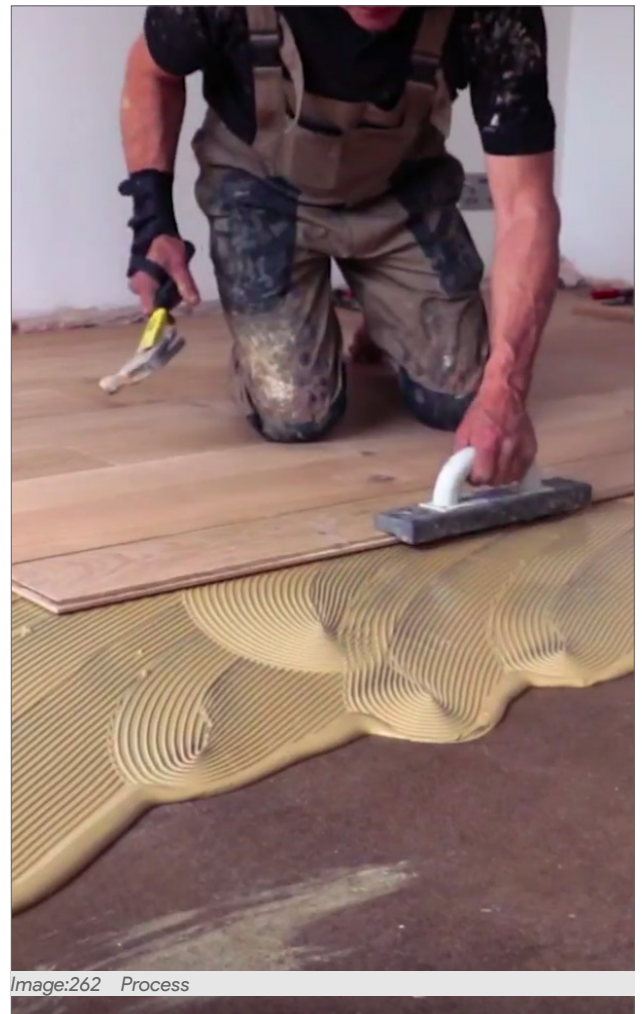


Image:262 Process

APPLICATION

Indoor:

This material can be used for moderate movement of ITC indoors either standing, walking, or interacting with floor play elements.

PROS

- Can withstand years of abuse from young children and simply requires sanding to repair any marks or scratches
- Hard and durable
- Waterproof
- Minimal damage on accidental falls of infants and toddlers on the floor.

CONS

- Can be expensive for the overall installation budget

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 16 to 18

Image260: <https://i.pinimg.com/originals/d6/d1/58/d6d1587df050200de03554a6f0251bc1.jpg>

Image261: <https://www.builddirect.com/learning-center/wp-content/uploads/2016/04/Flooring-for-Kids1.jpg>

Image262: <https://www.woodandbeyond.com/wp/wp-content/uploads/sites/2/2019/05/fitting-wood-flooring-1.png>

17. Bitumen

17.1 Bitmac

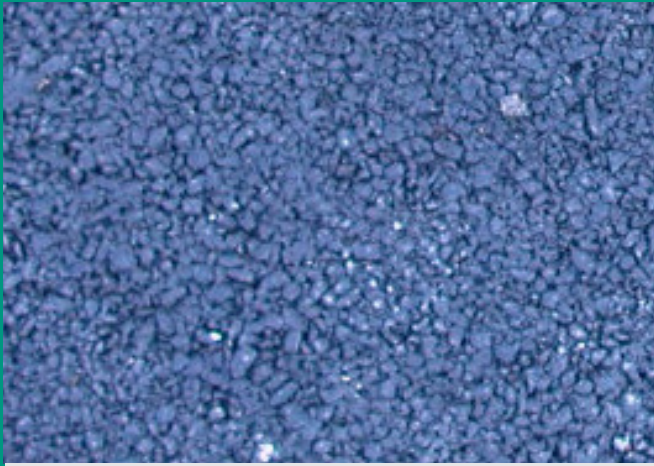


Image:263 Bitmac

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT TYPE

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility

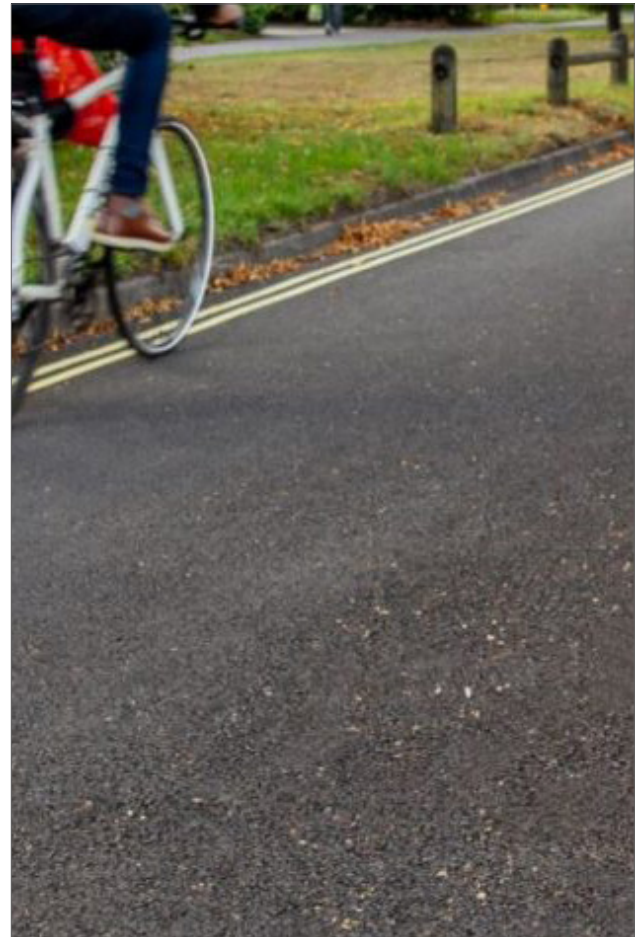


Image:264 Bitmac cycle track



Image:265 Bitmac cycle track

APPLICATION

Cycling Track:

Cyclists like , which is not only good for the rider but also for their bike. It relies for its strength on the stability of the aggregate throughout its grading. Bitmacs have less aggregate than asphalts.

PROS

- Well-maintained smooth ride
- Joint-free bitumen roads or cycle-paths
- Reliable for long term

CONS

- Due to less aggregate, higher maintenance is required

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 19

Image263: https://www.pavingexpert.com/images/bitmac/6mm_open.jpg

Image264: <https://specifierreview.com/wp-content/uploads/2020/06/Charcon-1-900x500.jpg>

Image265: <https://thebullitimes.files.wordpress.com/2021/03/bike-ride-cycleway.jpg>

17.2 Coloured Asphalt

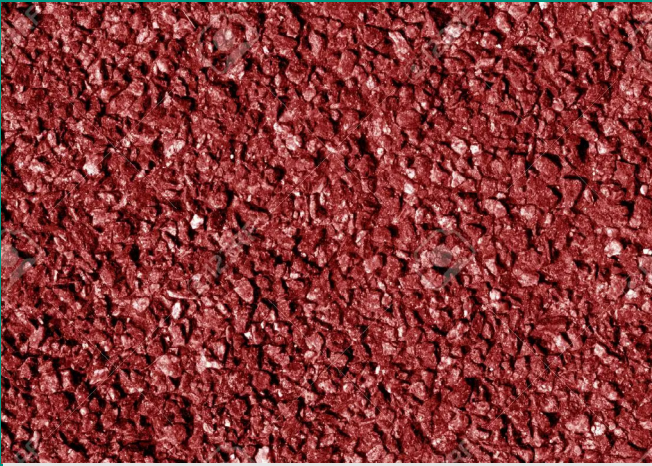


Image:266 Colored asphalt

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT TYPE

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility



Image:267 Colored asphalt cycle track



Image:268 Colored asphalt cycle track

APPLICATION

Cycling Track:

It is a combination of bitumen and aggregate. It relies for its strength on the mortar binding together with the aggregates. Provides a smooth cycle ride experience. The colour segregation from the carriageway helps orient the automobile drivers from swaying into the cycle track lane hence preventing accidents.

PROS

- Simple cycle path construction
- Stronger and more durable than bitmacs

CONS

- Asphalts are more difficult to lay than bitmacs

Refer to Annexure 2, Approved SOR list for DSR items, Section: Flooring - Sr.no. 20,21

Image266: <https://previews.123rf.com/images/pavelalexeev/pavelalexeev1801/pavelalexeev180100347/94662238-textura-de-asfalto-en-tono-rojo-fondo-abstracto-y-textura-para-el-dise%C3%B1o-.jpg>

Image267: <https://bicycledutch.files.wordpress.com/2020/06/parklaan2020-01.jpg>

Image268: https://images.immediate.co.uk/production/volatile/sites/28/2019/02/bike-safety-%E2%80%93-the-golden-rules-to-teach-your-child_128947-5a84f5b.jpg

17.3 Paint

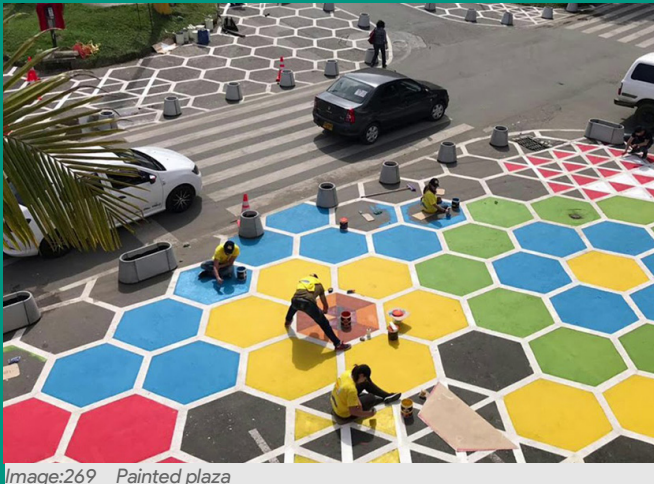


Image:269 Painted plaza

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:270 Thermoplastic paint

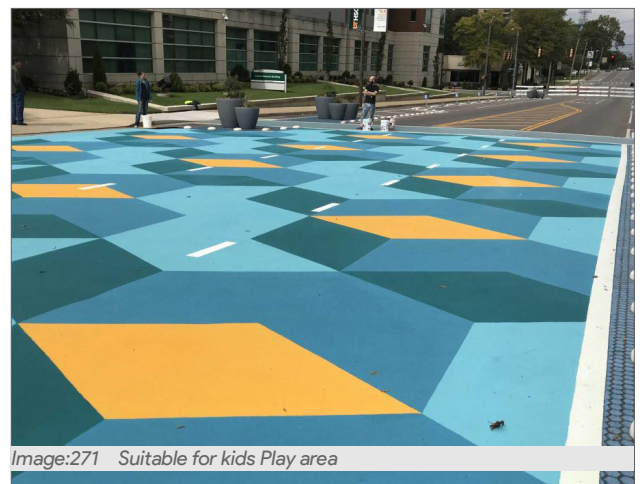


Image:271 Suitable for kids Play area



Image:272 Plastic paint for concrete surfaces

APPLICATION

Outdoor:

Paint is an important material which is used to execute tactical intervention to test the final design for the space.

Thermoplastic paint is used on carriageway for lane marking as well as a thick coat of thermoplastic paint is used to create strips to warn drivers about speed.

PROS

Cost effective for tactical interventions to test design

Paint on carriageway acts as a visual element that helps reduce a driver's speed.

Painted surfaces can easily convey a start of special zones

Paint can be used on dead walls to keep the space active.

CONS

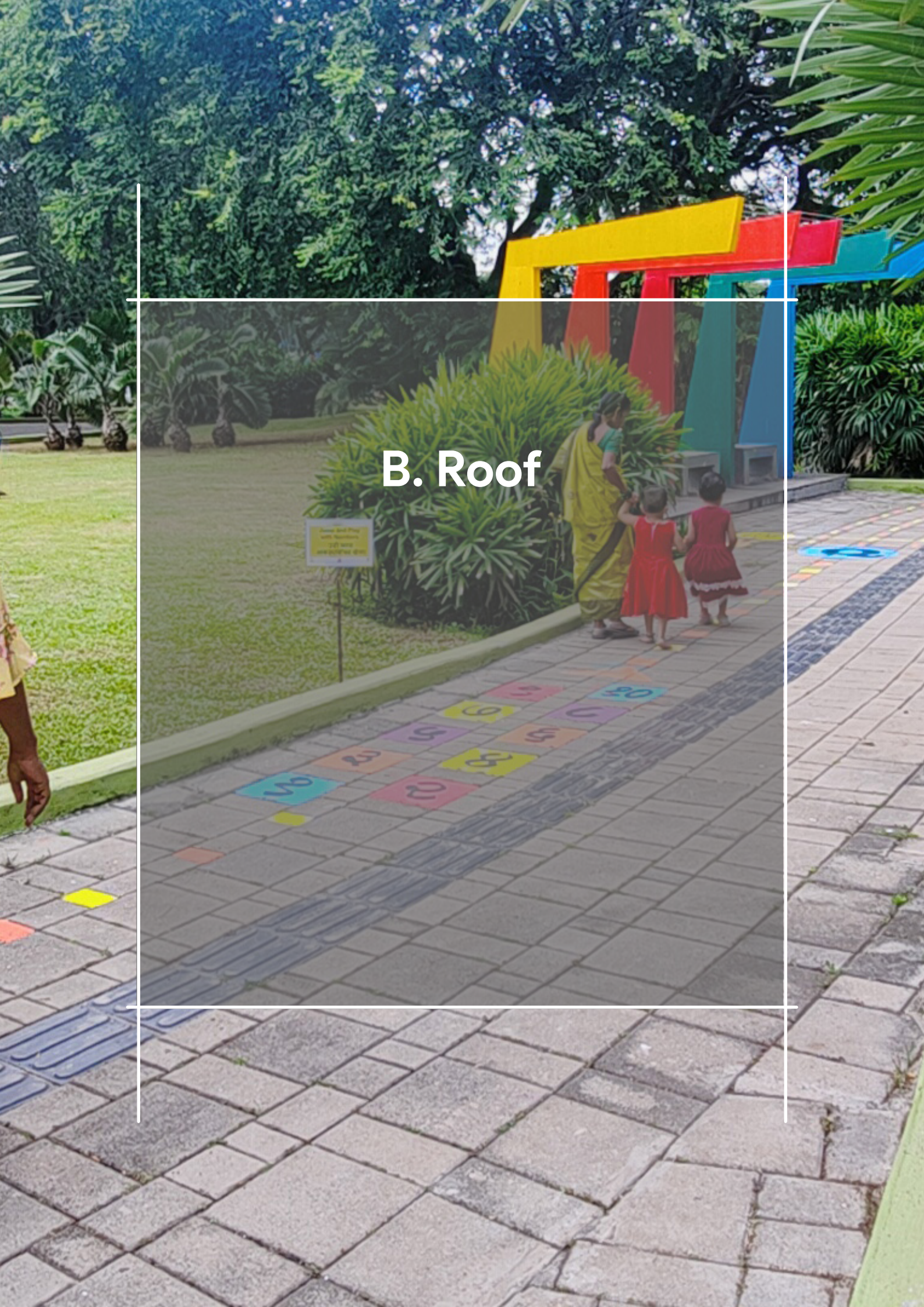
Paint is temporary because of which it needs maintenance in terms of repainting.

Image269: <https://www.re-thinkingthefuture.com/wp-content/uploads/2022/01/A6052-An-overview-of-Tactical-Urbanism.jpg>

Image270: <https://specifierreview.com/wp-content/uploads/2020/06/Charcon-1-900x500.jpg>

Image271: <https://www.cnu.org/sites/default/files/manassas-2.jpg>

Image272: <https://i.pinimg.com/originals/48/5f/a9/485fa9d8ce3e2a6c05bec4efeeb0727c.jpg>



B. Roof

18. Shading

18.1 Polycarbonate Sheet

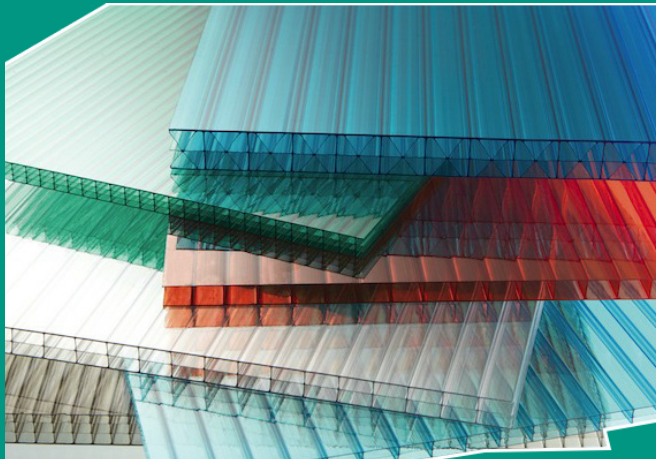


Image:273 Polycarbonate Sheet

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE

Accessible

Inclusive

Playful

Safe

Green

PROJECT TYPE

Community Center

Recreational Space

Sensory Park

Streets

Junction / Traffic Plaza

Balwadi Center

Children priority zone

Primary Health Center

Crèche Facility



Image:274 Used as a shading element for play area



Image:275 Suitable for kids Play area

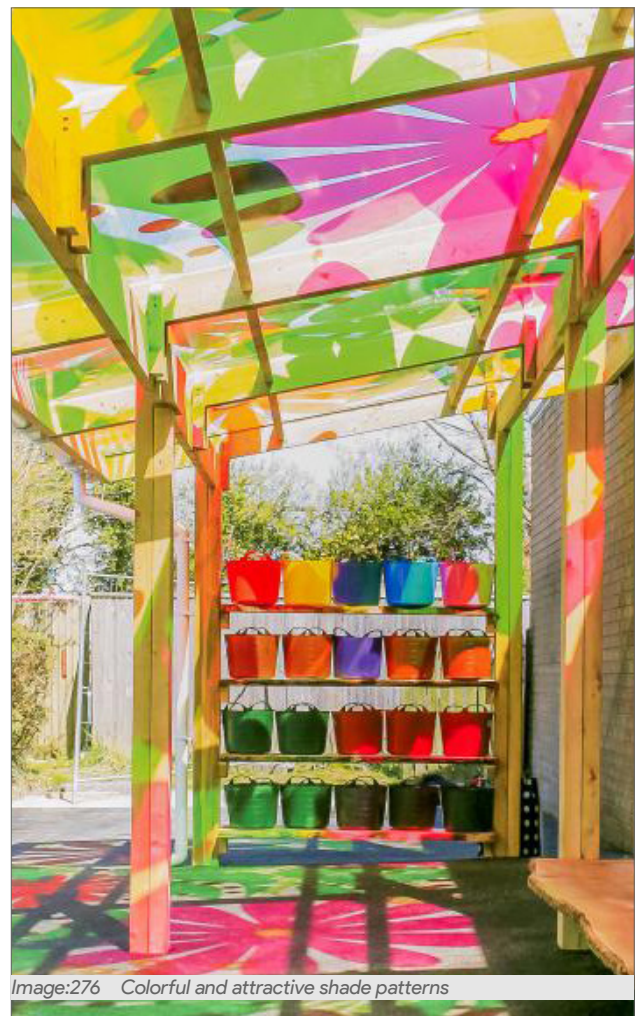


Image:276 Colorful and attractive shade patterns

APPLICATION

Canopy:

Polycarbonate sheets can be used as shading elements to create colorful and attractive canopies for kids play areas as well as activity areas on the street.

PROS

- Fire-resistant
- Vandal-proof
- Hardwearing
- Insulating
- Lightweight
- Easy to machine

CONS

- Sensitive to scratches
- Can expand

Image273: <https://www.domer.co/wp-content/uploads/2021/01/duratherm-1-2.jpg>

Image274: <https://i.pinimg.com/originals/f5/f2/ad/f5f2adae2477e9029cc0312f37d7561b.jpg>

Image275: <https://redmonkeyplay.co.uk/wp-content/uploads/2018/11/3.jpg>

Image276: https://www.naturalplayscapes.co.uk/sites/default/files/styles/section_feature_image/public/9b.classrooms-Wareham.jpg?itok=fvAgWjbM

18.2 Tensile Fabric



Image:277 Tensile fabric shading

PROPERTIES

Durability: LOW MEDIUM HIGH

Duration of Use: TEMPORARY PERMANENT

Life Cycle cost: LOW MEDIUM HIGH

ITCN OBJECTIVE



Accessible



Inclusive



Playful



Safe



Green

PROJECT TYPE



Community Center



Balwadi Center



Recreational Space



Children priority zone



Sensory Park



Primary Health Center



Streets



Crèche Facility



Junction / Traffic Plaza



Image:278 Shading for plaza



Image:279 Available in multiple colors



Image:280 Shading on street



Image:281 Suitable for kids Play area

APPLICATION

Parks | Plazas:

Tensile fabric shading is available in cotton canvas, polyesters and Fiberglass materials. It is suitable for semi permanent use as it is easy to install and relocate. The fabrics can be arranged as per the requirements of the site.

PROS

- Quicker Installation
- Bright and natural diffused daylighting
- Flexible design aesthetics
- Low Maintenance
- Lightweight Nature
- Energy Efficient
- Tensile Structures Need Less Materials

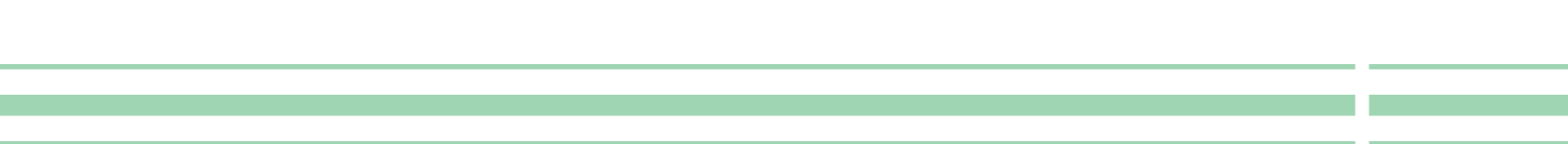
Image277: <https://pin.it/25Jpqky>

Image278: https://media-exp1.licdn.com/dms/image/C5112AQEJmeu-u423BQ/article-cover_image-shrink_720_1280/0/1567067101321?e=2147483647&v=beta&t=DK8_Fd1Cjraq9jifBN2RzRc4PiXR30Lo4L67UVmOuiA

Image279: https://www.galecommercial.com/images/made/uploads/gale_commercial/images/South_Perth_-_Kwel_Court_Playground_-_Bright_560_420_50_c1.jpg

Image280: <https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRr1TPBQOOHerVg0eoJTma9wZzfAl1bur4Nbuw6n6lIKPNvVw6k8aAF37sFqOuycAbiMk8&usqp=CAU>

Image281: <https://5.imimg.com/data5/HY/SC/CG/SELLER-64213341/children-play-area-shades-1000x1000.jpg>



Annexure



Annexure 1: Recommended vendors list for Non-DSR items




Amenities

Sr.no.:	Element	Element/Material Type	Description of item
1	Play Element	Aluminium pipes with varying lengths. The installation would be placed at the central circular frame in the dome	Hanging wind chimes from the Geodesic Dome frame. To create an enclosure of interesting sound effects varying based on wind speed and direction.
2		Wooden rotating rectangular box	Knowledge Path (History of the city) Rotating box with facts and pictures along the path for learning about the history of the city.
3		Playful Grass Mound : Combination of grass,Hume pipe , Wood,PVC	Playful Grass Mound :- Custom grass mound having three tunnels with size 300mm to 700mm diameter along with wooden plank

Vendor list	Reference Image
<p>1.M/s Contipro Industries 2.</p>	 <p>Source: https://bustler.net/news/2175/chimecco-at-sculpture-by-the-</p>
<p>1.M/s Contipro Industries 2. M/s Indijoy playfit pvt ltd</p>	 <p>Source: https://pin.it/3PdJuoZ</p>
<p>1.M/s Contipro Industries 2.</p>	 <p>Source: https://pin.it/3IAMR2F</p>

Amenities

Sr.no.:	Element	Element/Material Type	Description of item
4		Nature tail	<p>Nature Tail :-</p> <p>Custom nature tail with wooden and rope pathway kids along the existing paved pathway for kids to explore the flora and fauna in the park.</p>
5		Playful Tunnel	<p>Playful Tunnel:-</p> <p>Custom playful tunnel with pipe structures duly powder coated pipe 80NB B class</p>
6		Climbing Monkey bars for toddlers	<p>Climbing Monkey bars for toddlers:-</p> <p>Custom playful tunnel with pipe structures duly fixed with pvc sheet</p>

Vendor list	Reference Image
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. 	 <p>Source: https://pin.it/3IAMR2F</p>
<ol style="list-style-type: none"> 1.M/s Contipro Industries 2. M/s Indijoy playfit pvt ltd 3. M/s Mauli Engineering 	 <p>Source: https://pin.it/7M4l0pJ</p>
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. M/s Mauli Engineering 	 <p>Source: https://pin.it/N9DDKSw</p>




Amenities

Sr.no.:	Element	Element/Material Type	Description of item
7		Interactive Passageway	Custom Interactive Passage Way with pipe structures duly powder coated pipe 80NB B class
8		Attractive Passage Way	Custom Interactive Passage Way with Square pipe 2.00mm thk 100mmx10mm duly powder coated
9		MS Structure and PVC Railing	ITC Railing:- Custom ITC Friendly railing with MS Structure and PVC Vinyl Sticker

Vendor list	Reference Image
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. M/s Indijoy playfit pvt ltd 3. M/s Mauli Engineering 	 <p>Source: https://pin.it/1VYFSFG</p>
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. M/s Indijoy playfit pvt ltd 3. M/s Mauli Engineering 	 <p>Source: https://www.alamy.com/stock-photo/rainbow-gate.html</p>
<ol style="list-style-type: none"> 1. M/s Mecanco Enterprises 	 <p>Source: www.indiamart.com</p>




Amenitites

Sr.no.:	Element	Element/Material Type	Description of item
10		Ladder	<p>Ladder/zoka:-</p> <p>Custom ITC Friendly zoka for Highly engaging playful equipment for ITCs to play together. Design Surrounding area to keep it safe.</p>
11		Ramp	<p>ITC Friendly Ramp:-</p> <p>Custom ITC Friendly ram for Playful element as well as provides ease of access</p>
12		Street Games	<p>Street Games/play:-</p> <p>Custom street game like sound drum ,wall hung xylophone etc</p>

Vendor list	Reference Image
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. M/s MSNS Adventures pvt ltd 3. M/s Onida Company 	 <p>Source: www.firstcry.com</p>
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. 	 <p>Source: https://www.pentagonplay.co.uk/products/surfacing-and-</p>
<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. 	 <p>Source: percussionplay</p>

Amenities

Sr.no.:	Element	Element/Material Type	Description of item
13		Sculpture	Animal sculptures on the meandering Path Utilising the existing theme of animal statues and adding a few more for children to learn more about the animal kingdom.
14		Swing for two	Custom swing for two to play and experience activities with caregivers and parents to increase involvement and trust between them.
15		Sound play Equipment	Sound Play Equipment (Type 1) Scope of work: Providing & Erection, Size 2200 × 1800, Sound PipeMOC : SS304

Vendor list	Reference Image
<p>1. M/s Contipro Industries 2.</p>	 <p>Source: https://pin.it/K1GGYa3</p>
<p>1. M/s Contipro Industries 2.</p>	 <p>Source: https://pin.it/4Av8SBw</p>
<p>1. M/s Contipro Industries 2.</p>	

Amenities

Sr.no.:	Element	Element/Material Type	Description of item
16	Urban Services	Bestfeeding Booth	Supply of Custom Built Roofing structure As Breast Feeding Booth with Sunblock Both side PVC Coated & Finition Cleangard Laqured Fabric - By Saint Clair Textiles , France and all accessories.
17		Shading structure	Tensile membrane twin cone with LAC 950 SLF both side PVC coated and finition cleangard laqured fabric By Saint Clair Textiles , France and all accessories
18		Drinking Water	Custom drinking water facility with stainless steel


Vendor list	Reference Image
<ol style="list-style-type: none"> 1. M/s Mecanco Enterprises 2. M/s Reckon membrane LLP 3. M/s Sky Enterprises 	
<ol style="list-style-type: none"> 1.M/s Mecanco Enterprises 2. M/s Reckon membrane LLP 3.M/s Sky Enterprises 	
<ol style="list-style-type: none"> 1. M/s Pure H2O System 2. M/s Contipro Industries 	


Amenities

Sr.no.:	Element	Element/Material Type	Description of item
19		Bus Stop	Custom ITC Friendly Bus stop with fiber material for ITC seating as well as small play installation like abacus of play wall (Size 1.5 × 2.5 m with 2.5m ht.)

Seating

Sr.no.:	Element	Element/Material Type	Description of item
1	Stand-alone seating	PVC ,Galvanized Iron,Wooden,WPC -Wood plastic composite ,Natural stone benches	Fiber Benches benches for playful seating for ITCN Group

Vendor list	Reference Image
<p>1. M/s Contipro Industries 2.</p>	 <p>Source: google images</p>


Vendor list	Reference Image
<p>1. M/s Kent Creation India pvt ltd</p>	


Seating

Sr.no.:	Element	Element/Material Type	Description of item
2	Integrated seating	Playful Seating with planter bed	Custom playful seating for Creates an interactive and playful seating area before the lake for having a natural mindful experience

Flooring

Sr.no.:	Element	Element/Material Type	Description of item
1	Rubber Flooring	EPDM Flooring	EPDM - 25 mm PDM (Ethylene Propylene Diene Monomer) Rubber flooring system with thickness upto 25 mm consisting of sandwich two layers, base layer having 19mm thickness would be made of Black Styrene Butadiene Rubber for buffing purpose and top finished layer of 6 mm would be made of size 1-4 mm Ethylene Propylene Diene Monomer.

	Vendor list	Reference Image
	<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. 	 <p>Source: https://parametric-architecture.com/nest-interactive-exciting-</p>

	Vendor list	Reference Image
	<ol style="list-style-type: none"> 1. M/s Contipro Industries 2. M/s Ground Theory LLP 3. Ebaco India Pvt ltd 4. Replay International India pvt ltd 	 <p>Image282: https://i.pinimg.com/564x/62/a5/</p>

Annexure 2: Approved SOR list for DSR Items

Seating

Sr.no.:	Element		Description of item
1	Standalone Seating	Granite	Providing and fixing machine cut mirror polished 18 mm to 20 mm thick telephone black granite / Amba White / Cat bary brown / RBI red / Ocean Brown granite stone partition with full moulding the edges etc. complete . Both side polish
2		Concrete Benches	Providing & fixing BENCH IN CEMENT MORTAR/ CONCRETE WITH Rmt WOODEN FINISHING ON ALL EXTERNAL SURFACE. Bench should have min. 2.1m to max. length 2.4m with 0.45m wide seat & 0.40m high back for resting. beach should have 2 to 3 supports/Legs as per requirement from ground in 1:1.5:3 ratio Concrete with 4 bar 12mm as a main & distribution 8mm Tor steel at 150mm c/c. Rate includes proper cleaning of surface by sand paper application of 1 coat of Apex exterior grade primer above that 2 coat of exterior grade Apex Paint as a base coat & 1 coat of Apex Paint for making wooden finish/grains & with 2 final coat of Apex clear polish including Cement, Sand, Aggregate, chemical, adhesive, chickenmesh, primer, paint, polish, paper, etc. all material, labor, scaffolding, excavation, pcc, tor steel etc. all complete. Work done should be as per a approved sample & the instructions of engineer incharge.

Reference Details Schedule Rate (DSR)	Reference Image
<p>Bhavan Rachana Department DSR 2022-2023 Item No18583- 33-36-0</p>	 <p>Source: https://pin.it/6ibDQ55</p>
<p>Garden department DSR 2022-23 Item No -19196-5-3-4</p>	 <p>Source: https://i.pinimg</p>



Barriers

Sr.no.:	Element		Description of item
1	Road Safety	Concrete Bollards	Supply & Fixing precast cement concrete cylindrical Bollard of size as per specifications & 900 mm height (650mm above finish level) manufactured by M-30 grade of concrete by vibro compaction process using FRP moulds & with washed fine grit finish on the exposed surface of the bollard of approved water base PU paint colour & texture, (single & Double strip) as per detail drawing as directed by Engineer in charge. As directed by Engineer In charge
2		Concrete Jersey Barrier	Providing and casting in situ or precast tapering R.C.C. M-20 Rmt Barrier type Kerb without gutter (as per IRC 86 1983) embedded 125mm below ground level over M-10 PCC finished neatly with C.M. 1:2, setting the same in C.M. 1:2, including the required excavation in any strata and removing the excavated stuff any where in city and redoing the surface as specified and directed by Engineering In-charge. Using Concrete Batching and Mixing Plant MORTH 408
3		Steel Bollards	Providing and fixing stainless steel bollard of steel pipe 1.00 metre long of 250 mm innerdiameter and circular top plate of 350 mm diameter with 5 mm thickness on deck of jetty in cement concrete including necessary fixtures and fastening etc. complete. (Stainless steel of grade S-304)

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Road Department DSR 2022-2023 Item No- 19014-D-9-9"</p>	 <p>Source: https://www.sociallifeproject.org/bollards-mental-speed-bumps</p>
<p>Road Department DSR 2022-2023 Item No-19032- f 7.01-9</p>	 <p>Source: https://www.surabhprecast.com/rcc-barrier.html</p>
<p>Maharashtra PWD SSR 2022-23 Sr No-1714_Coastal,49.28-28</p>	 <p>Source: https://www.rnz.co.nz/news/national/466508/demand-for-bollards-skyrockets-as-shop-owners-look-for-protection-from-ram-raids</p>

Barriers

Sr.no.:	Element	Element/ Material Type	Description of item
4	Site Boundary	Galvanized Iron chainlink	Providing and erecting chain link fencing 1.6 M. height with G.I.chain link of size 50 × 50 mm, 8 gauge thick and fixed 75 mm above ground level on vertical M.S. Angles of 40 × 40 × 6 mm size, including excavating pits for foundation and embedded in C.C. block of 1:4:8 mix of size 450 × 450 × 670 mm. at 1.75 M. c/c with iron bar 16mm dia as hold fast including welding link with angle frame at 30 cm c/c with nuts and bolts and horizontal M.S. Angles at top and bottom of 25 x 25 × 5 mm size and vertical M.S. flat 35 × 5 mm and 25 × 5 mm horizontal including cross support of 40 × 40 × 6 mm angles both side at every corner or bend embedded in concrete blocks of 1:4:8 of size 450 × 450 × 670 mm including 3 coats of oil painting etc. complete.
5		Concrete Jali	Providing and fixing in position after hoisting, precast 1:2 cement mortar reinforced jali 50 mm thick with 3 mm diameter mild steelbar reinforcement, of approved design on both side, fixing in cement mortar 1:3 and curing etc. complete

Reference Details Schedule Rate (DSR)	Reference Image
<p>Bhavan Rachana Department DSR 2022-2023 Item No :18636-U 46.39-8</p>	 <p>Source: https://in.pinterest.com/pin/454793262368513462/</p>
<p>Bhavan Rachana Department DSR 2022-2023 Item No18568- 26-46-8</p>	 <p>Source: https://www.exportersindia.com/product-detail/snow-white-and-</p>



Barriers

Sr.no.:	Element	Element/ Material Type	Description of item
6	Access Safety	Steel Pipes grab bars	Providing structural steel work of rectangular hollow steel section for steel trusses, other similar trussed items like purlin and members with all bracing, gusset plates etc. as per detailed designs and drawings or as directed including cutting, fabricating, hoisting, erecting, fixing in position making riveted/bolted/ welded connections and one coat of anticorrosive paint and over it two coats of oil painting of approved quality and shade complete. Spec. Number : As directed by Engineer-in-charge.
7		Steel railings	Providing and fixing 40mm diameter and 1.5 mm thick Stainless steel hand railing in S.S.304 Grade including fabricating ,fixtures, erecting, necessary welding, grinding, finishing, buffing to stainless steel pipe etc. complete
8		wooden rainlings	Battens of CC teak wood : Providing and fixing battens of CC teak wood along with primer coat etc. Providing and fixing 8 cm x 2.5 cm CC teak wood planks

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No18725- 51-A-16-3"</p>	 <p>Source: https://www.industrybuying.com/bathroom-accessories-jaquar-PLU.</p>
<p>"Bhavan Rachana Department DSR 2022-2023 Item No18610-40-6-1"</p>	 <p>Source: https://www.facebook.com/zaunlimited/photos/a.291703927654359</p>
<p>"Bhavan Rachana Department DSR 2022-2023 Item No :18753-62-22-7 "</p>	 <p>Source: https://in.pinterest.com/pin/167759154857310567/</p>

Landscape

Sr.no.:	Element	Element/ Material Type	Description of item
1	Plants	Air filtering plants, Edible plants	<p>"Mogra Plant/Creepers/Climbers:- Excavating the pit with size 0.3m × 0.3 m × 0.3 m Removing & conveying unwanted stuff to a required distance as directed. Filling the pit with approved excavated material up to a height of 0.15 mtr. and remaining height of 0.15 mtr. with fresh garden soil & manure in in 3:1 proportion. Mixing soil and manure thoroughly well, leveling, watering on previous night. Planting one or two year old healthy plant as per specifications. Maintaining till well established by watering, weedings, pruning, Stirring, replacing, casualties etc. complete. (R.A. No. 10)"</p>
2	Play Area	Sand pit	<p>PROVIDING and laying Natural River Sand in Play Area or required Cu.M locations in Gardens, as per the instructions given by the Engineer Incharge, inclusive of material, Labour, Transportation, Taxes, etc all complete</p>


Reference Details Schedule Rate (DSR)	Reference Image
"Garden Dept 2022-23 ,Item no -19199 6-3-10-5"	 <p>Source: https://l.pining.com/originals/39/06/</p>
"Garden Dept 2022-23 ,Item no -19197 , 5-10 ,1"	 <p>Source: https://kmrschool.com/wp-content/uploads/2020/05/playarea.jpg</p>


Landscape

Sr.no.:	Element	Element/ Material Type	Description of item
3		Stamped Concrete	Stamped Concrete :- Thin overlay approximately 1/32" to 5/16"(thicker application may be necessary in some situations) of stamped concrete overlays over M-20 concrete of 100 mm thick-surface, interior, applied smooth, textured or stamped in various patterns and designs using stamps and seamless texture skins, then antiqued, chemically stained or integrally colored and sealed with the appropriate coating. Systems sealers or protective top coats according to the job conditions and specifications. (including the cost of M-20 concrete of 100 mm thickness) As directed by Engineer In charge

Flooring

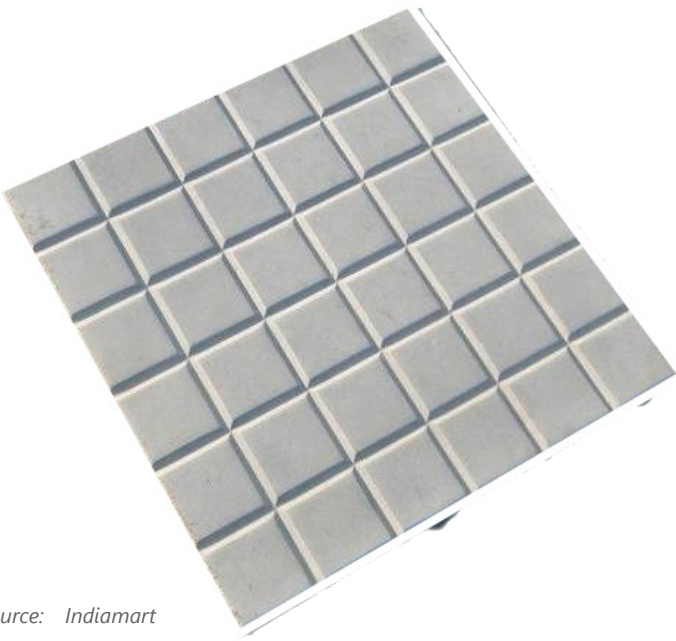

Sr.no.:	Element	Element/ Material Type	Description of item
1	Concrete	Concrete paver Block (Outdoors)	Pervious Concrete Paver Block : 80 mm thickness having porosity 15 to 20% and concrete grade M-30 supply transportation, and fix on site with all material, transportation, labour all including .

	Reference Details Schedule Rate (DSR)	Reference Image
	<p>"Road DSR 2022-23,19015-D15-5"</p>	 <p>Source: https://cf.specifyconcrete.org/img/iBGLq2MY-1-1024x682.jpeg</p>

	Reference Details Schedule Rate (DSR)	Reference Image
	<p>"Road Department DSR 2022-2023 Item No-19015-D-16-6"</p>	 <p>Source: https://5.iimg.com/data5/XA/PB/MY-11952561/cosmic-paver-</p>


Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
2		Concrete Tiles	Footpaths and Separators – Construction of footpath/separator by providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with pre-cast concrete tiles in cement mortar 1:3 including provision of all drainage arrangements but excluding kerb channel. MORTH 409
3		RCC Ramp	Providing and laying in situ /Ready Mix cement concrete M-20 of Cu.M trap / granite /quartzite/ gneiss metal for R.C.C. work in foundations like raft, strip foundations, grillage and footings of R.C.C. columns and steel stanchions etc. including bailing out water, Steel centering formwork, laying/pumping cover blocks, compaction and curing roughening the surface if special finish is to be provided (Excluding reinforcement and structural steel) etc. complete, with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concreteBatch mix plant (Pan mixer) etc. complete.

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Road Department DSR 2022-2023 Item No-19035-F-7.29-4"</p>	 <p>Source: Indiamart</p>
<p>"Bhavan Rachana Department DSR 2022-23, Item No 18564 -25-11-3"</p>	 <p>Source: https://i.pinimg.com/564x/9e/</p>


Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
4		PCC finish	"Providing and laying Cast in situ/Ready Mix cement concrete in M15 of trap/ granite/ quartzite/gneiss metal for bed blocks, foundation blocks and such other items including bailing out water, Steel centering, formwork, laying/ pumping, compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed.), with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Crushed sand VSI Grade)"
5		Concrete jersey barriers	"Providing and fixing R.C.C. precast cement concrete M-15 pedestal OF SIZE 0.75 X 0.75 X 0.20 m including cost of steel reinforcement for Km. stone as per detailed drawing and specification including transportation of pedestal Block, all lifts etc. complete. As directed by Engineer-in-charge"

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18563-24-8-7"</p>	 <p>Source: https://4.imimg.com/data4/CW/WM/ANDROID-3850524/product-</p>
<p>"Road Department DSR 2022-2023 Item No-19030-E-6.37-7"</p>	

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
6		Concrete Grass Paver Block	<p>Providing and Laying factory made coloured chamfered edge Cement concrete grass paver blocks of required strength,thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of fine fine aggregate (naturalcsand/crushed sand VSI grade finely washed etc.), compacting and proper embedding/laying of inter locking paver blocks into the fine aggregate (natural sand/ crushed sand VSI grade finely washedcetc.) bedding layer through vibratory compaction by using platec vibrator, filling the joints with fine aggregate (naturalcsand/crushed sand VSI grade finely washed etc.) and cuttingcof paver blocks as per required size and pattern, finishingcand sweeping extra fine aggregate (natural sand/crushed sand VSIcgrade finely washed etc.) and complete as per manufacturerercspsecifications & direction of Engineer-in-Charge. 60mm thick CC</p>

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18640-48-6-6"</p>	 <p>Source: https://i.pinimg.com/564x/98/</p>

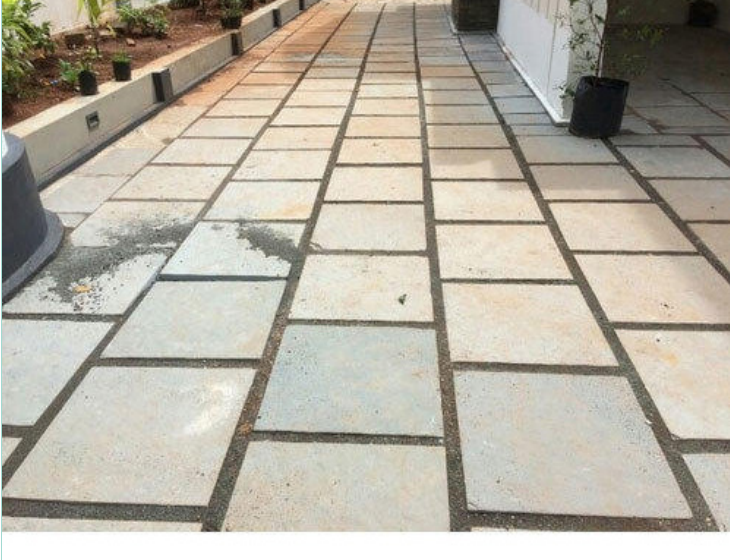
Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
7		Tactile Paving	Providing and laying in place 300mm x 300mm x 16mm cement tactile directional and warning tiles (for a person with visual impairment)of the approved brand and make and specified colour for outdoor floors such as footpath, courtyard, multimodals location etc. laid on 20mm thick base of cement mortar 1:4 (1 cement: 4 coarse sand) in all shapes and patterns including grouting the joints with white cement with matching pigments etc. complete as per direction of engineer in charge
			"Providing and fixing in place 300mm x 300mm x 3mm polyurethane stick on tactile directional tiles and warning tiles having beveled edges and of the approved brand, make and colourand conforming to ISO 23599: 2012 inside the building onall floors in corridors, lobbies , level differences as per accessibility standards and to be installed as per the installation instructions given by the manufacturer using butyl rubber adhesive and the hardware specified by the manufacturer, as per the direction of the engineer in charge complete"

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18731-51-D-85-7"</p>	 <p>Source: https://www.gottliebpaludan.com/sites/default/files/styles/large/</p>
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18732-51-D-88-0"</p>	

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
			"Providing and laying in place 300mm x 300mm x 9.8mm vitrified tactile warning and directional tiles of the approved brand, make and colour inside the buildings at in all corridors and lobbies, level differences etc. as per accessibility standards and as per the installation instructions prescribed by the manufacturer including zari making wherever required and finishing including grouting the joints with white cement with matching pigments etc. up to the satisfaction of the engineer in charge complete"
8	Stone/Tiles	Natural Stone Paving	Accumulative Bed - Providing and fixing Natural Stone pebbles in 1:6 Cement mortar of natural sand of 50mm thick bed as required line, level, shape and size as instructed by Engineer in charge. Item including color pigments, lead lift, curing, cutting, all material and labour with wastage etc. complete all

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18731-51-D-86-8"</p>	
<p>"Garden Department DSR 2022-2023 Item No-19197-5-9-0"</p>	 A photograph of a paved walkway made of large, light-colored square tiles with dark grey grout. To the left of the path is a raised garden bed with a concrete border, containing several small potted plants. To the right is a white wall and a black trash bin. The path leads towards a building entrance in the distance.

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
9		Stone Block	Providing dry rubble stone pitching 23 cm (about 9) thick including all material, quarry spalls, labour etc. complete
10		Stone tiles	Providing and laying machine cut machine polished machine cut Kota stone slabs 20 to 25 mm thick for treads and risers of steps and staircases, with rounded nosing for the treads on a bed of 1:4 cement mortar including cement float, filling joints with neat cement slurry, curing, polishing and cleaning etc. complete.
11		Vitrified Tiles	Providing and laying vitrified matt finish tiles having size 590 mm to 605 mm x to 605 mm of 8 to 10 mm thickness and conforming IS. 15622-2006 (Group Bla) of approved make, shade and pattern for flooring in required position laid on a bed of 1:4 cement mortar including neat cement float, filling joints, curing and cleaning etc. complete.

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Road Department DSR 2022-2023 Item No-19005-B-2.34-6"</p>	
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18581-33-18-2"</p>	
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18583-33-42-6"</p>	 <p>Source: https://media.istockphoto.com/photos/happy-redhead-on-tile-floor-picture-id185407087?k=20&m=185407087&s=612x612&w=0&h=_</p>


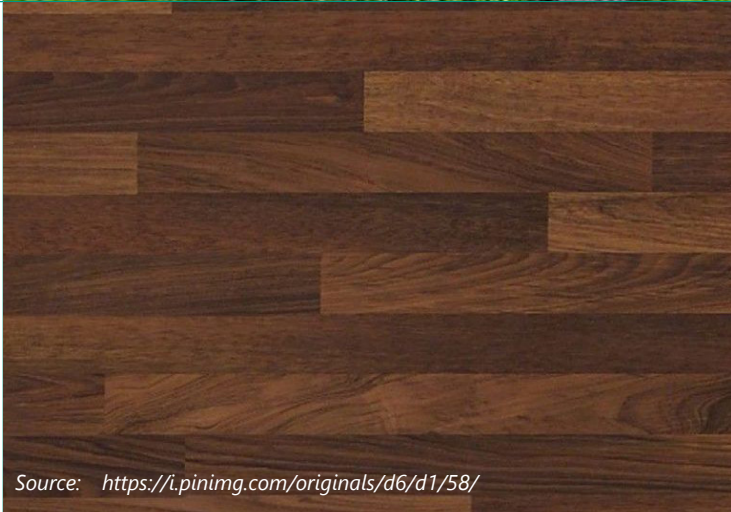
Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
12	Brick	Brick Pavers	Providing second class Burnt Brick masonry with conventional I.S. type bricks in cement mortar 1:4 including scaffolding, rackingout joints and watering etc. in pillar of rectangular shapes as shown in the drawings or as directed complete
13	Metal	Tactile Paving	60 mm Shot blasted blocks Providing & laying of 60mm thick non slippery concrete pavingblocks as per the IS 15658-2006 with face of block. The blockshould have exposed aggregate, be shot blasted with colour UVstabilized and made from rich oxides and guarantee by manufacturer. Block to be manufactured in fully automatic ISO
14		Synthetic rubber Rumble Strips	Providing and Laying of Rumble strips with Plastirib 2K, or equivalent 2 component cold plastic profiled material to give total width of 500 mm and height of 10 mm. Ramp provided to give width of 145 mm, width of ribs to be 55mm laid at centre to centre distance of 35 mm, with reflective glass beads @ 350 gm / One Square Metre. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No-18570-27-10-4"</p>	 <p>Source: https://brick.com/sites/default/files/articles/screen_shot_2019-02-</p>
<p>"Road Department DSR 2022-2023 Item No-19014-D-5-4"</p>	 <p>Source: https://thumbs.dreamstime.com/b/modern-design-colorful-</p>
<p>"Maharashtra PWD SSR 2022-23 Sr No-1962_Road Furniture,51.126aRD,"</p>	 <p>Source: https://www.barsec.com.au/images/jch-optimize/ng/images_</p>

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
15		Artificial grass carpet	Football Ground Turf Supply of Titanium FIFA Certified Soccer Turf EB-50 MM Series Grass: "Material / Dtex: PE12000 Structure: Monofilament Yarn Pile Height (mm): 50 Stitch Rate (Per 10cm): 15 "Gauge (inch): 5/8 *Stitches /m2: 9450 Roll (Mtr) Width x Length: 4 or 2 × 30.5 "Backing: Triple Layers "High wear resistance & Perfect ball roll properties "Economical System & UV Resistance "Creative Technology & Quick Construction *Natural & Beautiful appearance, Good performance Reinforced Playability 3 years Turf Warranty 1 year Glue Warranty SBR Black Rubber Granuels in size of 8mm to 2.4mm 10kg/m2 "Silica Sand 18kg/m2 "Tape & European PU glue with hardner (Ration=2:1) According to Layout "Colour -Green Plan Installation "Installation of Turf with inhouse trained installation team "Infill of Silica Sand & Granules "Brushing & Line Marking "Including Transportation
16	Wood	Hardwood Flooring	Teakwood used for ceiling framework Providing and fixing teakwood used for ceiling framework along with primer coat (use seasoned teakwood)

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No :572105"</p>	 <p>Source: https://encrypted-tbn0.gstatic.com/</p>
<p>"Bhavan Rachana Department DSR 2022-2023 Item No :18753-62-16-1"</p>	 <p>Source: https://i.pinimg.com/originals/d6/d1/58/</p>

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
17			Wooden flooring :Providing and fixing wooden flooring including PVC fom 6 mm thick 50 kg density and 12 cm rubber packing, 50mm x 50mm batten in sagwani teak wood making frame of 60 cm x 60 cm , fixing 19 mm commercial plywood over batten frame and Fixing wooden plank 22 to 25 mm thick 150mm x 600 mm over 19mm commercial plywood in toung and group joint etc completed Sagwani wooden flooring
18			Berma teak wooden flooring
19	Bitumen	Bitmac	Cycle Track With 2 Component Cold Plastic Material For 1.00 mm to 1.5 mm Thickness Cold plastic paint is a two component Roll onsurfacing material. A solvent free, high build two-pack,seamless tough,skid resistant, matrial which as property of attaining 1.5 mm thickness in single coat application White ? Red / Blue (as required) based on Gloss and color retaining Acrylic Cross Linking Resin system for Coloured Road surfacing including surface cleaning and cost of all material etc. complete. all inclusive on Bitumen surface/ Concrete surface

Reference Details Schedule Rate (DSR)	Reference Image
<p>"Bhavan Rachana Department DSR 2022-2023 Item No :18744-60-2A-6"</p>	
<p>"Bhavan Rachana Department DSR 2022-2023 Item No :18744-60-2B-7"</p>	
<p>"Road Department DSR 2022-2023 Item No-19015-D-11-1"</p>	 <p>Source: https://bicycledutch.files.wordpress.com/2020/06/</p>

Flooring

Sr.no.:	Element	Element/ Material Type	Description of item
20		Coloured Asphalt	Providing and laying Coloured surfacing material for Cycle Lane (3-4 mm thickness) by using hot applied material (180 - 210 ° C) containing pigmented modified resin ester blended with selected high quality granite aggregate, applied using screed hoe, curing time 15-20 minutes. operation through single vehicle machine (mounted with equipments, raw materials and crew) all including labour, equipment, transportation charges, T&P necessary complete in all respect as per direction of Engineer in charge
21			"Coloured Concrete : Providing and applying concrete stencil surface on freshly made concrete. The average thickness of stencil surface will be 1 to 3 mm over the fresh made concrete surface. The compressive strength of material will be equal to the compressive strength of concrete as the surface is an integral part of the concrete, laid in proper position, levelling, filling joints with stone dust, cleaning including loading, unloading, transporting etc. Complete as directed by Engineer -in-charge and as per additional specification attached"

Reference Details Schedule Rate (DSR)	Reference Image
"Road Department DSR 2022-2023 Item No-19015-D-12-2"	 <p>Source: https://previews.123rf.com/Images/pavelalexeev/pavelalexeev1801/pavelalexeev180100347/94662238-textura-de-asfalto</p>
"Road Department DSR 2022-2023 Item No-19014-D-4-3"	

Annexure 3: Site Assessment Checklist

1	Theme / Typology	
2	Name of Site	
3	Address	
4	Ward. No.	
5	Geo Co-ordinates	
6	Date of visit and Time	
7	Name of the staff who conducted site visit	
8	Remarks (If Any)	

Satellite Imagery

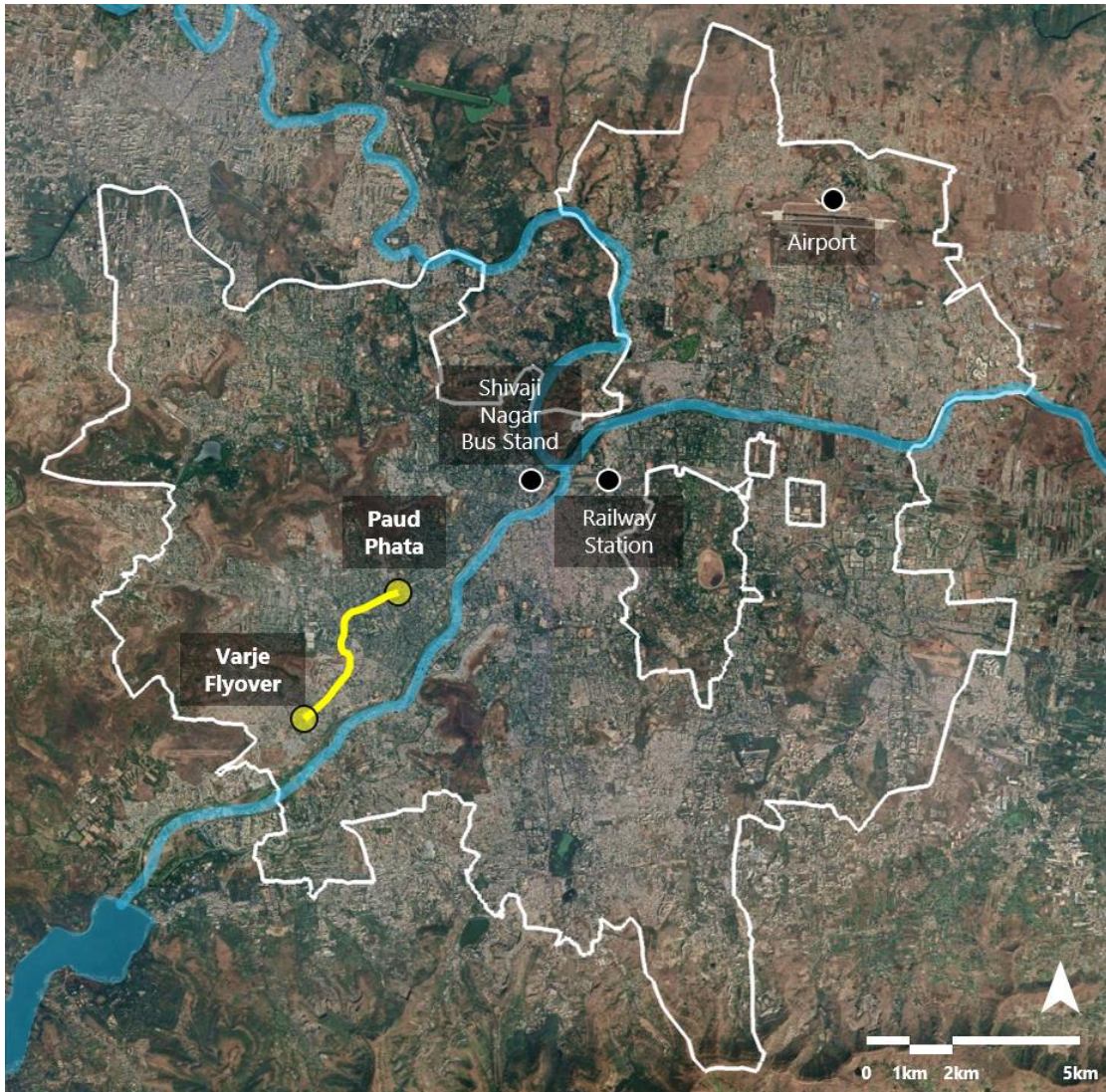


FIGURE 1: SATELLITE IMAGE OF KARVE STREET

Source: Goggle Earth Map

Location Map



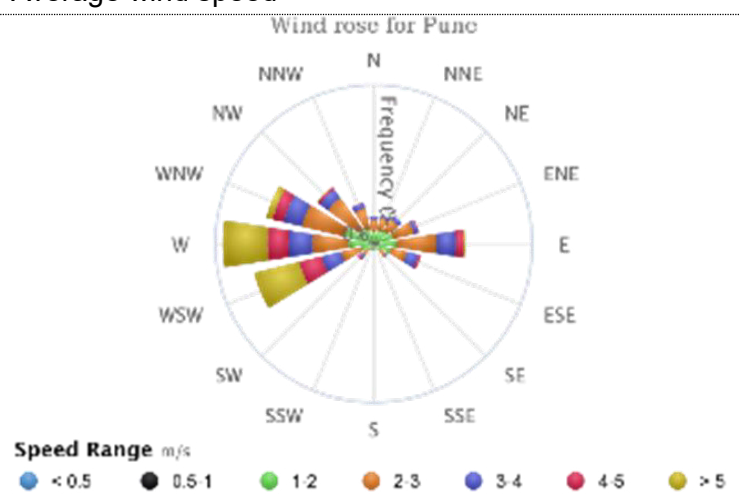
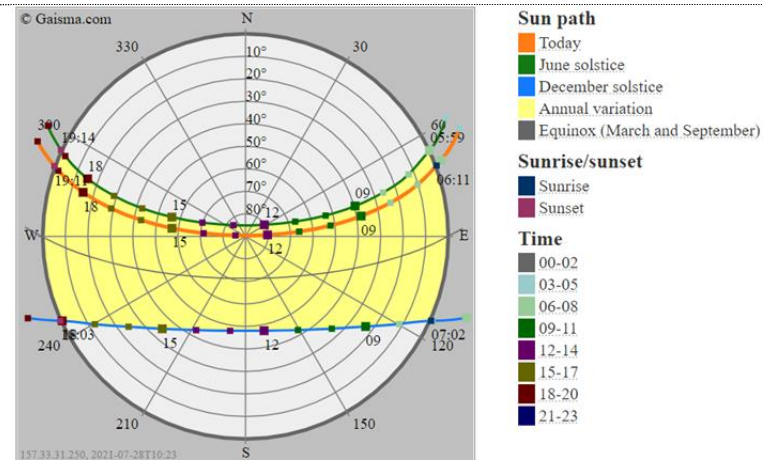
FIGURE 2 : LOCATION OF SITE

Source: Goggle Earth Map

Site Details (Size, Area, Shape)

1. Area of Site: approx.-
2. Site layout diagram or drawing (Specifying shape, dimensions)
3. Total Length of Street/Site
4. Type of lane Two way two lane having Width or other details

Meteorological Data (Based On Secondary Data)

1	Climate of Region	
2	Temperature	Average Temperature ranging from
3	Rainfall	Average annual Rainfall is
4	Humidity	Annual relative Humidity is
5	Wind Direction	Generally from
6	Wind Speed	Average wind speed
7	Wind Rose Diagram	 <p>FIGURE 3: WIND ROSE FOR PUNE Source: Open source</p>
8	Sun Path Diagram	 <p>FIGURE 4: PUNE, INDIA- SUN PATH DIAGRAM Source: Open Source</p>

Geological Data

		Data Collection	Details
1	Seismic Zone	Secondary Source	
3	Topography	Observational	
4	Soil Type	Observational	
5	Soil Bearing Capacity	If data available	
6			

1	Ground Water Table	(If data available)	
2	Is water logging or flood affects plot in rainy season? (Observational/ primary inquiry)		
	Every time	Sometimes	Never
3	High Flood Line (HFL) Secondary Data - As per Govt. Water Resources and Irrigation Maps		
	Within Blue Line (25 years flood line)	Within Red Line (100 years flood line)	Outside Flood Line

Hydrological Data

Assessment of Physical Condition

1	Land use of site			
	Residential	Commercial	Mixed use	Amenity
	Open Space	Public Semi public	Parks & Playground	Water Body
	Agriculture	Defense	Transport and Communication	Slum
	Hill Top Hill Slope	Industrial	Forest	Any other
2	Land use of surrounding			
	Residential	Commercial	Mixed use	Amenity
	Open Space	Public Semi public	Parks & Playground	Water Body
	Agriculture	Defense	Transport and Communication	Slum
	Hill Top Hill Slope	Industrial	Forest	Any other
3	Land Ownership	PMC	Govt Land	Any Other (pl specify)
4	Current Site Status: Type of Proposed Project			
	Up-gradation/ Renovation	Retrofitting/ Modification	Redevelopment (Demolition and rebuild)	
	Extension	Greenfield (New Development)	If any other (pl Specify)	
5	Availability of Basics Necessities (Please Check Below)			
	Toilet		Breast Feeding Booth	
	Drinking Water		Dustbin	

	Sitting Arrangement		Shaded Area
	Lighting/ Illumination		
	Compound Wall /Fencing		
	Signage		
6	Availability of basic infrastructure		
	Water supply		Electricity line
	Drainage Line		Road access
7	Condition Of Built Structures (If Any) NA		
	Good	Moderate	Poor/ Dilapidated
	Remarks (if any) :		
8	Condition Of Entrance Gate To Site –NA		
	Well Defined	Poorly Defined	Not Defined
	Remarks (if any) :		
9	Condition Of Installments /Play Equipment's (If Any)		
	Operational	Not Operational	Dilapidated <input checked="" type="checkbox"/> N/A
	Remarks (if any) :		
10	Current Status Of Maintenance		
	Well Maintained	Moderately Maintained	Poorly Maintained N/A
	Remarks (if any) :		
11	Any Safety related threat w.r.t. ITC users observed on site (Please Mention)		
	Discontinuous Footpath, Encroachment on footpath, Dedicated parking not available for vehicle parking Etc.		
12	Natural Ventilation		
	Well ventilated	Adequate Ventilated	Poorly Ventilated
	Natural Lighting		
	Well	Adequate	Poorly

Accessibility to Site

1	Approach Road		
a.	Width		50m
b.	Traffic direction (one way /two way)		Two way
	Typology of road		
c.	Tertiary Road (Local / Neighborhood Street)		Secondary Road (Collector Street)
	Primary Road (City Main Roads)		Highway
d.	Material of road		

	Asphalt	Concrete	Pavement	Any Other	
2	No. of Bus Stops Within 500 m				
	3 Bus Stop				
3	Proposed Metro Station Within 1km				
	Available		Not Available		
4	Available parking facility				
	Available		Not Available		
5	Availability of handicap Parking				
	Available		Not Available		
6	Pedestrian Connectivity (Footpath available)				
	Yes	No	Partial		
7	Condition Of Pedestrian Pathways				
	Good	Medium	Poor		
8	Specific Remark about Pedestrian Pathways (If Any)				
	1.8 M Concrete block pathway				
9	Nearest Road Crossings (Zebra Crossing) at				
	Left at about ___150_M	Right at about ____200__M	N/A		
10.a.	Signal at nearest road crossing				
	Yes	No			
10.b.	If Yes				
	Operational	Not Operational			
12	Availability of Ramps at access points		Yes	No	
13	Availability of Handrails at access point		Yes	No	No
14.a.	Traffic calming Measures wrt. Street, Road junction and median break at access points (if any)		Yes	No	No
14.b.	If any please mention		Footpath, signage , Ramp		

Landscape Analysis

	Element	Yes	No	Any Specific Remark
1	Trees			Big tress like forest
2	Plantations			
3	Ground Cover			
4	Water Bodies / Fountains			

Socio Economic Surrounding

1	Generic Population Density	Mention in pph if Data Available	
	High	Medium	Low
2	Economic stature of surrounding community / People observed within 1km radius		
	Marginalized community at _____m	Privileged Community at _____m	
3	Specific Remarks (if Any)	Middle class community, (Job holder, small businesses etc.	

Proximity w.r.t. ITC Services within 500m radius

		Please mention Numbers
1	Residential Areas, Neighborhoods	Residential & Commercial Area
2	Nursery Schools, Play Groups , Etc.	Specialty Day care center , Jitendra Abhisheki Garden ,Bandhan society Ground , Tatyasaheb Thorat Udyan
3	ITC related Medical Facilities/Hospitals	Shashwat Hospital , Deoyani multispecialty Hospital
4	Nearby Attraction Areas/ Streets/ Chowks / Malls	Karve chowk, Paud phata

Pollution levels

Please mention threat related to pollution (air/ noise/water) observed in the site or in the surrounding of the site (if any)

Remark:

Moderate conditions noise and air pollution

Usage Observation

1	Timing of Site (Open For Public)	
2	Entry to Facility (Please Tick)-	
3	No. of Staff/Service Providers within the facility	
4	Approximate No. Of Caregivers With Children (0 To 5 Yrs.) Visiting In A Day	
5	Peak Timing / Days when The ITC Users Frequently Visit The Place	
6	Is There Any Area Or Play Installation Within Site That Is More Frequented By ITC Users	

Annexure 4: Park Assessment Checklist

Basic Information:

Name of the Park:		Location of the Park:
Category of the Park*:		Name of the Prabhag/Ward:
Approximate number of children/hr:		Jurisdiction** : PMC
Approximate number of carers/hr:		Time- Opening hours:
Approximate time spent:		
Parking space: 4-wheeler :2-wheeler:Cycles.....		

Table 1: Reference Table

Category of the Park*:	Jurisdiction**
Tot-Lot - 50-125 sqm ¹	Government (PMC)
Housing Area Park (HAP)- Less than 5,000 sq.m ²	Private Ownership Corporate/NGO
Neighbourhood Park (NP) (5,000 - 10,000 sq.m) ²	
Community Park (CP) (10,000 -50,000 sq.m) ²	
District Park (DP) (50,000 - 2,50,000 sq.m) ²	
Sub-City Park (SCP) (2,50,000 sq.m & above) ²	

¹ MoHUA:Urban 95;BvLF: BDP, 2019, Infant, Toddler, Caregiver- Friendly Neighbourhood: Design Guidelines

² Pt.8.4.5. Open Spaces, Page 362-63, URDPFI Guidelines 2015, Ministry of Urban Development

Detailed Assessment:

To evaluate the existing condition and child-friendliness of parks, a Field- Assessment Checklist has been developed by Urban95 Pune team through a desk-review of relevant literature. It is a compilation of assessment tools and criteria used for measuring various aspects to make a park child-friendly such as value of play in parks, availability of child-friendly infrastructure provision in parks and adherence to ITC friendly design standards etc.

The Assessment Checklist is divided into six categories:

1. Approach and Entrance
2. Play Value of Play Space
3. Park- Elements
4. Supporting Amenities
5. Maintenance and Management
6. Sustainability

The criteria are formulated in alignment with the ITC objectives i.e Safe, Accessible, Green, Playful and Inclusive.

Score Criteria:

0	1	2
Poor	Average	Good

Higher the score better are the facilities provided for Children

The Assessment is limited to the area of Intervention (as mentioned in Slide 12 in proposal) i.e Toddler's Play area and approach from the main entrance to

it. Apart from it, supporting amenities present in the Park are also been assessed.

Table 2: Detailed Assessment Checklist

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description	Score
A Approach and Entrance						
1 Site Entry						
		Is there <u>at</u> least one route from site arrival point (Parking, public sidewalks, public transport stops) that does not have a level difference for easy accessibility of stroller, wheel-chair, etc.?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		Does the access route provided at entrance connect to a continuous dedicated stroller- friendly walkway inside the park approaching play area?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		Are the entry/exit access route well lit?	Min 100 lux Level ³	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		Is there a security guard/cabin at all time in the entry/exit points?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		Is the entry to the park free?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Entry Gate	Width		Min 1.8 m (for stroller access)	Width:m		
	Number of Entry Gates			Number:		
	Material of Entry Gate		Metallic, Wooden, any other (Please specify)	Material:		
		Does the park have an easy identifiable signage with its name and other relevant details?		<input type="checkbox"/> No		
Sub Total (A)						
Inferences:						

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score
B Play Value of play space						
		Are there dedicated play spaces for 0-5 years?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Types of play						
1	Inclusive Play					
	Play areas designed for all children and young people (and their <u>carers</u>) to use, regardless of their age, ability, gender, etc.	Are there other activity areas provided for all the age groups?		Age group: <input type="checkbox"/> 0-5, <input type="checkbox"/> 6-12 <input type="checkbox"/> 12-18 <input type="checkbox"/> Above 18		
		Are there any play activities planned for disabled kids?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
2	Dynamic Play					
	Involves active movement of the entire body (usually an equipment) e.g. balance/climb/rock/slide/swing/spin, etc.	Range of fixed play equipment's	Balance	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			Climb	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			Slide	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			Swing	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			Spin	<input type="checkbox"/> Yes <input type="checkbox"/> No		

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
			Rocking	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Spring-Mounted	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Mutli-play	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		<u>Condition of play equipments</u>		<input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Poor				
	Risk during play (equipment's)	<u>Stability and integrity of the equipments</u>		<input type="checkbox"/> Safe <input type="checkbox"/> Unsafe				
		Inadvertent falling from a free fall height		Any instances?				
		Impact of surface after falling	Describe ground surface material	<input type="checkbox"/> Safe <input type="checkbox"/> Unsafe				
		Is the distance between the equipment's safe so that it prevents collision with parts of other equipment or users?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Drainage system in Play area		<input type="checkbox"/> Proper Drainage <input type="checkbox"/> Improper Drainage <input type="checkbox"/> Mostly Inundated/Flooded				
		Periodic Maintenance		<input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Yearly				
3	Informal Imaginative							

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
	Play							
	Play which allows a new response, awareness of new connections, with an element of surprise (materials, tools)	Public art or equipment that stretches imagination		<input type="checkbox"/> Yes <input type="checkbox"/> No				
4	Group Play							
		Story-telling, picnics and group activities, etc.		<input type="checkbox"/> Yes <input type="checkbox"/> No				
5	Nature Play							
	Play with natural elements e.g. rocks, planting, Logs or steppers etc.	Are there any natural play opportunities provided?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are there several changes in the landform and is engaging, stimulating, challenging?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
6	Sensory Play							
	Play that appeals to 5 senses (Touch, smell, see, hear, taste)	Visual	<u>Colourful/Graphical pattern on wall, paving, art and landscape features, play equipments, colourful plants, etc.</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Touch	<u>Ground Surfaces: Mulch, sand, soft fall, turf, gravel, rock, rubber, texture walls, plant textures, etc.</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Smell	Flowering, Fruit plants	<input type="checkbox"/> Yes <input type="checkbox"/> No				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
		Hear	Musical play equipment's, musical installations, water, etc	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Taste	Edible plants, Fruit plants, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
7	Water Play							
	Small taps and rills, or larger dedicated splash pads with interactive jets of water, natural water bodies like creek, ponds, lake, etc.	Does the site provides opportunity and access to water of several forms?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
8	Sand Play							
	Play with sand as feature, not safety surface	Does the site provide opportunity and access to sand in several forms and is fully engaging?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
9	Technology Play							
	Play involving digital interface	Does the site have technological play?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA				
10	Kick About (Open Space)							
	Open grassed area that is relatively flat, providing an opportunity to run around and kick a ball	Does the site provide an open space allowing for movement such as running, tumbling, ball games, etc?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
11	Bike Path							
	Durable circuit path either wholly within the park/extended to bike paths	Is there a bike path available for younger children?	Width, Material	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Stroller/Wheel-chair Parking Near play area?		<input type="checkbox"/> Yes <input type="checkbox"/> No		0	1	2
Sub-Total								

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
C	Park Furniture							
1	Physical Boundary for Play area							
		Existence		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Type of physical boundary	Categories: Hedges or plants, street furniture or objects, ground demarcation, concrete wall, wooden, metal, etc	<input type="checkbox"/> Porous <input type="checkbox"/> Non-porous				
		Height of fence		Height:				
		Entry/exit points	Recommendable opening is between every 50-80m ⁴	Number: At Distance:				
		Opening width	Min 1.8m for a stroller to pass	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are the opening positioned in a way that they connect with the pedestrian walkways?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are opening accessible by ramp if there is a level difference?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is the fencing safe?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Creativity in Fencing	Fences can be made of attractive, playful objects, can have	<input type="checkbox"/> Yes <input type="checkbox"/> No				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
			benches incorporated, trellis plant, etc.					
Sub-Total								
2	Seating/ Resting Spaces							
		Availability of Benches		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Number of benches		Nos:				
		Location of benches	Benches to be located such that they : (i) Give a clear view of the area where small children will be playing (ii) Allows for interaction, grouping of both toddlers and caregivers Assess the location of benches for the 2 criteria's provided and provide description	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Child-friendly benches	Height : can be as low as 270 mm up to 325mm	<input type="checkbox"/> Yes <input type="checkbox"/> No Height:.....mm				
			Width: <u>Atleast</u> 650 mm wide for laying babies. It is recommended that surface must be totally flat.	Width: mm				
			Material: Specify material and it properties in terms of thermal comfort, wear- <u>tear,etc</u> from ITC point of view. Remark: Concrete and steel benches absorb heat and can be uncomfortable during summer. Wood stays cooler.	Material:				
		Shade over the benches		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Condition		<input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Poor				
		Creative features		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub-Total								
3	Pathways							
		Existence		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are the pathways stroller-friendly?	Width - Min 1.8m	<input type="checkbox"/> Yes <input type="checkbox"/> No Width:				
		Material	Non-skid	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Condition		<input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Poor				
		Flatness		<input type="checkbox"/> Completely Flat <input type="checkbox"/> Partially Undulating <input type="checkbox"/> Highly Undulating				
		Obstruction		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub-Total								

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
4	Signages							
		Existence		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Informativ esignages	At Drinking water fountain, Toilet, nearEdible plants, <u>etc</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Directional Signages(Way finding)	On Pathways, near activityareas, Entry, Exit points, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Cautionary Signages	Near play areas, near equipment's, hazardous service areas (electrical, drainage, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Any area where signage is missing?						
		Readable & positive		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are signages visible at night?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Presence of Child- friendly signage's	Kid specific signage's should be positioned at their eye level - (optimum viewing band for pre- fives 700-1075mm) It can be creatively designed (<u>colourful</u> , attractive) at relevant locations	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub-Total								
5	Passive Surveillance & Safety							
		Play areas locatednear active zones		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Any solid walls, planting edges along the main routes obstruct sightlines		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Presence of CCTV Cameras		<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Number	Nos:				
			Location					
			Monitoring room	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Are they in working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
6 Landscape								
	Flowers, shrubs/bushes, manicured gardens		Variety	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			<u>Colourful</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Edible	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are there plants with thorns, milky discharge, etc nearplay area?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Periodic maintenance		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Use of pesticides or any harmful products during maintenance?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Presence of Sculptors and other art installations		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Presence of creative/interactive landscape features	Maze, manicured shrubs, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Educational signage's to enhance learning at Toddler height	Optimum viewing band for pre-fives 700- 1075mm	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub-Total								
7 Illumination								
		Number of Illumination points		Nos:				
		Average distance between the points	As a rule of thumb light points to be placed at least every 20m with 20 lux level uniformity ⁴	Avg. distance:				
		Is there any dark spots in the park where the lighting is not adequate?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is there a hierarchy of lighting types and intensities to provide a sense of order?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Are the common spaces well-lit?	Common spaces - Pathways, drinking water areas, toilets, seating spaces, lawns, open spaces etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Obstructions in spreading lights	By trees, object, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Creative Lighting for play	creating patterns, dynamic surfaces, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Condition		<input type="checkbox"/> Good				
				<input type="checkbox"/> Average <input type="checkbox"/> Poor				
		Periodic Maintenance						
Sub-Total								

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
8	Dustbins							
		Availability of Dustbins		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Number of Dustbins		No's:				
		Distance between dustbins	Preferable every 100 m	Distance:				
		Location	Are dustbins provided near benches, resting points and along pathways at intervals, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Child-friendly Dustbins	Height of dustbins to be upto 95cm	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Creativity in dustbin design and/or its placing	Approach path towards dustbin made attractive	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Segregation- Wet & Dry Waste		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Waste Collection		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Frequency of waste collection		<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Fortnightly				
Sub-Total								
D	Supporting Amenities							
1	Toilet							

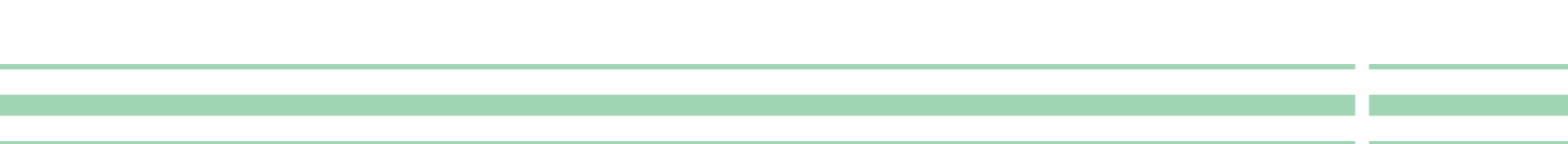
#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
		Is the toilet located such that it is easily identifiable and approachable?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is the entrance to the toilet stroller-friendly?	Presence of Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Width of Ramp: Min 1.8 m	Width:				
			Slope of ramp: Minimum 1:12	Slope:				
			Material of ramp: Non-skid	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Is railing provided for the ramp?	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Can the toilets be independently accessible by toddlers?	Toilet door knob/grab bar height to be between 455-685 mm ⁶	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Toilet seat height to be between 280-305 mm ⁶	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Wash Basin Height around 550mm ⁷	<input type="checkbox"/> Yes <input type="checkbox"/> No				
			Lavatory height to be 610- 785mm ⁶	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is the toilet well-lit at night?	Min 100 lux level ³	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is the toilet clean?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Condition		<input type="checkbox"/> Good				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
				<input type="checkbox"/> Average <input type="checkbox"/> Poor				
		Periodic Maintenance		<input type="checkbox"/> More than once in a day <input type="checkbox"/> Once in a day <input type="checkbox"/> Twice in a week Any Other:				
		Creativity in Toilet Facility	Colourful fixtures and interiors, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub Total							15/30	
Inference: No toilet specifically designed for toddlers.								
2	Diaper-changing room/Lactation room							
		Existence		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Area		Area:				
		Does the space have a stroller friendly access?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA				
		Easily Identifiable and approachable		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA				
		Is there a diaper deck and change table present?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Height, width and material of diaper changing desk provided	(Refer ADA, 2010)	Height: _____ Width: _____ Material: _____ NA				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
		Presence of seating space for caregivers		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Adequate lighting	Min 20 lux level ³	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA				
Sub Total							0/16	
Inference: No diaper changing/feeding room present.								
3	Drinking water fountain							
		Existence		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Easily Identifiable and approachable		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Is the Drinking Water Fountain above ground level?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		If yes, is a stroller friendly access provided to reach the fountain?	Ramp to be of 1.8m width and 1:20 (5%) to 1:15 (6.7%) slope (for strollers) <small>Error! Bookmark not defined.</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA				
		Can the facility be independently accessible by toddlers?	Height from ground for to be between 500mm to 910mm ⁸	<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Source of water provided & quality		1. Piped 2. Underground water Any Other:				

#	Criteria	Sub-Criteria	Parameter/Description	Response	Description if any	Score		
						0	1	2
		Is the drinking water facility clean?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Periodic Maintenance		<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly Any Other:				
Sub Total								
E	Management and Maintenance							
	Management	Sweeping		<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly Any Other: _____				
		Presence of a management staff for the park		<input type="checkbox"/> Yes <input type="checkbox"/> No				
	Vandalism	Instances of Vandalism. If yes, is there a policy/strategy in place to address vandalism	Of Seats, streetlights, dustbins, equipment's, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No				
	Community Participation	Evidence of community involvement in management		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub Total								
F	Sustainability							
		Solar lights or other renewable energy sources		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Smart sensors for energy conservation		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Availability of Rain Water Harvesting Facility		<input type="checkbox"/> Yes <input type="checkbox"/> No				
		Solid -Waste Composting & recycling		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Sub Total								
Total Score								







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