



WRI INDIA



Ministry of Housing and Urban Affairs  
Government of India



# Best Practices and Intervention Ideas

in neighbourhoods for young children and their caregivers

## For Nurturing Neighbourhoods Challenge

# Best Practices and Intervention Ideas

## in neighbourhoods for young children and their caregivers



The **Nurturing Neighbourhoods Challenge** is hosted by the Smart Cities Mission, Ministry of Housing and Urban Affairs, Government of India, in collaboration with the Bernard van Leer Foundation and with the technical support of WRI India. The Challenge aims to incorporate a focus on early childhood development (0-5-year-old children) in the planning and management of Indian cities.

This resource draws on various Indian as well as global examples of neighbourhood level interventions that focus on young children and their caregivers as one of the primary user groups. It will serve as a reference to the cities, to help them formulate pilot solutions for young children and their caregivers, which are inter-connected and complementary to arrive at coordinated long term behavioural change.

Through these Best Practices, the document highlights that solutions for young children and their caregivers demand a combination of multiple supportive components to create holistic improvement across many domains. Interventions shown here are either from India or from other places with similar geographical context. Best practices are grouped under *four* broad solution categories and are supported with strategies that can be taken up by cities to create young children and caregiver friendly neighbourhoods.

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# Potential Interventions

Young children and caregiver-friendly interventions may be found under the following broad categories:



**Make streets safe and walkable**



**Reimagine public open spaces for play and interaction**



**Adapt public spaces with early childhood amenities**



**Improve access to early childhood services**



# 1 Make streets safe and walkable

Streets are meant not only for pedestrian and vehicular movement but when designed and planned keeping children in mind, they can also serve as public spaces for play and social interaction. Currently, concerns around children's well-being on streets includes (but is not limited to) lack of safe opportunities to walk, growing traffic related injuries, exposure to vehicular emissions and noise pollution.

## Strategies

- a. Safer walking
- b. Accommodate play and interaction
- c. Connect child-priority zones

# Types of projects

- Redesigning intersections for safer access in the surroundings of Anganwadis, nurseries, pre-primary schools
- Street side-walks designed to include vibrant play spaces
- Designing streets for all considering young children (0 to 5 aged and their caregivers)
- Slow down zones, legible street signages and use of traffic calming measures for speed management
- Well-lit and shaded footpaths with pause points and resting spaces
- Segregated walking and cycling spaces with adequate buffer from vehicular traffic
- Incorporate green buffers along streets to mitigate noise pollution and reduce exposure to vehicular emissions

# Best practices

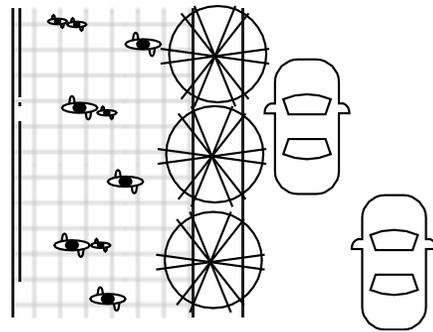
Streets are one of the first public areas in a city that are encountered by young children and their caregivers. It is of primary importance to design streets that are welcoming, safe and secure, where young children and their caregivers can walk with ease, and in comfort.

## Safer streets



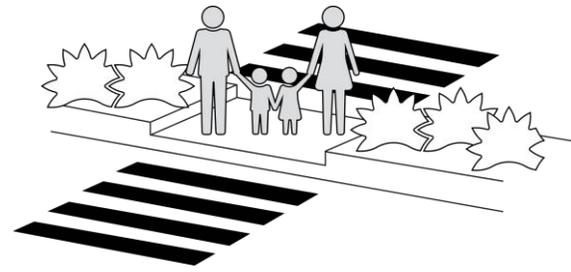
Unobstructed pathway and safe crossing

- Continuous, unobstructed footpath spaces, without any hindrance in walking
- Placing crossings at regular intervals
- Crossings clear of obstacles, like parked cars, low plantations
- Crossings with traffic lights allowing toddlers and caregivers more time to cross safely



Buffer between vehicular and pedestrian lane

- Separation between the pavement area and the carriageway required to prevent vehicles from accidentally driving up to the pavement area



Refuge medians

- Medians at least 1.2 – 1.5m wide, to accommodate pedestrians for waiting, while crossing the road
- Medians designed keeping in mind the maximum number of pedestrians that can be accommodated at a single time



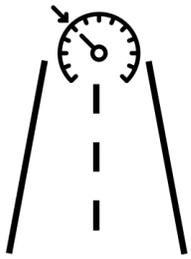
Young children-focused signages

- Signages placed such that they are visible from an eye level of 95cm (avg. height of 3 year old)
- Use of bright and recognizable features, at regular intervals
- Incorporate informal routes taken by young children in the wayfinding system

# Best practices

Streets should be designed keeping in mind the various users and traffic should be moderated as per the pedestrians' needs and not only according to the vehicular traffic.

## Speed calming measures



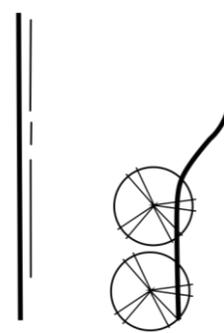
Speed limiting

- Imposing speed limits of 15-30km/hr in local neighbourhood streets



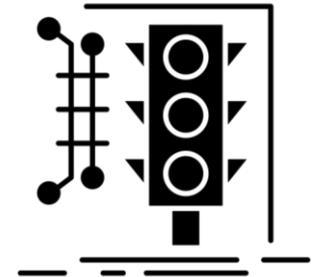
Raised pedestrian crossings

- Enable safe crossing of streets by young children, pregnant women and caregivers



Kerb extension

- Widening the footpath wherever required to facilitate easy pedestrian movement and pause spaces for young children and caregivers



Smart traffic management

- Limiting traffic in residential neighbourhoods as much as possible
- Ensuring one-way traffic movement to make streets pedestrian oriented

# Best practices

Streets should be designed to be easily accessible and should ensure ease of use by young children and caregivers.

## Accessibility and infrastructure upgradation



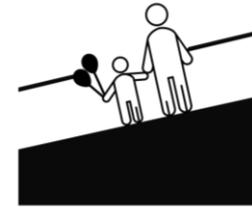
### Adequate lighting and seating

- All pedestrian areas such as the pavement should be well lit, at a minimum of 6-8 lux level
- Pedestrian lights are recommended to be placed at every 12-15m, and at no more than 4m in height
- Low bollards with flat tops, at height of 400-500mm can be used as seating for toddlers should be at a height of 270mm



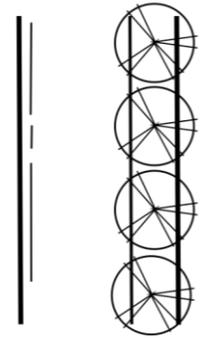
### Active street facade

- All corners of the street should be visible from the surrounding buildings
- Avoid structures in the public realm that obstruct views
- Introduce carefully placed amenities like food vendors, *presswallahs* etc.



### Ramps, raised pedestrian crossings

- Ramp widths of minimum 1.8m to accommodate a caregiver with a baby in stroller and a young child walking next to them.
- Inclination for ramps should be 1:20 (5%) to 1:15 (6.7%)
- Tactile paving to be added at the start and end of the ramps



### Unobstructed pedestrian pathways

- Pavement clear of any obstructions
- All street elements such as benches, streetlights and trees need to be placed in a separate part of the street section profile, next to the walkway



1a.

## SAFER WALKING

Incorporate safety measures in retrofitting existing streets & intersections through the lens of young children and caregivers



# Speed Calming Measures

VIDYA BHAWAN, UDAIPUR

- Tactical interventions made on the street to indicate the presence of a school in the vicinity and speed calming.
- Non-standard patterns on the carriageway and unusual shaped build-outs help to refocus the street around children.
- Planting of new trees and raised crossing points help make the street safer for everyone.

**Tactical design interventions for speed reduction can demonstrate the impact of creating safe zones around schools and early childhood services.**



Photo by Bernard van Leer Foundation



# Enhancing Pedestrian Infrastructure

## ST. MARK'S ROAD, BANGALORE, INDIA

- Extending side-walks, increasing number of crossing points, and improving the design led to more people using the street.
- Pedestrians increased by 250% and pedestrian crossing time was reduced to 12 seconds after extending the sidewalks.
- Addition of platform seating around existing trees offers resting points for young children and their caregivers
- Green strip acts as a buffer between the motorized and non-motorized path, thereby, preventing small children from accidentally running out onto the street.

**Enhanced street design elements encourage pedestrianization.**

Source: <https://globaldesigningcities.org/publication/global-street-design-guide/streets/neighborhood-streets/neighborhood-main-streets/case-study-st-marks-rd-bangalore-india>



Photo via Deccan Herald



Photo by Ravichander

# Reclaiming pedestrian space on city streets

## COIMBATORE, INDIA

- This example is a tactical intervention by Coimbatore City Municipal Corporation as part of the “Kovai Connect - Celebrating Public Spaces”. One of the busiest roads in the city was selected for the pilot project.
- The vehicular movement on the streets was streamlined while creating ample space for both pedestrians and bus users by demarcating spaces using simple design interventions.
- With public participation at implementation stage, as well as monitoring stage to receive feedback from all users, levels of service for pedestrians and bus users were improved as per traffic surveys.

**Tactical design intervention to make space for pedestrians and to streamline movement of vehicular traffic with public participation.**

Source: <https://www.sutp.org/reclaiming-public-space-in-coimbatore/>

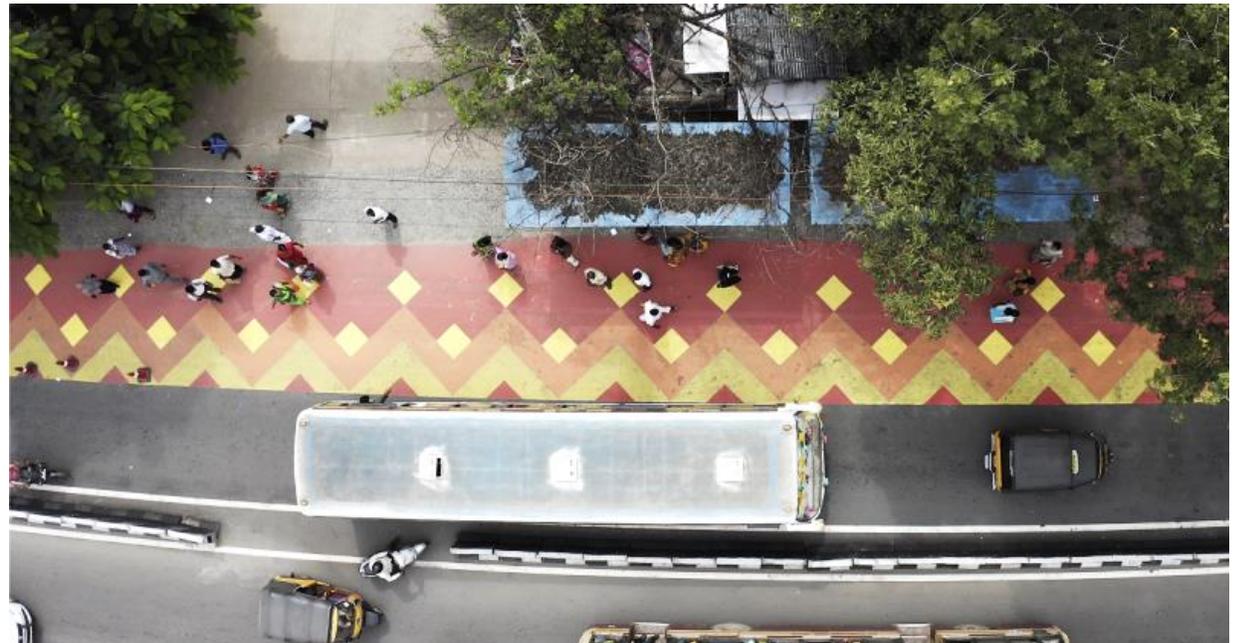


Photo by Trinankur Banerjee via SUTP

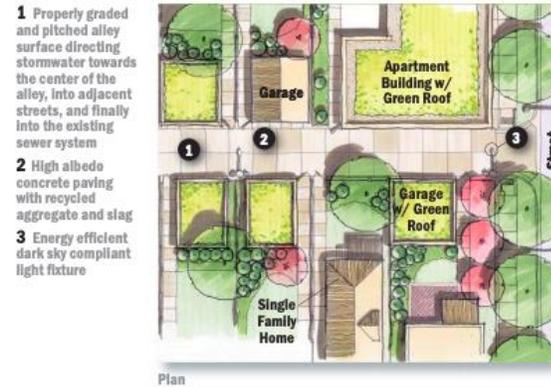
# Green Alleys

## CHICAGO, U.S.A.

- City of Chicago started 'Green Alleys' program in the public alleys of the city to better manage the stormwater and reduce localized flooding in various neighbourhoods.
- Recycled materials are used to pave the alleys to make the surfaces permeable, to enable recycling of the ground water through the stormwater. Catch basins are further provided to improve the drainage in the alleys.
- Citizens in the neighborhood were further expected to install rain gardens and bioswales to absorb and filter water before reaching the alley.

**Material-based interventions at neighborhood level improve drainage and stormwater management.**

Green Alley Pilot Approach #1:  
Green Pavement Materials with  
Conventional Drainage



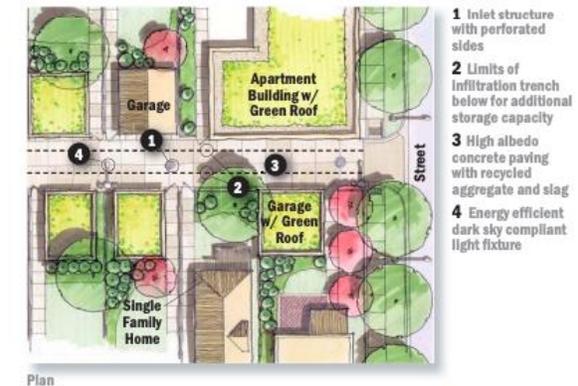
Green Alley Pilot Approach #2:  
Full Alley Infiltration Using  
Permeable Pavement



Green Alley Pilot Approach #3:  
Center Alley Infiltration Using  
Permeable Pavement



Green Alley Pilot Approach #4:  
Green Pavement Materials with  
Subsoil Filtration System



Photos via Green Alley Handbook, Chicago Department of Transportation

# Rain gardens along streets

## NEW YORK, U.S.A.

- Rain gardens reduce toxins and other pollutants in water, turning streets greener and more resilient, especially in low-lying, flood-prone areas.
- New York City has undertaken the creation of rain gardens, as a cost-effective, resilient and sustainable way to contain storm impacts.
- Rain gardens are small natural areas, typically located in a sidewalk near a stormwater catch basin. Extremely porous engineered soil along with a variety of plants are chosen to ensure water is absorbed, so, plants can thrive in an urban environment. Further, porous concrete helps divert stormwater from streets and to draw it into the ground.



Photos via 6sqft

**Green infrastructure improves drainage and stormwater management.**



1b.

## ACCOMMODATE PLAY & INTERACTION

Reorganize street space to enable continuous walking, accommodate pause spaces and opportunities to play and interact, thus, creating memorable landscapes.



# Vibrant Play Spaces Along the Street

PUNE, INDIA

- Improvement of motorized, non-motorized and public transport infrastructure on 1.87 km stretch of J. M. Road in Pune.
- Green buffers to segregate the vehicular and pedestrian traffic.
- Play areas with rubberized soft flooring have been designed at regular intervals between the green buffers.
- Clearly designated on-street parking, organized street vending and properly-scaled carriageways.

**Integrated nature of people-centric solutions can provide multiple co-benefits. Expanding and improving pedestrian and cycling infrastructure creates opportunity for safe play within the buffer zone.**

Source: <https://www.itdp.in/vibrant-pune-citys-streets-transform-into-vital-public-spaces/>



Photos by ITDP, India

# Street side median designed to include play spaces

HADERA, ISRAEL

- A median within an existing street profile can be transformed into a play space or a park for young children. Safety from traffic is a key issue in such a case, which has been solved here by placing fencing all along the edges of the play area.
- Benches at frequent intervals help caregivers to get together and interact while children are playing. Trees planted on either side provide shade.
- Innovative street furniture double up also as play opportunities

**Street section profile can be modified to incorporate play spaces for young children and rest stops for care givers.**



Photos by Yoav Peled via <https://www.pmo.com.pl/>

# Raahgiri Day

## 70+ CITIES ACROSS INDIA

- Raahgiri is a street revolution to 'reclaim' the space for all users
- During these events, streets are temporarily closed for vehicles and opened to people for recreational activities.
- The program was launched in Gurgaon in 2013 by a collaborative of schools, non-profit organizations, and private companies which continues till date successfully.

**Temporary street closures free up space for play and other activities on a temporary basis. They encourage social interaction between caregivers, as they meet each other at the event. A temporary street closure may also lead to a permanent street closure.**



Photos by Sarika Panda Bhatt, Project for Public Spaces



## 1c. **CONNECT CHILD- PRIORITY ZONES**

Connect early childhood services and amenities through safer, pedestrianized routes for young children, to form a network of child-friendly public spaces.



# Redesigning intersections for safer commutes to school

## ROHTAK, INDIA

- The project envisions Rohtak as a city where children can travel safely on the road either by foot, cycle or transit. Various capacity building workshops were conducted with city officials, traffic police and engineers, school administration, parents and students.
- A revised temporal design intervention was first implemented with temporary installations of barricades, cones, and paint.
- Looking at the success with the help of low-cost tactical solutions in the short-term, Rohtak administration is now making this project a long-term permanent one.

**Tactical interventions to make streets and intersections safe for children commuting to school with simultaneous involvement of the community and administration**

Source: <https://wri-india.org/blog/creating-safer-child-friendly-streets>



Photo via WRI India

**Pre-Intervention**



**Post-Intervention**



# Street infrastructure for safer routes to schools

## DAR ES SALAAM, TANZANIA

- Program focusing on school area road safety, to avoid road accidents, traffic injuries and death of children walking to school in African developing cities.
- Data driven approach to identify schools and surroundings where tailor made interventions were done including new footpaths, zebra crossings, bollards, speed bumps, signages, etc.
- The program also teaches school children important safety practices. This program was extended to more than one school in the city, by involving the schools, teachers and parents, city officials and engineers with ongoing monitoring and educational courses.

**Evidence-based simple infrastructure solutions can help avoid traffic accidents and enable safer routes for young children travelling to pre-primary schools and Anganwadis.**

Source: <https://prizeforcities.org/project/sarsai>



Photos by Kyle Laferriere via Flickr

# Child-friendly routes

## AMSTERDAM, NETHERLANDS

- Kindlint literally means 'childroute'. A Kindlint is a safe corridor developed for children to navigate the city more independently while keeping them safe. They are characterized as safe, fun and attractive with as little crossings as possible.
- The idea of Kindlint is to create marked trails that connect different locations relevant for children in a neighborhood such as playgrounds, schools and day care centres.
- Trails can be marked by signs, objects, tracks, safe crossings etc.

**Simple tactical design interventions can be used to mark child-safe routes to neighbourhood schools, playgrounds and day-care centers.**

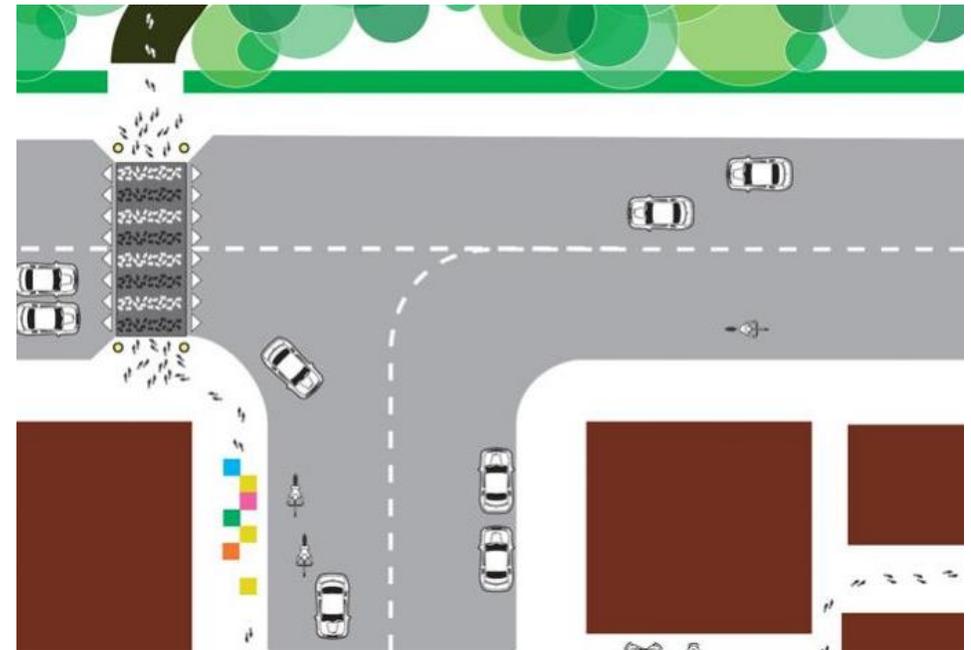


Photo by Reframing Studio

# Reducing air pollution through urban design

## COPENHAGEN, DENMARK

- The study combined air quality data with everyday spaces used by young children and their caregivers to arrive at strategies to improve the air quality through urban design interventions.
- The study focused on two neighbourhoods in Copenhagen, mapping all the child and caregiver related facilities and institutions to understand their whereabouts. This was then superimposed with the air quality data near these facilities. A “reduce + invite” approach was taken.
- To reduce exposure to pollution, on-street parking was suggested to be removed, along with proposing more mid-street activities for children, rather than lingering near the intersections.
- To improve air quality, wider footpaths and separate bike lanes along with narrower vehicular lanes and green buffers, were proposed.

Source: <https://gehpeople.com/projects/air-quality-copenhagen/>

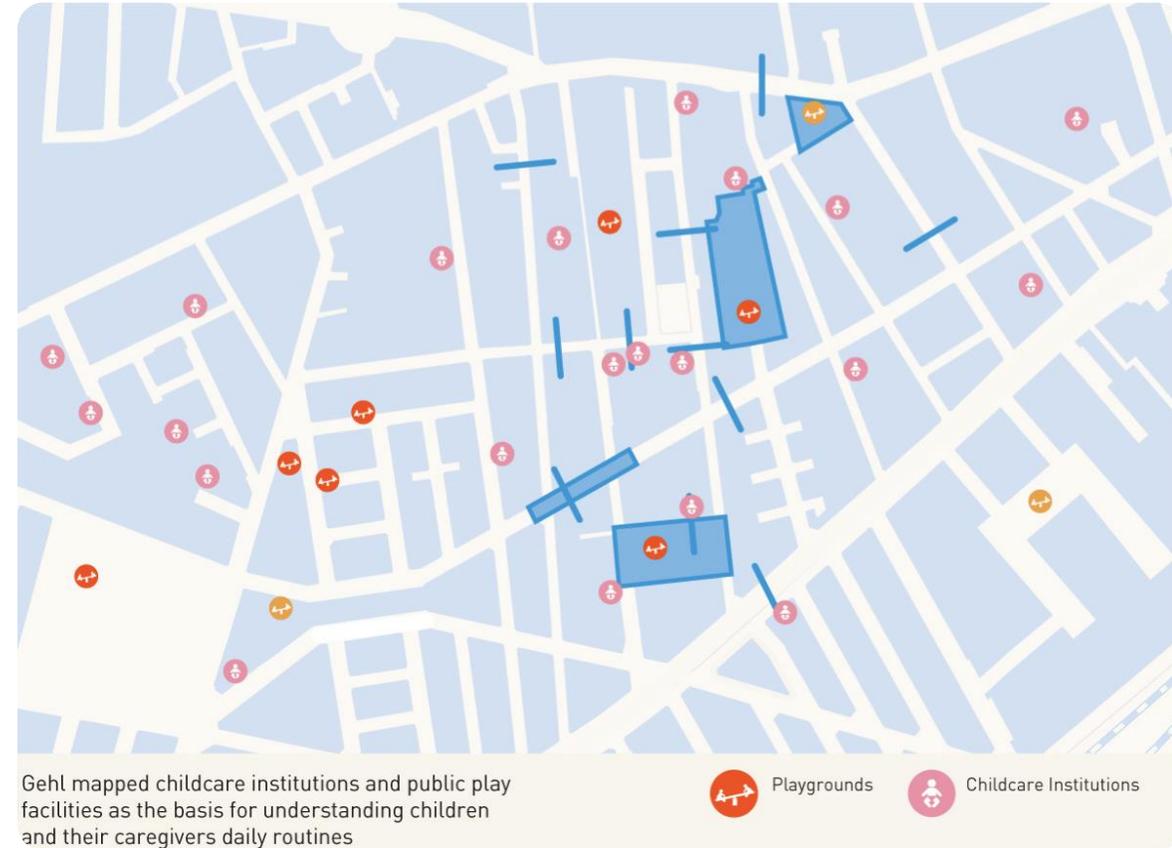


Photo via Gehl

# Improving air quality

## TURIN, ITALY

- CheARIArespiro launched a project with support from BvLF to improve air quality in areas that are widely used by children
- Air quality was measured in classrooms and routes frequented by children. Awareness programs and workshops were conducted by displaying children's artwork on the subject, with the aim to persuade the city government to act on improving air quality
- A 'bike pride' event was organized where family cyclists and pedestrians occupied an area where cars were often illegally parked.
- The project engaged media and supported the local municipality in implementing strategies for combating air pollution



Photo by cheARIArespiro team

# Tackling noise pollution

## DHAKA, BANGLADESH

- High density urban areas with noisy environments affect the health of young children. So, an initiative by Disaster Management Watch, with support of Bernard van Leer Foundation was conducted to bring forward the issue of noise pollution through evidence-based approach.
- Here, traffic and construction were identified as the major sources of noise pollution. Possible interventions like planting noise-blocking greenery, locating childcare services away from sources of noise, public awareness campaigns on the use of noise were recognized.
- A network with Government agencies and NGOs was formed, to enable public dialogue and to create awareness of the subject.



Photos by Bernard van Leer Foundation



## Reimagine public open spaces for play and interaction

Cities can offer vibrant open spaces that provide opportunities for play and social interaction for young children and their caregivers. There is a need to overcome the current insufficiency of public open spaces, especially, to address the specific needs of various user groups, including vulnerable groups.

### Strategies

- a. Reclaim inactive areas as public open spaces
- b. Revitalize existing open spaces for young children
- c. Introduce nature-based play opportunities

# Types of projects

- In existing public spaces enhance infrastructure for age-appropriate play for young children and caregivers of all abilities
- Natural landscapes can offer space for seamless interactions and unstructured play among children
- Create new public spaces through innovative ideas such as transforming dumping areas or landfills into parks, adaptive reuse of the space under the flyovers, revitalizing underutilised spaces such as school-yards in to play spaces
- Spaces to promote social interactions among caregivers in proximity of play area

# Best practices

Designing outdoor open spaces with play areas for young children needs special consideration. There are various strategies and ways in which open spaces can be made friendly for young children and their caregivers.

## Young children – focused design measures



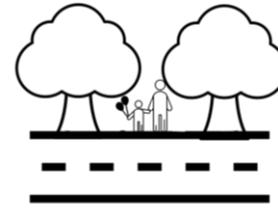
### Age specific play zones using nature-based elements

- Adjacently located age-specific play areas for young children is suggested.
- Simple elements and surfaces like a lawn in an open space can suffice for facilitating young children's play.
- Recommended to include natural elements like flowering plants, shrubs, fruit trees, water elements etc. as nature offers diverse opportunities for play and it is essential for young children to interact with natural elements.



### Open field with fixed play equipment and

- Open fields such as housing cluster parks or neighbourhood level parks with fixed play equipment and sufficient open spaces for children to run, play and explore is recommended.
- Housing cluster park of 5000 sq.m. area is ideal
- Neighbourhood park of 10000 sq.m. area is ideal



### Shaded Pathways

- Trees, bushes and climbers for natural shading in pedestrian areas is suggested
- Provision of shaded spots in caregivers' waiting areas
- Provision of shading over designated play areas and equipment



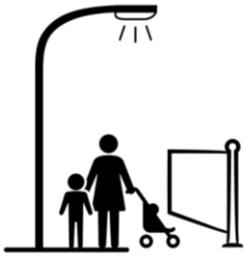
### Soft surfaces

- Provision of low-impact fall surfaces such as grass, soil, gravel, dirt or rubberized floors in play areas.

# Best practices

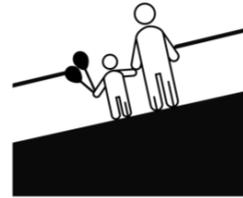
While designing outdoor open spaces for young children, safety and security is of prime importance, so that the young children can play under easy supervision of their caregivers.

## Sense of safety



### Lighting and signages

- Pathways, entrances and exit points, other focal points shall be uniformly illuminated
- Every 20m should be lit up with 20lux level
- Play areas should be well lit with 15-30 lux level



### Ramps and accessibility

- Ramps are necessary wherever there are large level differences from the access streets
- Entrances should connect directly to a continuous dedicated stroller friendly walkway inside the park
- Entrances should have wide openings, allowing 15-20 children at a time, if required.



### Permeable edges for play areas

- Using fencing around play areas, in the form of hedges, plants or street furniture
- Fence should be high enough to keep out stray animals and prevent young children from wandering away
- Frequent openings should be provided as needed on site. Suggested frequency is one opening every 50-80m



### Cleanliness measures

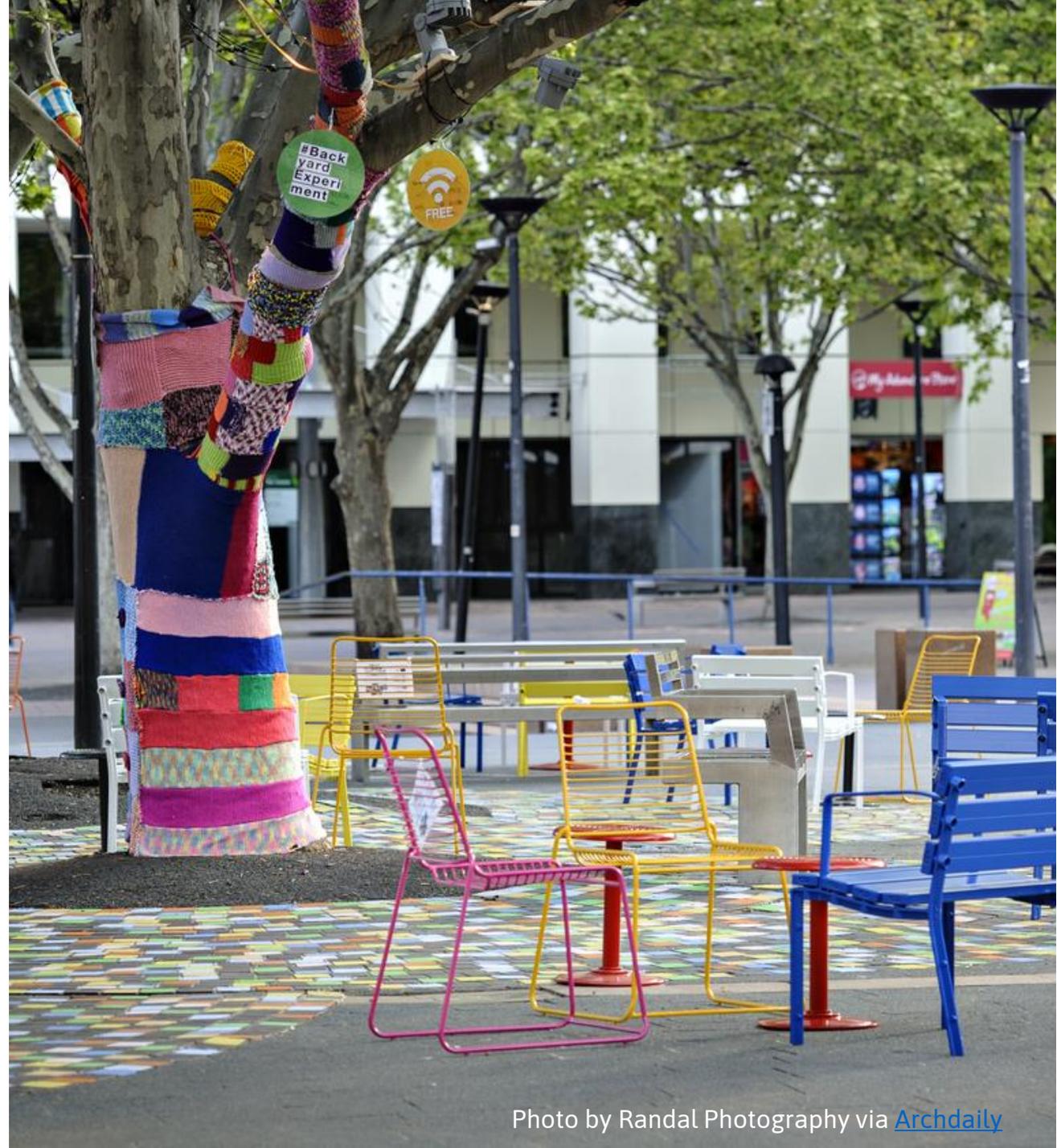
- Cleaning and regular maintenance of all ITC facilities like feeding stations and resting spaces should be done on a routine basis
- Toilets and drinking water booths should be cleaned regularly to facilitate safe use by young children and caregivers



2a.

## RECLAIM INACTIVE AREAS AS PUBLIC OPEN SPACES

Reclaim underutilized spaces in the neighbourhood such as derelict areas, flyover underspaces, etc. to infuse them with small scale interventions focused for young children and caregivers



# Dumping ground to creative and sensory play

## PROJECT CHAAK – NEW DELHI, INDIA

- Delhi residents transformed a dumping ground by clearing 21.5 tons of garbage to create a park for children and women
- Components included walking trails, gym equipment, acoustic play equipment, and bamboo climbing frames to engage children of all ages in active play
- 250% increase in the number of people using the park and 60% increase in the amount of time spent at the park

**Low-cost materials are upcycled for creative play equipment and walking trails.**



Photo via Project Chaak, Facebook page

# Parking lot to play area

## NAIYON KI TALAI, UDAIPUR, INDIA

- Tactical intervention as part of Urban95 in Udaipur.
- Neighborhood selected in the walled city area of Udaipur, based on surveys, data collection and local interactions with the residents.
- Area lacks play areas or green spaces for children or any other recreational space – despite having many anganwadis, pre-primary and primary schools.
- A parking lot was converted to play space for children in the community, during the day.
- Local people were involved in the process to generate a sense of ownership for the space.

**Involvement of local community in design and implementation of tactical intervention can generate support for scaling-up and ensures that the intervention is well-maintained by local community members.**



Photo by Bernard van Leer Foundation

# Transforming urban wastelands under flyovers

## MATUNGA FLYOVER – MUMBAI, INDIA

- The space under Matunga flyover was designed as a continuous park with adequate lighting, seating, children's play zone and green spaces.
- NGO named One Matunga took the initiative of transforming the empty space for Sunday morning community activities for children.
- After its success in the short-term, the city created this space as a permanent green public space.

**Safety rails, barricades and planting at edges make the space inviting and safe for young children across all vulnerable groups.**



Photos via One Matunga Facebook page

# Introducing play within setbacks

## URBAN AMENITIES – CARACAS, VENEZUELA

- Newly constructed public housing schemes in Caracas created residual spaces around them due to setbacks.
- These spaces were reclaimed for sports/play amenities which were lacking in the surrounding government housing schemes for low-income groups.
- The developed park/sports fields are interconnected with surrounding public housing schemes

**The orientation of buildings helps create active facades. Residents' vigilance keep it safe throughout day and night.**



Photos via Archdaily

# Pop-up events

## BOGOTA, COLOMBIA

- A pop-up event was conducted in collaboration with Bloomberg Philanthropies, NACTO-GDCI and city level agencies with an aim to create safe streets and public spaces, through traffic calming and other measures
- A parking spot was converted into a public space for young children and families, in the neighbourhood of Chapinero
- The community's strong response prompted the city to turn the area into an interim plaza and adopt the project towards a formal citywide plaza program

**Interventions that are tactical in nature are used to quickly convert or create space for people living in the neighborhood**

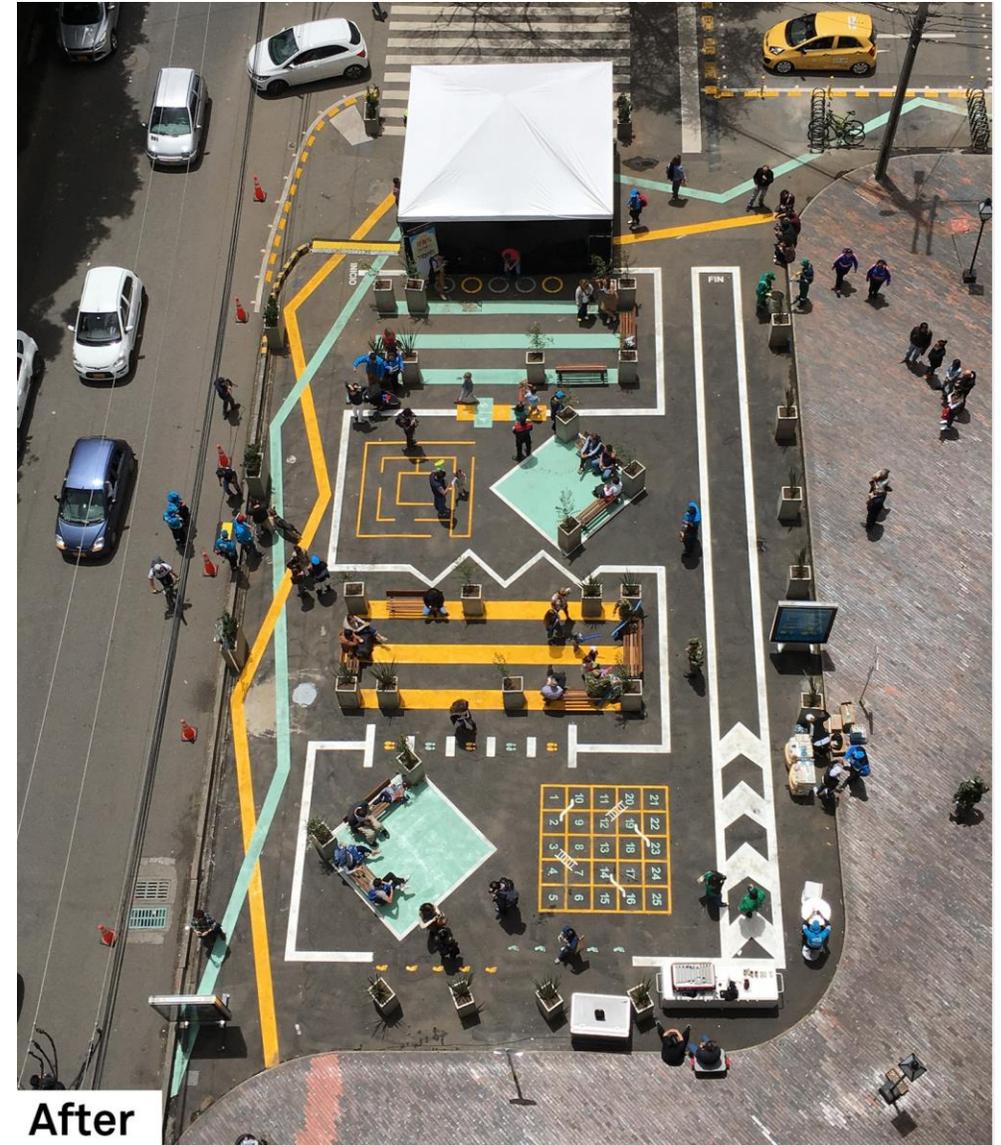


Photo via Global Designing Cities Initiative

Source: <https://globaldesigningcities.org/2016/11/29/storing-cars-celebrating-people-community-lead-processes-help-creating-better-streets-bogota/>

# Guerrilla gardening

## NEW YORK

- Guerrilla gardening is a tactical intervention at the neighbourhood level, where gardening is done on public or private lands by the community
- The sites chosen for gardening are typically, vacant sites or underutilized spaces in the neighbourhood
- Guerrilla gardening helps in bringing about improvements in the neighbourhood through collaborative local action, and addressing various social and environmental concerns like storm water management and neighbourhood greening

**Community based tactical interventions that can be used to reclaim inactive spaces in the neighbourhood and make them better for young children and their families**



Photo via Guerrilla Gardening Development Blog

# SWaCH – waste collection

## PUNE, INDIA

- The SWaCH model of waste collection model was launched in 2005 by the Kagad Kach Patra Kashtakari Panchayat (KKPKP) in Pune area. It was a workers' owned cooperative functioning as a Pro-poor Public Private Partnership.
- The model enabled two interests – the waste pickers' interest in upgrading their livelihood and the municipality's interest in sustainable Solid waste management.
- The model got extended into various verticals like livelihood upgradation and income generation activities beyond waste collection (for the waste pickers), e-waste collection, awareness raising events, etc.

**Essential services like waste management are important components to help a create a neighbourhood that is sensitive to the needs of young children and adults.**



Photos via SWaCH



## 2b. REVITALIZE EXISTING OPEN SPACES FOR YOUNG CHILDREN

Revitalise existing public spaces in neighbourhoods such as parks, playgrounds, gardens with interventions focused on young children and their caregivers



Photo credit: Bernard van Leer Foundation

# Enhancing infrastructure for all abilities

## ALL ABILITIES PARK – VISAKHAPATNAM, INDIA

- Existing park was redesigned with a special focus on differently abled children and age-wise zones
- Smart City Corporation mapped the shortcomings of the existing park, analyzed it and formed objectives for the redesign
- Upgraded park infrastructure: adequate lighting and seating for caregivers; soft surface treatment and low-impact materials for children.
- Sensory stimulation through texture and sounds are incorporated in play equipment to provide a range of play experiences for children with varied abilities.

**Age-specific play zones create a safer space. Further, a stimulating environment is provided that meet the specific needs of various user groups.**



Photos via Yovizag

# Network of child-friendly public spaces

## CENTRAL GRAND PARK – TIRANA, ALBANIA

- Grand park playground was developed specifically for children with play spaces for all age groups and spaces where caregivers can relax with children in sight.
- By working within a larger scheme, playgrounds, cycle tracks, traffic control measurements and kindergartens were redesigned and a network of child friendly spaces in the entire city was developed.
- Spaces that were previously parking spaces or vacant lands were converted to playgrounds for children.

**Play spaces can be integrated at city level, as well as neighborhood level by introducing a network of kindergartens, play areas and other street design elements focused for children.**



Before ▲

▼ After

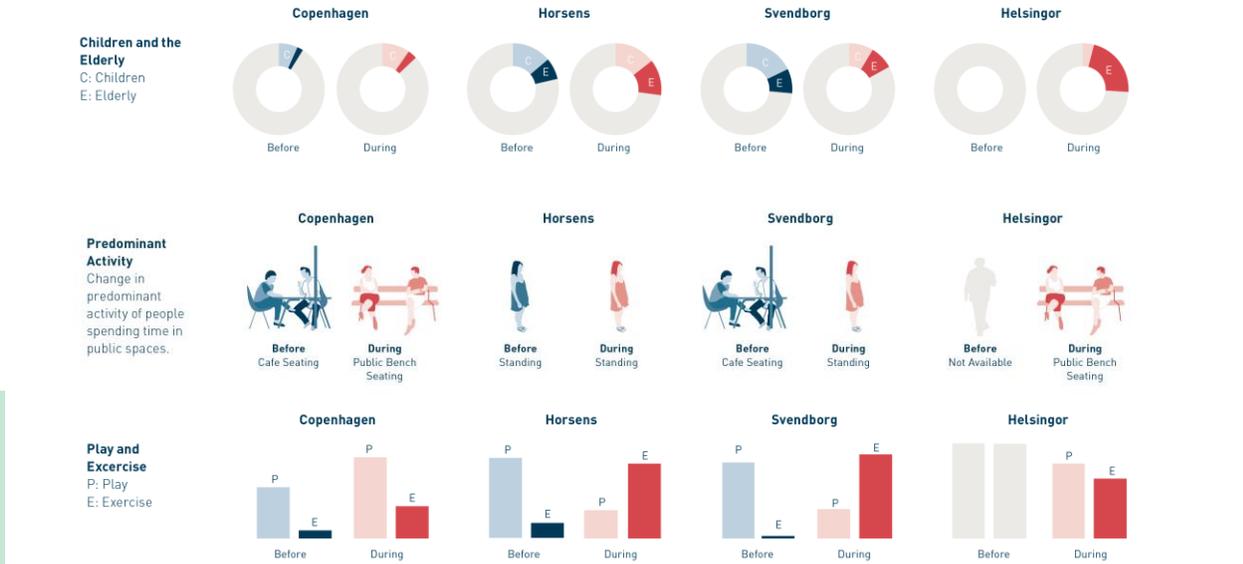
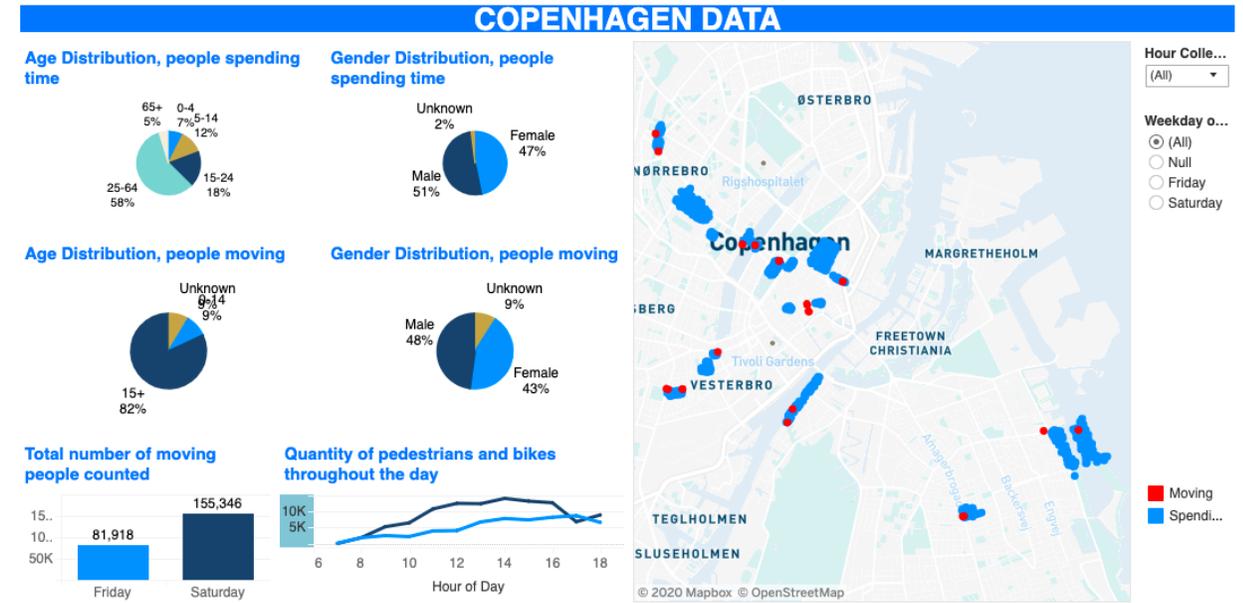


Photos by Municipality of Tirana via Bloomberg Citylab

# Public space and public life during COVID-19

## COPENHAGEN, DENMARK

- A study focused on understanding the nature and use of public spaces in the city during the COVID-19 lockdown. The survey was conducted in four Danish cities, i.e., Copenhagen, Horsens, Helsingør and Svendborg.
- Significant changes were observed in the use of public spaces with respect to the following aspects – Gender distribution, play and exercise, activities during the day, predominant activities (before and during pandemic), amount of children and elderly using the public spaces.



**Elaborate data collection and evidence-based approach can help cities understand the use of public spaces during the pandemic – leading to better guidelines in the use of public spaces**



2c.

## INTRODUCE NATURE-BASED PLAY OPPORTUNITIES

Create unstructured free play opportunities in spaces close to homes, such as the local neighbourhood park or left-over space on the street, so, young children have opportunities to engage in diverse play types that is essential for their growth and development. Further, natural landscapes like urban forests, or natural parks are encouraged.



# Play amidst nature

## Natuurspeeltuin De Speeldernis –ROTTERDAM, NETHERLANDS

- An open space in a city park forest has been converted into a nature playground – Natuurspeeltuin de Speeldernis – giving children the opportunity for unstructured free play.
- The terrain is divided into a forecourt and backyard, as per age group of children. The landscape in both parts addresses the needs children from various age groups.
- Varying landscape consisting of hills, valleys, pathways with native plants, affords children to engage in the natural environment and serves as a space for environmental education.

**Existing natural landscapes can offer space for seamless interactions and unstructured play among children.**



Photo via Twitter page of Speeldernis



# 3

## Adapt public spaces with early childhood amenities

Public spaces need to be safe, comfortable and welcoming for young children and their families. Lack of early childhood amenities in public spaces discourage young children and their caregivers from the public realm.

### Strategies

- a. **Provision of essential early childhood amenities like nursing rooms, toilets, drinking water**
- b. **Supportive amenities around public spaces such as waiting spaces, street furniture, play spaces**
- c. **Interfaces with mobility**

# Types of projects

- Support public spaces with essential amenities like nursing/ feeding/changing rooms, drinking water, gender-sensitive restrooms, drinking water, appropriate street furniture and community toilets that serve pregnant women, young children and their caregivers
- Creating play spaces and the support amenities in local community spaces such as neighbourhood centres, markets, and similar areas which are often used by young children and caregivers
- Design for bus stops, terminals made friendly for young children and their caregivers. Shaded spaces, priority queuing, waiting spaces with young children engaging activities, caregiver supportive features in bus stop design.
- Air quality and noise monitoring sensors installed around priority zones for young children and caregivers to collate data and plan interventions
- Adequate provisions to keep the public spaces clean and devoid of any dangerous substances or articles accessible to young children.

# Best practices

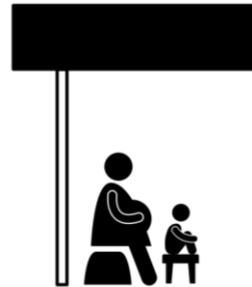
Design solutions to ensure public spaces like transit stops and terminals, markets and chowks are comfortable, clean and safe for young children and their caregivers.

## Infrastructure upgradation



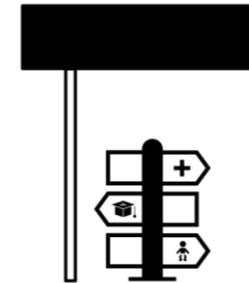
### Adequate lighting and shade

- Public spaces like transit stations, terminals, markets need seating at regular intervals
- Well-lit and well shaded areas for convenience of young children and their caregivers



### Small scale benches

- Public spaces can have seating at regular intervals
- Seats with flat tops, at height of 400-500mm for adults, and at a height of 270mm for toddlers is suggested



### Intuitive and fluid wayfinding at transit interchanges

- Apart from conventional wayfinding system, signages specialised for young children and their caregivers can also be provided at public open spaces
- Signages should be designed keeping in mind that they are easily readable from the height of 95cm as well (avg. height of a 3 year old)

# Best practices

Public spaces need to be further supported by early childhood amenities for young children as well as for their caregivers.

## Amenities for young children and caregivers



Changing and feeding rooms

- Provision of safe and accessible family rest-rooms with multiple features supporting young children's needs including diaper changing stations, washrooms and feeding areas is highly recommended.
- Where family rest-rooms are not planned, then diaper changing rooms that are safe and clean with platforms or mats need to be made available.
- All changing, feeding and rest-rooms need to be stroller friendly along with gender sensitive toilet facilities.



Public toilets

- Safe and convenient toilets for young children and caregivers in and around public spaces
- Clean drinking water should be accessible by children at public spaces



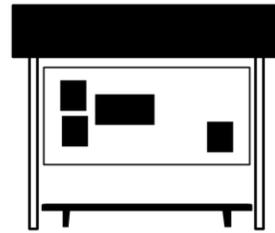
Gathering space for caregivers

- Seating areas with benches for both young children and caregivers need to be placed at regular intervals in public open spaces
- Group benches made of wood or other sustainable material to ensure comfort for caregivers
- Provision of litterbins around the seating area and well shaded areas if outdoors.

# Best practices

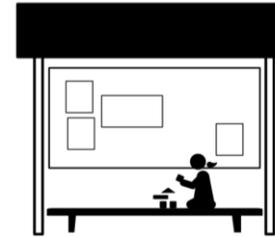
Public spaces should allow and accommodate more than just travel or shopping and make the experience more enjoyable for young children and their caregivers.

## Playful public spaces



Posters/ art on various surfaces

- Artwork that is appealing to both young children and adults can be implemented at transit terminals, stations and markets
- The artwork should be placed at a minimum of 95 cms, so, children are able to view and engage.



Creative play spaces in public open spaces

- Public open spaces can incorporate play installations that encourage young children to engage with the installation, thereby, enabling a creative and imaginative experience.



3a.

## PROVISION OF ESSENTIAL EARLY CHILDHOOD AMENITIES

Support public spaces with essential amenities like nursing/feeding/changing rooms, gender-sensitive restrooms and community toilets that serve young children and their caregivers



# Breastfeeding cubicles

## LUCKNOW, INDIA

- **Breastfeeding cubicles** will soon be installed in UPSRTC bus stations across the state
- Initiated under a public private partnership, the first phase will cover 23 of 242 stations. The rest 219 stations will be equipped in the next 3 months on a priority basis.
- The design of the cubicle consists of 2 cabins for breastfeeding in a waiting area. The cubicle would be supported by necessary signages and information regarding the use of the cubicles in bus stations.
- Rs. 2.5 crore was allotted for this initiative in 2019.

**Nursing rooms or spaces in bus stations and terminals can provide safe, secure, and convenient spaces for lactating mothers and caregivers to nurse infants and toddlers.**

Source: <https://www.hindustantimes.com/lucknow/all-up-bus-stations-to-have-cubicles-for-breastfeeding/story-CY4HFKiYqDWQnhUa4IzIzJ.html>



Photos via IBI Times



3b.

## SUPPORTIVE AMENITIES AROUND PUBLIC SPACES

Introduce play and learning opportunities for young children in various public spaces along with other areas such as bus stops, markets, construction sites, etc.

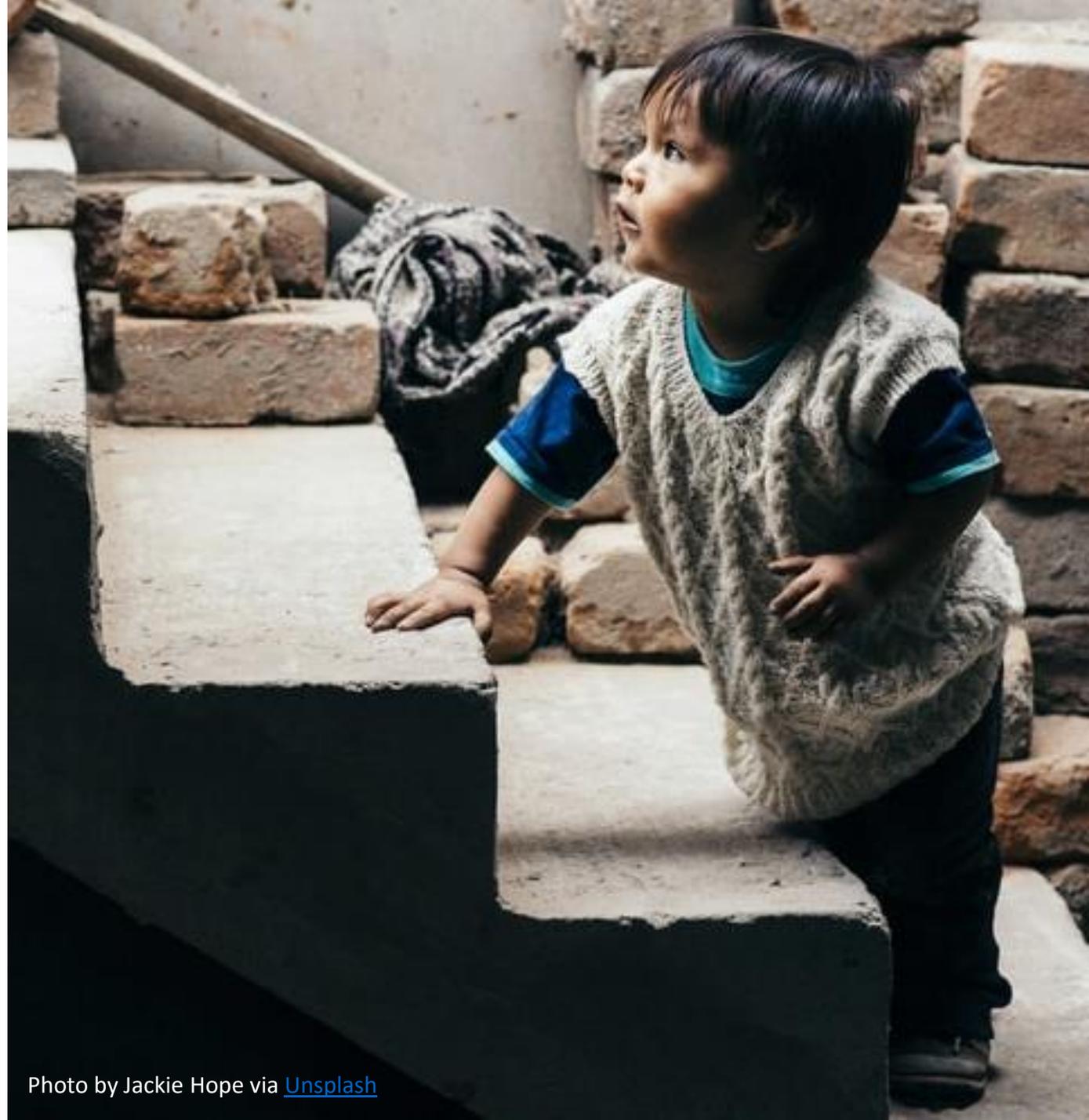


Photo by Jackie Hope via [Unsplash](#)

# Play spaces in markets

## MALATA AND NIMA MARKETS – ACCRA, GHANA

- Local markets are conventionally not child friendly as there is a lack of open spaces for children of market vendors.
- This project introduced micro-play spaces for children of local vendors, to play, learn, and spend time, while their caregivers work or shop.
- Workshops and meetings were held with community members, municipal officials, market leaders and market women, to understand the issues faced particularly by young children.
- Art and play installations like writing and drawing surfaces, interactive gaming mediums, micro libraries from waste materials sourced from the markets were created to keep the children engaged.

**A "plug-in" model for play areas in market spaces that is an inclusive, community-driven and child-focused urban intervention, which can be easily replicated in similar contexts.**



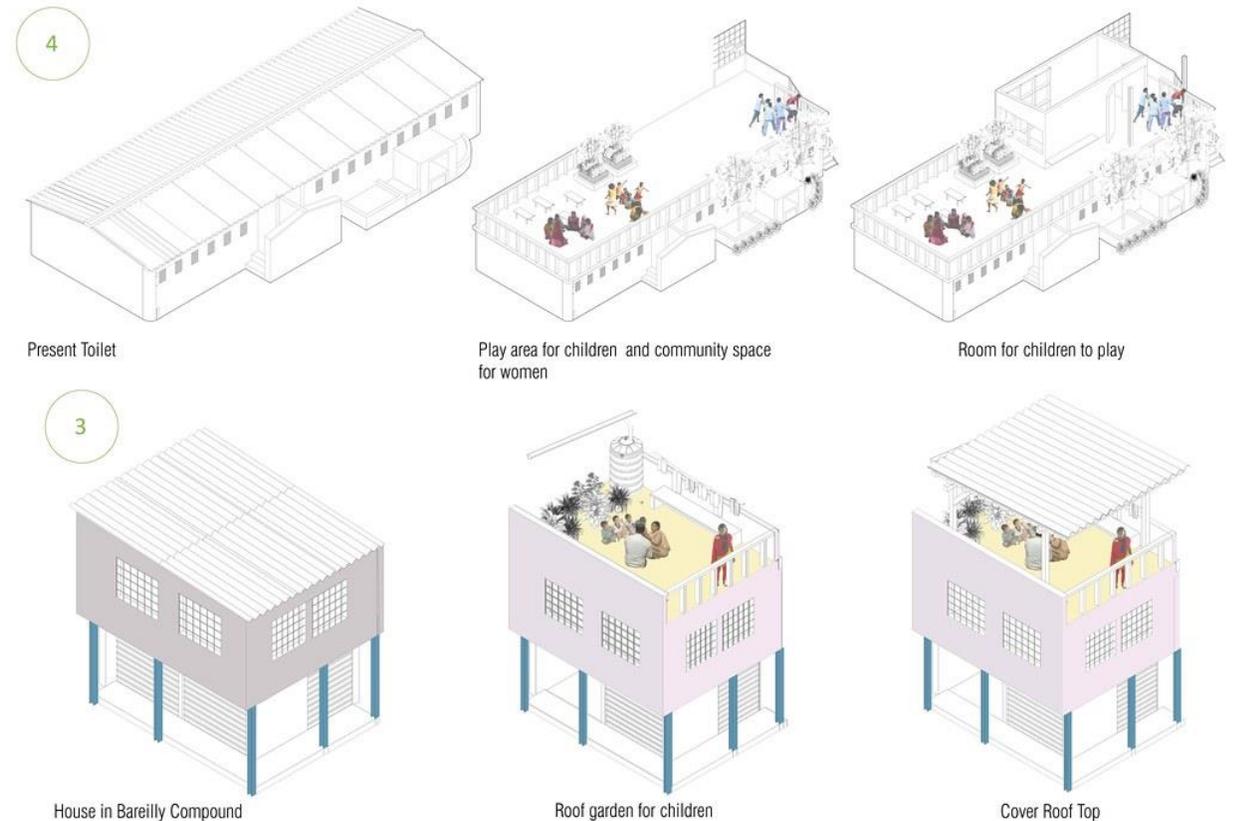
# Community and play space in informal settlements

## USABLE ROOFS – DHARAVI, MUMBAI

- A study supported by workshops and other activities highlighted lack of adequate basic amenities like toilet and water supply in the community.
- Viewing the space with respect to children and women, led to redeveloping the toilet block in the vicinity to make it more child-friendly through better lighting and ventilation; and designing its roof space to make it usable by children and their mothers, for play, gathering, day care, etc. Community members were mobilized in the renovation effort.
- Initial construction to be done by the Municipality, and further replicated by inhabitants as per their own needs.

**Roofs and other “leftover” building space can be used for playing and socialising, and the entire community can be involved in making incremental, small-scale improvements.**

Source: <https://urbz.net/index.php/articles/bareilly-compound-space-children-and-women>



Photos via Urbz



# Child-friendly construction sites

## MUMBAI MOBILE CRECHES – MUMBAI, INDIA

- Mumbai Mobile Creches (MMC) help to provide day-care, education and good health to children of construction workers on their site.
- These Creches are temporary structures built on the construction sites for a period of few months till the construction work is done
- The day care facilities by MMC consist of rooms for babies (under 3 years), Balwadi (pre-school) for children between 3 to 5 years of age, and classroom and teaching facilities for children above 5 years.

**Temporary day care facilities created for young children on the construction sites that support their learning in a safe environment.**



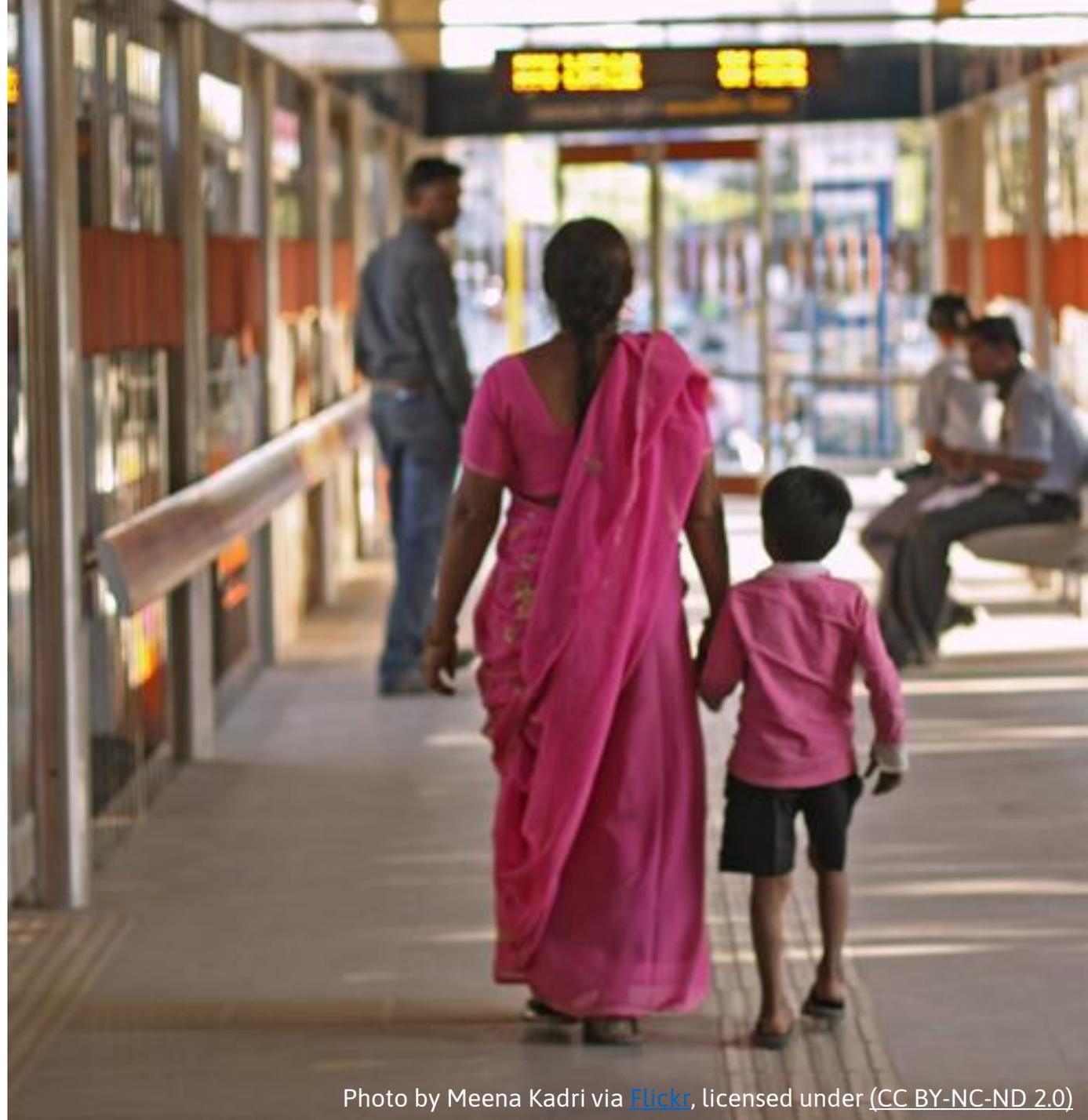
Photos via Mumbai Mobile Creches



3c.

## INTERFACES WITH MOBILITY

Enhance accessibility for young children and caregivers by providing early childhood amenities in safe and comfortable surroundings within and in proximity to transit stops and terminals



# Bus stop design

## AHMEDABAD, INDIA

- BRTS bus stops were designed with an aim to make them safe, accessible, and equitable.
- Stations are well lit by natural light and have good ventilation at all times of the day, making them safe and comfortable for young children and caregivers
- Steel cables are used for transparency and to secure safety. Ramps on platform make it suitable for strollers

**Design for bus stops made friendly for young children and their caregivers using various elements. The finalization process involved public participation.**



Photo by Arya Architects

# Young children and caregivers-friendly signage

## SINGAPORE

- Care Stickers were launched by SMRT, Singapore's Metro Rail, for expectant mothers, senior citizens and parents travelling with infants, toddlers and children
- These stickers ensured that passengers in need can be identified easily and will encourage commuters to offer their seats to those who need it.
- SMRT is also testing out priority queue lines to lift entrances at selected MRT stations

**Young children and caregivers-friendly signage and stickers in transit stations and buses can support stress-free travel for caregivers with young children**

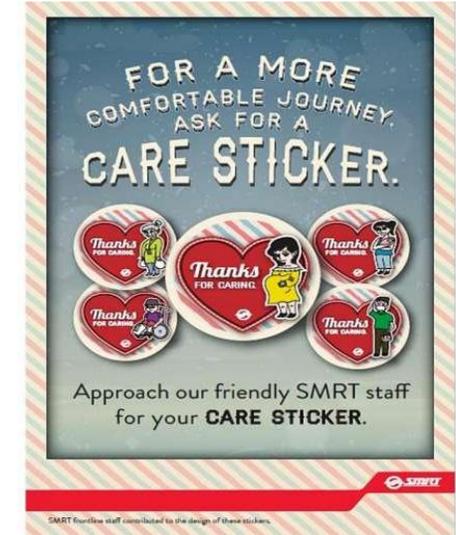
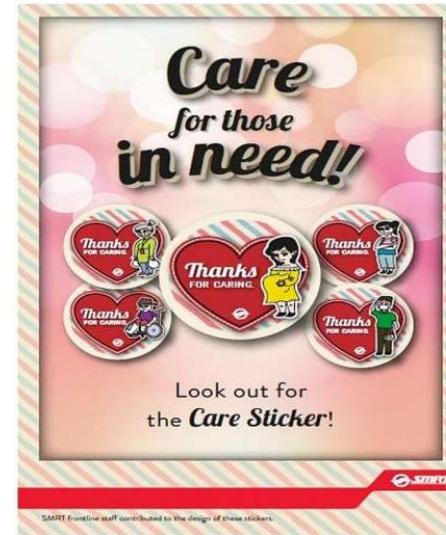


Photo by SMRT via Strait times

# Metro stations made accessible

## DELHI, INDIA

- Delhi Metro stations are designed to be inclusive and accessible for all.
- Features like wider flap gates, accessible wheelchairs, elevator buttons with braille marking and accessible toilets for all have been included.
- Inclusive design features such as appropriate signages for facilities for people with different abilities, tactile tiles for visually impaired, handrails along staircases and level platforms with train floors are few examples of inclusive elements that are incorporated at the metro stations.

**Design interventions can be made to ensure accessibility and inclusion at transport mediums for people with different abilities.**

Source: <https://wecapable.com/delhi-metro-accessibility-persons-with-disabilities/>



Photos via WeCapable

# Making transit playful through art and installations

## LEXINGTON, USA | MELVILLE, AUSTRALIA

- 'BUSt! Boredom' project provides visual art installations and creative programming for children during their wait for the bus.
- A collaborative initiative among the development authority, transit authority, parking authority, architecture firms, non-profit organization, and private funders
- Further, 'Adopt a Stop' program was launched by the City of Melville to transform bus stops into works of art.

**Making bus stops playful through art and simple installations can creatively engage infants and toddlers while waiting for the bus**

Source: <https://www.communitynews.com.au/melville-times/news/city-of-melvilles-adopt-a-stop-program-transforming-bus-stops/>



Photos by Lexington Downtown Development authority via Kaboom



# 4

## Improve access to early childhood services

Early childhood services, such as Anganwadis, creches, health centers, and child and maternity hospitals, are destinations that are frequented by young children and their caregivers. Lack of safe and comfortable access to such facilities, especially for vulnerable groups, needs to be addressed.

### Strategies

- a. **Co-locate services with open spaces connected by pedestrian-friendly zone**
- b. **Create play opportunities, waiting spaces in immediate surroundings of service**
- c. **Safe and convenient access to early childhood services**

# Types of projects

- Creating safe and convenient access to early childhood services by intervening in their immediate surrounding and connectivity to access them.
- Clustering of early childhood facilities with location of public spaces such as gardens, play spaces, daily use shopping, etc in their immediate surroundings
- Create pedestrian-friendly zones around early childhood facilities with clear demarcations, signages, green buffers and improved physical access
- Availability and access to convenient public transport options improving last mile connectivity to transit stations by connecting missing links, walkways, lighting, crowd management, and active street edges by revitalizing public spaces
- Flexible use / innovative repurposing of surrounding spaces to support young children and caregivers and allow activities at different times of day
- Use of building – public realm interface to create opportunities for play in waiting spaces and resting areas for young children, and their caregivers

# Best practices

Facilities and spaces related to social infrastructure are frequently visited by young children and their caregivers in a neighbourhood. These spaces should be in proximity, to allow easy access for young children and caregivers.

## Mapping and surveying



Identifying early childhood services

- Mapping the urban services related to young children and their caregivers, like day care centres, creches, anganwadis, schools, etc.



Mapping frequently used routes

- Mapping all the frequently used routes used by young children and caregivers in the neighbourhood – both formal and informal routes



Forming safe movement network

- Using the mapping services and routes to develop a network of safe movement in the neighbourhood.

# Best practices

Transit operations can be moderated to incorporate young children and caregiver-friendly systems.

## Operational practices



Priority queues at transit stations and terminals

- Queues at transit stations and terminals to allow pregnant women and caregivers travelling with infants and toddlers to be prioritised

## Route planning



Prioritise routes and destinations most useful for young children and caregivers

- Public transport with routes based on common destinations used by young children and their caregivers should be considered.
- Route planning should include hospitals, schools and other child-care facilities, based on mapping of all young children and caregiver-based destinations



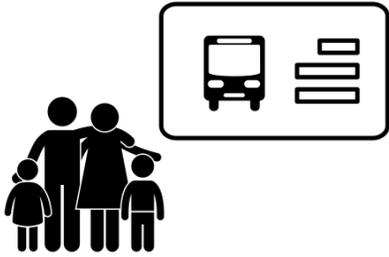
Predictable schedules, making it easier to plan journeys

- Bus, train and other public transportation schedules can be made available and predictable so that young children and caregivers and pregnant women can plan longer journeys as required

# Best practices

Incentives can become important and helpful to make people use the public transportation.

## Subsidies for families

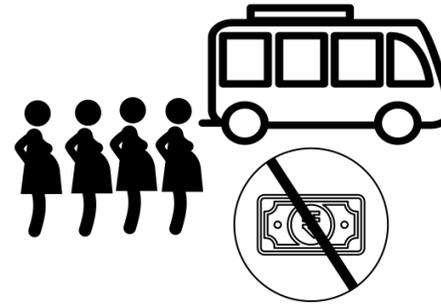


Pass program for families



Travel card or vouchers for pregnant women

## Shared transit and Para-transit



Free on demand services for pre-natal visits



Ride sharing and shuttle services for low-income pregnant women



4a.

## CO-LOCATE SERVICES WITH OPEN SPACES, CONNECTED BY PEDESTRIAN FRIENDLY ZONES

Locate early childhood services  
in proximity with each other for  
ease of accessibility for young  
children and caregivers



# Anganwadi hubs for early childhood services

## NEW DELHI, INDIA

- Resources from 3 to 4 anganwadis were combined to create a hub center – a Mohalla Playschool.
- A bigger space is used to teach children through various forms of play, prayer songs, exercise and other activities.
- A positive environment is created for children. This resulted in more children visiting and using the Hub centers.

**Anganwadis can be developed to integrate play and learning environments, such as playschools, especially making such early childhood environments accessible for the economically weaker groups.**



Photo by Amit Mehra via The Indian Express

# Library parks for social development

## MEDELLIN, COLOMBIA

- Library parks in Medellin were conceptualized as a strategy to reduce social inequalities and violence in the city. The idea was to enable more social interventions to engage people, thus, reducing violence in public spaces.
- The library parks offer various library services and include spaces such as auditoriums, workshop spaces, playrooms, and public spaces for the community and children.
- Over the years the library parks have seen increased number of users, with considerable changes in the citizens' experience and their access to education and information.

**Social infrastructure can be planned as a platform to improve community experience and reduce violence, thus, allowing more people to access knowledge and reduce social disparities.**

**Source:** Granda, R., & Machin-Mastromatteo, J. D. (2018). Medellin Library Parks: A model for Latin American libraries and urban equipment. *Information Development*, 34(2), 201–205. <https://doi.org/10.1177/0266666918755642>



Photo by Mazzanti Architects via Architizer



4b.

## CREATE PLAY OPPORTUNITIES, WAITING SPACES IN IMMEDIATE SURROUNDINGS OF SERVICES

Use of building interface to create opportunities for play, pause points and rest for young children and caregivers in the public realm.



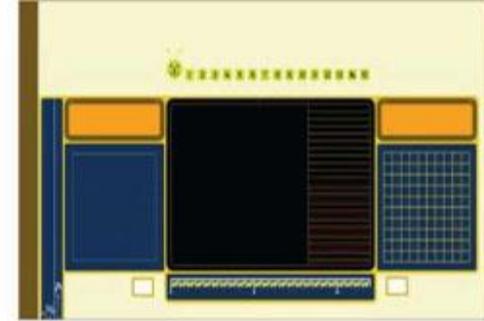
# BaLA – Building as Learning Aid

## GUJARAT, INDIA

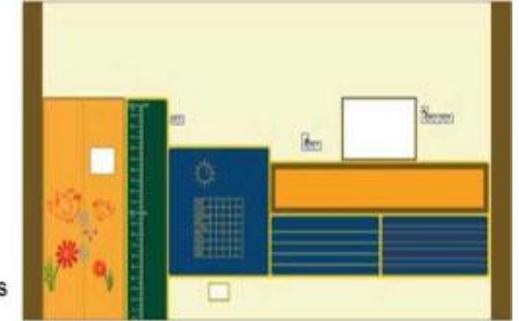
- BaLA is a way to holistically plan and use the school infrastructure. It incorporates the ideas of activity-based learning, child friendliness and inclusive education for children with special needs.
- At the core, it assumes that the architecture of the school can be a resource for teaching-learning processes. The classrooms as well outdoor spaces are designed to include play and learning.
- There are two levels of this intervention:
  1. Develop SPACES to create varied teaching-learning situations
  2. Develop BUILT ELEMENTS within the school environment to support teaching-learning aids

**Built space and various elements in schools can be modified to make the schools a better learning and inclusive environment.**

Source: [http://gujarat-education.gov.in/ssa/design\\_Ideas\\_for\\_Fun\\_and\\_Learning.htm](http://gujarat-education.gov.in/ssa/design_Ideas_for_Fun_and_Learning.htm)



Walls of typical i-classroom design for learning for different classes



Drum Swing



Drum and Tyre Swings, Merry-go-round, Climber and Banister slides adapted for inclusive play grounds

Photo via Gujarat Council of Elementary Education

# Air quality flag program for schools

## UNITED STATES

- The air quality flag program helps to create awareness in a community about the daily air quality conditions.
- When community members know the daily air quality, they can adjust their activities to reduce their exposure to air pollution.
- The program encourages schools in the community to get bright coloured flags (colours designated as per air quality), educate and inform the community about the program and its significance, check the air quality levels and forecast each day and fly the corresponding flag, adjust outdoor physical activities based on the air quality.
- Simple measures like turning off the vehicle engines if parked for more than 30 seconds near schools, and to play or exercise as far as possible from busy roads can be implemented.



	Green flag – good air quality
	Yellow flag – moderate air quality
	Orange flag – unhealthy for sensitive groups (including children and people with heart or lung diseases, like asthma, older adults, and adults who are active outdoors)
	Red flag – unhealthy for everyone
	Purple flag – very unhealthy for everyone

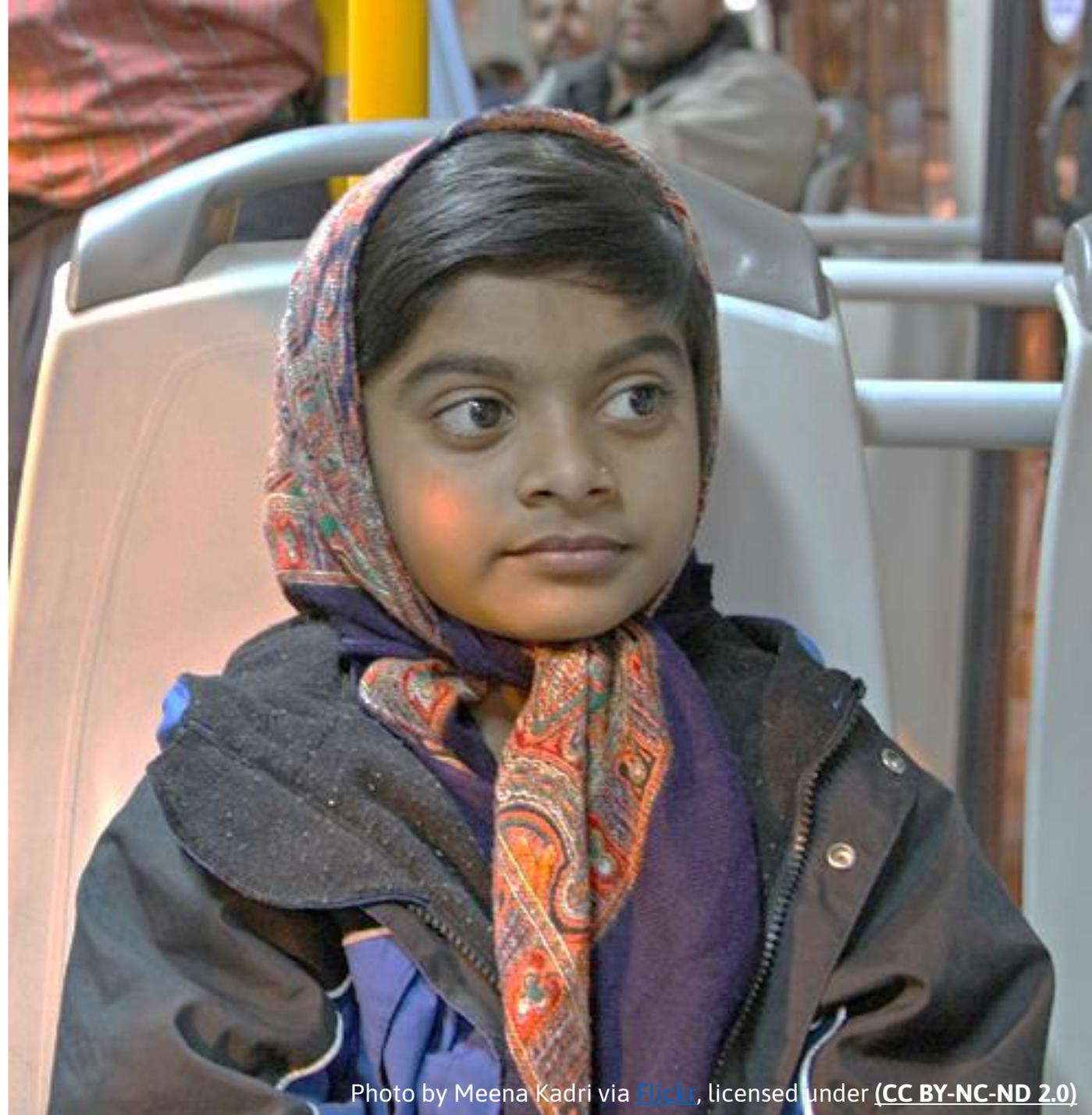
Photo via CFPUB



4c.

## **SAFE AND CONVENIENT ACCESS TO EARLY CHILDHOOD SERVICES**

Improve planning and operation of public transport to enable easy and safe access for young children and their caregivers to early childhood services



# Transit card for payment integration

DELHI, INDIA | LONDON, UK

- The metro card was rebranded as **ONE card** – to become a common mobility card for all public transit modes in Delhi (for the metro and bus)
- A 10% discount was provided for its use
- **Off-peak Family Travelcard** by London Northwestern Railway allows unlimited travel throughout London on national rail, subway, light rail, tram, or buses within specific fare zones
- It allows up to 4 children to pay £1 only with an adult who pays a full fare

**Providing commuters a single card to travel across modes can facilitate interchanging for young children and caregivers, reducing travel time and improving convenience**

Source: <https://www.cntraveller.in/story/use-one-card-get-around-delhi/>, London northwestern railway



Photo via Urban update



Photo via London North-western Railway

# Mobility as a Service (MaaS) Application

## GLOBAL

- Released in 2012, the **Moovit** app is a transit and mobility service application, available in 3000+ cities
- The app provides transit information from public transit sources as well as crowdsourced data which can help caregivers and pregnant women to plan their travels and reduce waiting time.
- It also provides accessible routes that direct users on step-free routes from street level to public transport modes (such as the train). Such information is valuable to caregivers, mothers, etc.

**MaaS applications can provide dynamic, quick, easy, and reliable information on transit services, thereby reducing travel uncertainty for caregivers**

Source: <https://medium.com/@CommuterKate/baby-on-board-6-tips-for-traveling-on-public-transit-with-your-child-36a2027c650f>



Photo by Commuter Kate via Medium

# Free Bus Passes for Pregnant Women

## ANDHRA PRADESH, INDIA

- Free Bus Pass Program for BPL (Below Poverty Line) pregnant women for the purpose of antenatal checkups at the nearest hospital
- Announced by APSRTC in the year 2005-06
- Over 8 lakh passes have been distributed in just a span of 1 year between 2006-07

**Free or subsidized public transit services for pregnant women from low-income households can help increase their access to healthcare during pregnancy**



# NARI

Photo via Andhra Pradesh State Road Transport Corporation,  
National Repository of Information on Women

# Emergency Transportation Assistance Program

## BRITISH COLUMBIA, CANADA

- Free bus tickets for low-income individuals with emergency transportation needs and no safe alternatives
- United Way partners with municipalities and regional districts to distribute the free tickets
- The tickets can be used for medical and wellness appointments and childcare, among other things

**Free transit tickets for low-income pregnant women and caregivers for emergencies or healthcare appointments can provide affordable transit options, improving access to healthcare**



Photo via United Way

# On-Demand Trip Assistance

## OHIO, USA

- A pilot **trip assistance** project for expectant moms was launched in Columbus city to provide free on demand services to medical appointments and other daily errands
- Mothers are able to book services via app, text and call centers. It also notifies healthcare providers when patients are on the way to the service or facility.
- The pilot covered 500 pregnant women from low-income neighborhoods and was extended to postpartum mothers for the first two months of delivering the baby.



Photo via ZohoConnect

# Measures focused on pregnant women and elderly

## PATNA, INDIA

- Dedicated Covid-19 combat cell was set up to ensure lockdown norms were followed. The platform also served as a transport service referral to the vulnerable population residing in slums with a focus on ill, pregnant and elderly citizens.
- Expectant mothers were identified and given counselling for birth preparedness. Counsellors also connected with people in the reproductive age group to discuss family planning, home-delivery and related maternity support.

**Young children, pregnant mothers and older caregivers require special care during crisis situations. Infrastructure, urban services and counselling can be provided, focusing on young children and their caregivers, especially for pregnant women during times of emergencies.**



Photo by Diksha Foundation, Patna, Bihar

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## Make streets safe and walkable

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## Reimagine public open spaces for play and interaction

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4. Transforming urban wastelands under flyovers, Mumbai, India (<https://www.thebetterindia.com/58845/matunga-flyover-garden-mumbai/>)
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## Adapt public spaces with early childhood amenities

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8. Making transit playful, Lexington, USA and Melville, Australia (<https://www.communitynews.com.au/melville-times/news/city-of-melvilles-adopt-a-stop-program-transforming-bus-stops/>)

## Improve access to early childhood services

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## Improve access to early childhood services (continued)

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10. Measures focused on pregnant women and elderly, Patna, India (Smart responses to COVID 19 – MoHUA, India)



Ministry of Housing and Urban Affairs  
Government of India



Cities may refer to *Project Formulation* document in the Nurturing Neighbourhoods Challenge Resource Kit for guidance related to: (a) identifying issues relevant to young children and families, (b) identifying a neighbourhood for pilots, and (c) formulating pilot projects.

For any assistance, contact the Challenge Helpdesk:  
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