

# INCLUSIVE STREETS

## Inclusivity in Action



August 2021

PANAJI



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PULL is a sandbox to test new approaches and solutions for sustainable and liveable cities in collaboration with residents, policymakers, public bodies, businesses and academia. It has been set up under a Memorandum of Understanding (MoU) between the Royal Danish Embassy in India (RDE) and Imagine Panaji Smart City Development Limited (IPSCDL), drawing on an earlier MoU on Sustainable and Smart Urban Development signed between the governments of Denmark and India in April 2018. It is being implemented by Oxford Policy Management, Transitions Research, and TERI.

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# Executive Summary

The Project Urban Living Lab (PULL) in Panaji is working to promote Non-Motorised Transportation in Goa’s capital city. In this regard, PULL has developed Inclusive Streets, a comprehensive and gendered mobility improvement framework for the city to address the following questions:

- 1. What are the challenges faced by girls and women in Panaji while walking in the city?
- 2. What can the city do to mitigate these problems and make the city more inclusive for women?

PULL adopted a two-pronged approach to understand the challenges girls and women face while walking in Panaji. First, the project collaborated with the social enterprise Safetipin to conduct a data-driven Safety Audit to understand the challenges in the built environment that limit women’s access to the city. Second, PULL held Walks with Women in March 2021 with approximately 30 girls and women to understand local perspectives on pedestrian infrastructure and access to the city. Overall, findings from both the Audit and the Walks highlighted that Panaji is a relatively safe city for women to access by foot, but there are still challenges that limit access at certain times and in certain areas. Overall, the city must address these challenges and improve walking infrastructure throughout the city to make mobility more inclusive.

Inclusivity in Action is a synopsis of PULL’s work on Inclusive Streets. It highlights the main challenges and recommendations proposed in the Preliminary Report and Implementation Strategy and showcases how these recommendations play out on 18th June Road in Panaji.





Figure 1:  
Walks with Women on 18th June Road

# Contents

Challenges in Panaji	04
Recommendations	06
Transforming 18 <sup>th</sup> June Road	08
Site 1 on 18 <sup>th</sup> June Road	12
Site 2 on 18 <sup>th</sup> June Road	16
Site 3 on 18 <sup>th</sup> June Road	20
Site 4 on 18 <sup>th</sup> June Road	24
Conclusion	80
References	84



# Challenges in Panaji

## 1. POOR WALK PATH DESIGN

Discontinuous walk paths which do not allow universal accessibility make walking on designated walk paths challenging for women, especially those who are carrying heavy loads (vendors/sanitation workers) or the elderly and differently-abled.

## 2. OBSTRUCTIONS ON DESIGNATED WALK PATHS

Across the city, many walk paths have obstructions like construction debris, garbage and poles (street lights, electrical) that make walking easily on the walk path a challenge for pedestrians.

## 3. VEHICULAR ENCROACHMENT ON WALK PATHS

Vehicular encroachment is a challenge in high traffic areas in Panaji, where people often block the right of way for pedestrians by driving motorcycles on walk paths or parking vehicles on them.

## 4. LOW LIGHTING

While most of Panaji is well lit, there are neighbourhoods which are not, and walking in these areas at night can feel unsafe. Poor lighting also makes it difficult for people with disabilities to walk at night.

## 5. MALE DOMINATED SPACES

While the Safety Audit of Panaji highlighted the fact that the city’s streets are not very diverse, PULL found that this is not

**85%**  
**of Panaji’s streets**  
**did not have a**  
**good walk path**  
according to the  
Safety Audit

**13**  
**Zebra Crossings**  
were found in the  
Safety Audit in all  
of Panaji

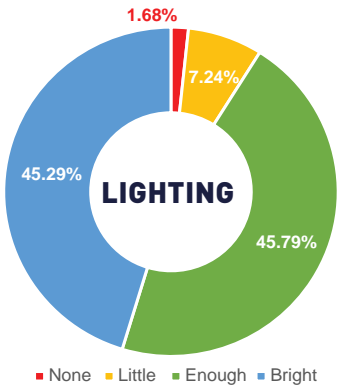


Figure 2:  
Distribution of Audit scores  
for the parameter Lighting 4

a major deterrent for women during the day. However, some women stated that public spaces are not accessible to them for recreational purposes because they are dominated by men.

## 6. UNSAFE CROSSINGS

Crossing the streets in most parts of the city is dangerous, given the lack of designated crossing infrastructure in the city. Women who work on the streets, like vendors and sanitation workers, are at higher risk of an accident due to prolonged exposure.

## 7. SEATING INFRASTRUCTURE

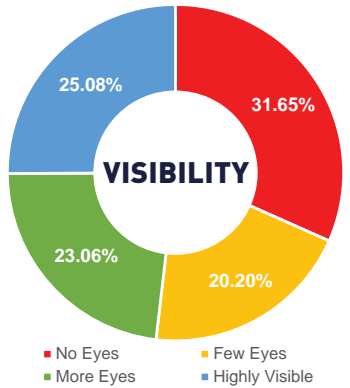
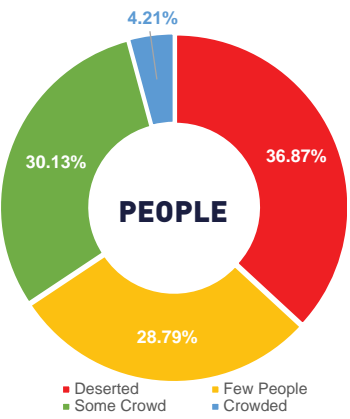
Across the city there are very few provisions for women to sit down and take a break while walking or for women who work in the informal economy to eat lunch.

## 8. INEQUITABLE ACCESS TO WASH FACILITIES

Women need access to clean public and community toilets across the city. In Panaji there are very few free toilets and at paid toilets, men’s urinals are cheaper than the WC facilities for women. Poor signage is also a challenge as tourists and visitors may not know where to go to access WASH facilities.

## 9. INACTIVATED SPACES

During weekends and at night, some streets in Panaji can feel like dead spaces, with very little activity and few eyes on the street. This creates an unwelcoming atmosphere, where pedestrians, especially women, would not choose to congregate or spend time.



Figures 3 and 4:  
Distribution of Audit scores  
for the parameters People  
and Visibility



# Recommendations

## **1. REDESIGN WALK PATHS**

Safe and accessible walking infrastructure is essential for creating an environment conducive to walking in Panaji. The city must build new walk paths where they don't exist and upgrade walk paths with adequate dimensions and surface material.

## **2. INCREASE LIGHTING**

Insufficient lighting not only exposes pedestrians (especially women) to crime and accidents, but also puts drivers at risk. Panaji must address the root causes for low lighting in certain areas of the city: either the lack of street lights, broken lights or obstructed lights by upgrading and installing new lights.

## **3. CREATE SAFE CROSSINGS**

It is important to create walking conditions which reduce conflicts between pedestrians and vehicular traffic by installing new zebra crossings, kerb ramps and ensuring that parking doesn't encroach on crossing infrastructure.

## **4. REMOVE OBSTRUCTIONS**

Obstructions like dumped construction debris, trash and repair work on walk paths are barriers to easily accessing the city by foot. Impermanent obstructions must be frequently cleared and permanent obstructions require urban design solutions that enable ease of pedestrian flow.

## **5. ACTIVATE DEAD SPACES**

Urban spaces can feel deserted during low traffic times, when commercial establishments are closed or when nobody else is around, creating a sense of isolation for women while walking. PULL suggests active programming at the community or city-scale, like markets, street art and events could help activate spaces in the city of Panaji, making them more welcoming for women.

## **6. PROVIDE EQUITABLE WASH INFRASTRUCTURE**

The lack of clean and accessible public toilets poses significant challenges to health and hygiene, tourism and economic development and is more likely to impact women. Panaji must conduct an assessment and design enough public toilets for women in the city.

## **7. INSTALL COMMUNITY SEATING**

This recommendation addresses the concerns of elderly women and workers who stated that they need places to rest while walking, and also aims to promote sociable streets that help build a sense of community and place.



# Transforming 18<sup>th</sup> June Road

Women face a variety of challenges while walking throughout Panaji: poorly designed walk paths with obstructions make walking in pedestrian areas difficult, so many pedestrians opt to walk on the road; unsafe crossings and dimly lit streets render certain areas ‘dangerous’, for fear of crime as well as accidents; and the lack of social infrastructure, from seating to toilets, deters women from spending time on the streets.

While these challenges are universal and impact most pedestrians of all genders, certain demographics are disproportionately affected - the elderly, the differently-abled, care givers and informal workers - as pedestrian infrastructure has clearly not been designed to cater to their needs or the amount of time they spend walking and navigating city streets.

This section of the report will highlight how implementing the seven recommendations will create improved access for women of these affected groups. It will demonstrate the improved experiences of three women: **Joanne**, **Maria** and **Varsha** on various stretches of 18th June Road (please see Map 1 on page 10).

**RIGHT**  
*Figure 5:* Three women in Panaji face various challenges while walking on 18<sup>th</sup> June Road in Panaji.



**Joanne**, an elderly woman in her mid-80s lives near 18th June Road and walks to the commercial street for weekly errands. Due to her age, she finds it challenging to take large steps and navigate between the parked vehicles to access the walk path. In the summer, she feels tired but can’t find anywhere to sit and rest Therefore, she goes to the market later in the evening, but on certain stretches of the market, where lighting is low, she has trouble seeing and is worried about falling.

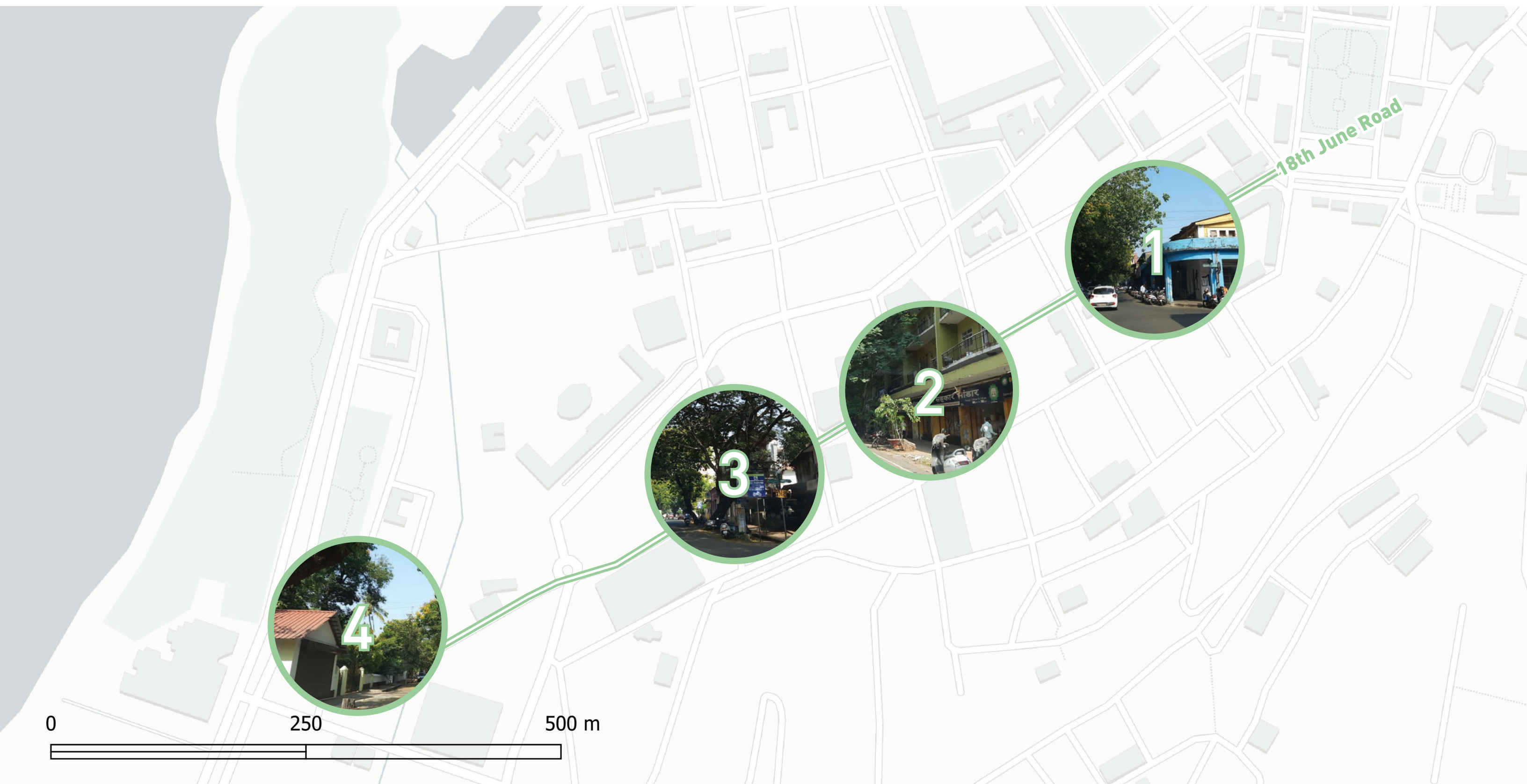


**Maria** is a young woman in her late twenties who has a job collecting garbage in the city. She walks in different neighbourhoods on different days with large garbage bins, collecting trash from the buildings. She starts early in the morning near 18th June Road and the walk paths are too narrow for her to walk with her bin. She has to cross the street frequently to access buildings and is worried for her safety while navigating speeding traffic.



**Varsha** is a single mother with a one-year-old son. Varsha and her son visit 18th June Road every week for her to run some errands but Varsha has a difficult time carrying both her son and her shopping bags. In the monsoon, she is worried about slipping and therefore only plans shopping trips when she can find someone to watch Tony. She is unable to utilise the pram she bought as she cannot access many of the walk paths without ramps to access pedestrian areas.





**ABOVE**  
Map 1: Selected Sites for Transformation on 18<sup>th</sup> June Road



# Site 1

## NEAR URBAN HEALTH CENTRE

### CURRENT SCENARIO:

Joanne walks from her home to the Urban Health Centre on 18th June Road for a doctor's appointment. With **no designated crossing space** or signalised intersection, she has to wait for vehicles to pass to cross the street. As it gets dark, she is worried about being able to see the **raised kerb** without enough **street lighting**.

When **Varsha** brings her son to the market to run some errands and do her shopping, she has to carry him. While one side of the road has space to enter the walk path, the other is **blocked by parked vehicles, making it nearly impossible for her to fit between them** to get to the stores.

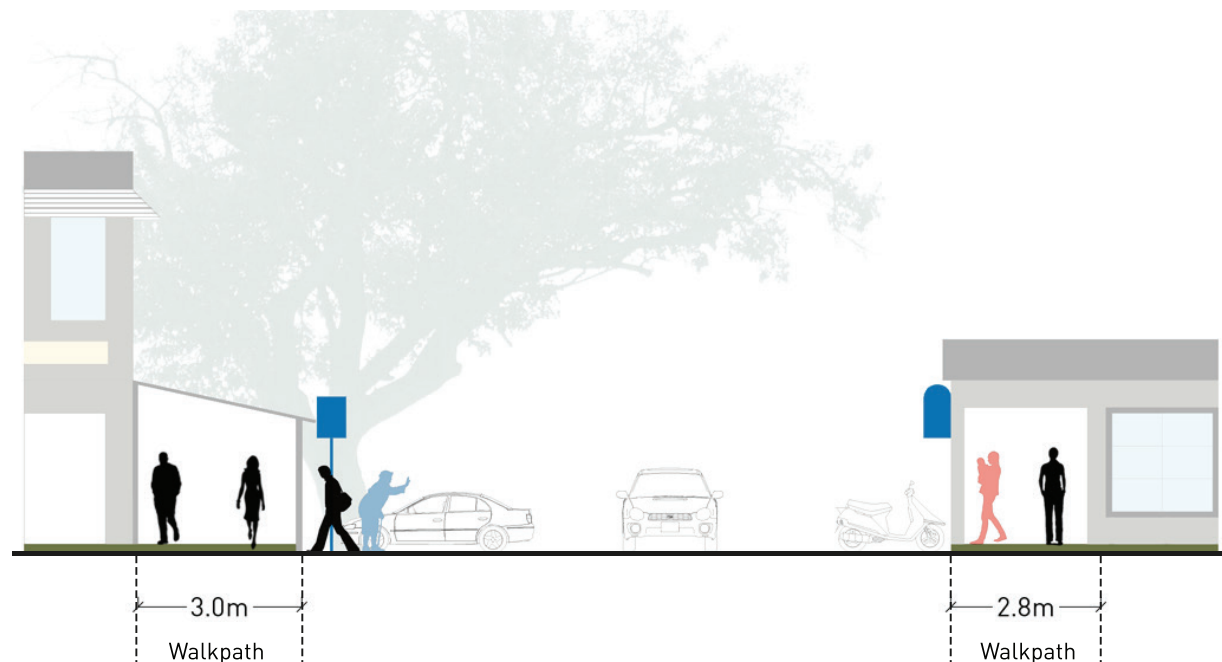


Figure 6: Section of existing conditions at Site 1





# Site 1

## NEAR URBAN HEALTH CENTRE

### RECOMMENDED SCENARIO:

When **Joanne** goes for her next check-up, she finds that the intersection has been redesigned: new **wide and well-marked zebra crossings** make it easy for her to cross the street without worrying about oncoming traffic; **ramps at the ends of the crosswalk** enable her to easily access the walk path without searching for a gap between parked vehicles. In the evening, she is able to see well with newly **installed lighting**.

Next time **Varsha** goes shopping, she brings her son in a pram, as it is easy to access the walk path with newly installed ramps. The **walk paths have been widened** and **parked vehicles no longer block entry points** onto the walk paths marked with bollards to **prevent vehicular encroachment**.

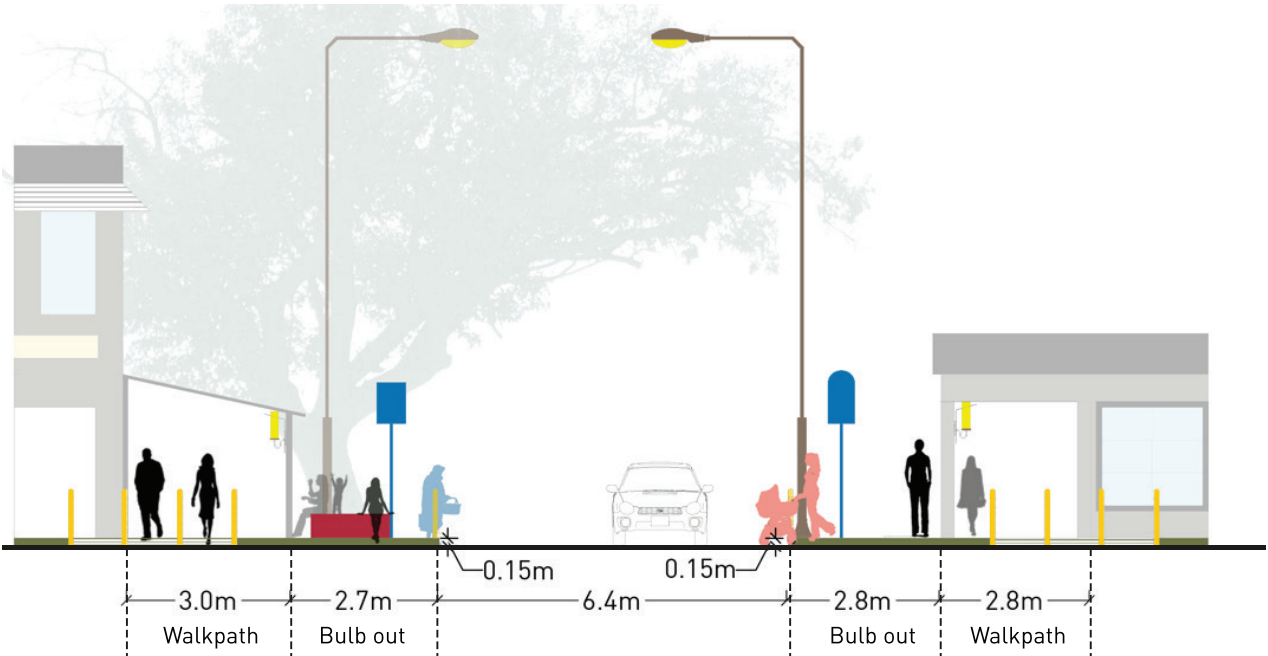


Figure 8: Section of improved conditions at Site 1

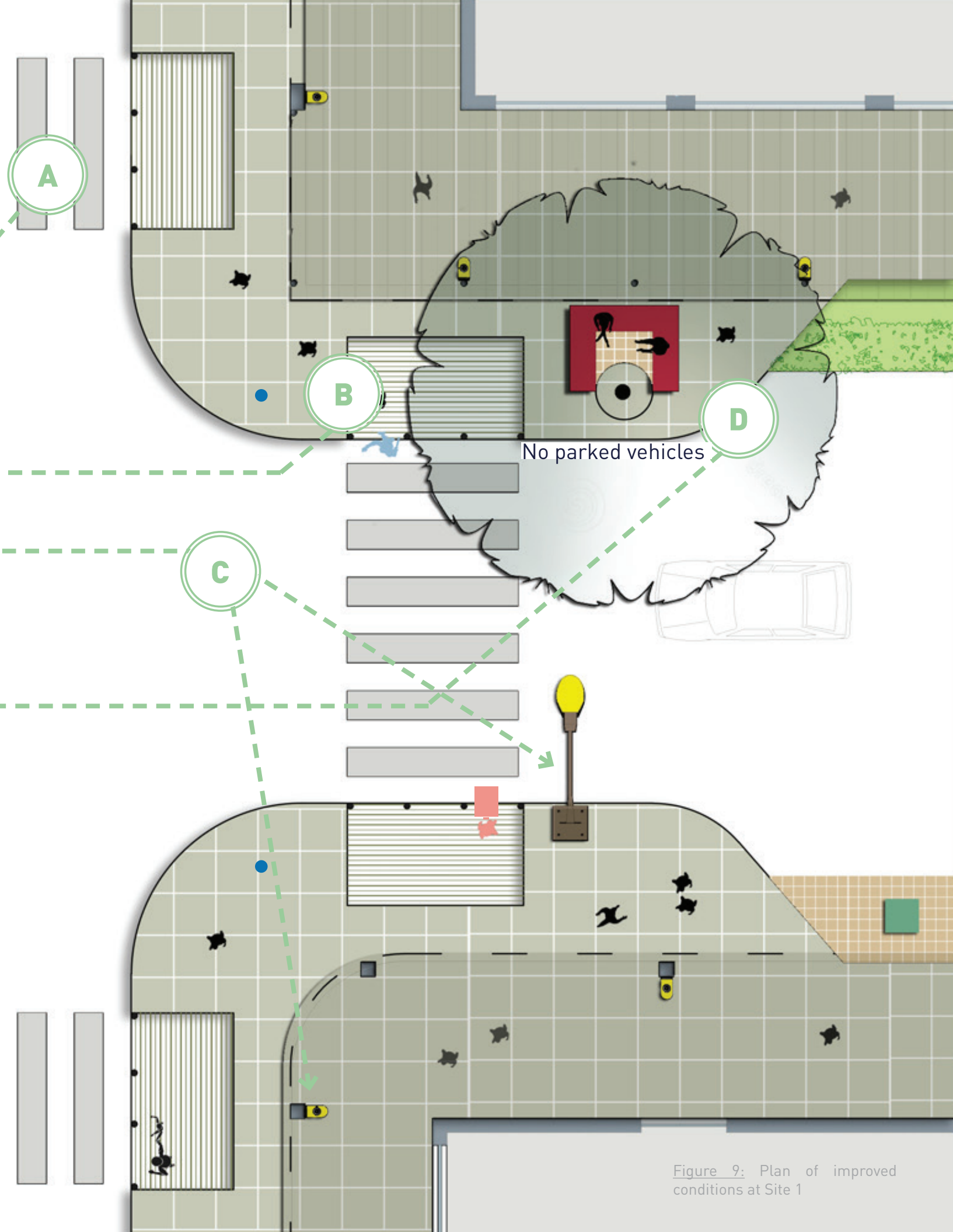


Figure 9: Plan of improved conditions at Site 1



# Site 2

NEAR SAMRAT THEATRE

**CURRENT SCENARIO:**

While collecting garbage from both the residences and commercial establishments on the street, **Maria** struggles to pull her garbage bin onto the walk path due to the **broken kerb or parked vehicles**. As there is **no mid-block crossing**, she risks oncoming traffic when she crosses the street. Then she has to find a gap between parked vehicles to leave her garbage bin as she goes to the adjacent buildings, as the **walk path is too narrow** to allow her to pull the bin.

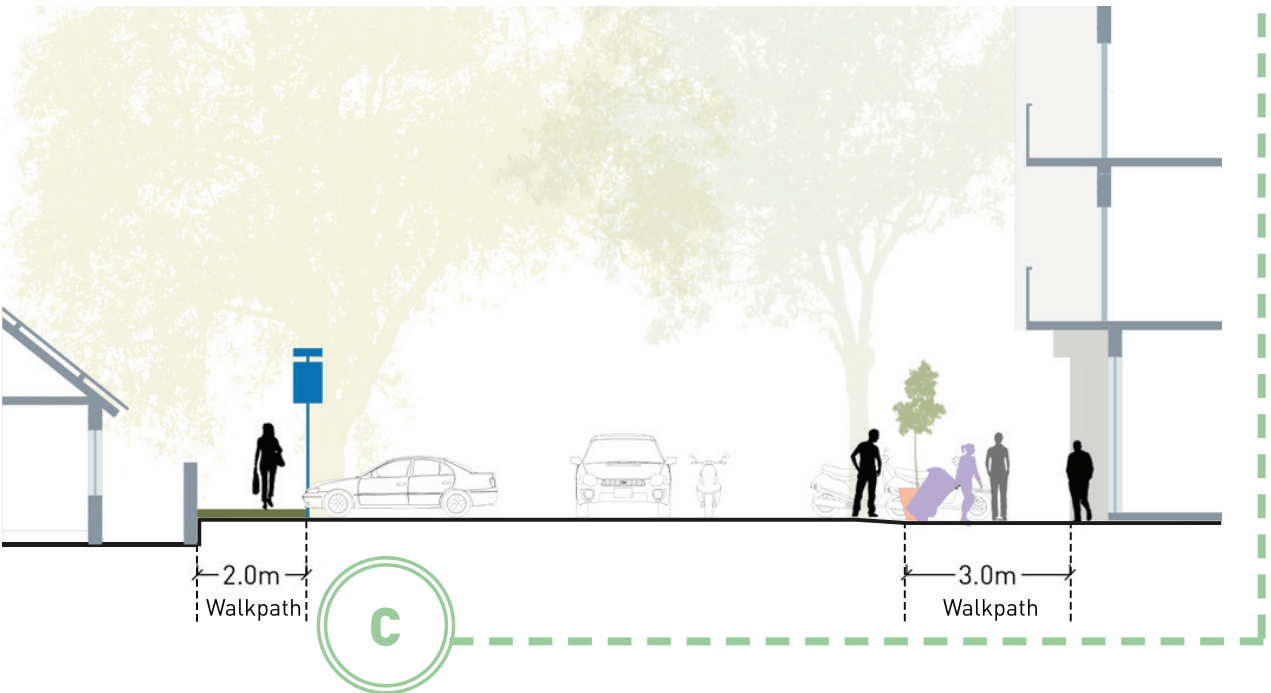


Figure 10: Section of existing conditions at Site 2



Figure 11: Challenges at Site 2



# Site 2

NEAR SAMRAT THEATRE

**RECOMMENDED SCENARIO:**

Since the city has improved the walking conditions around 18<sup>th</sup> June Road, **Maria** is able to pull her garbage bin onto the walk path using **newly installed ramps** that are aligned with **mid-block zebra crossings**. The walk paths are **wide enough** for her to walk with the bin and there are no obstructions blocking her right of way.

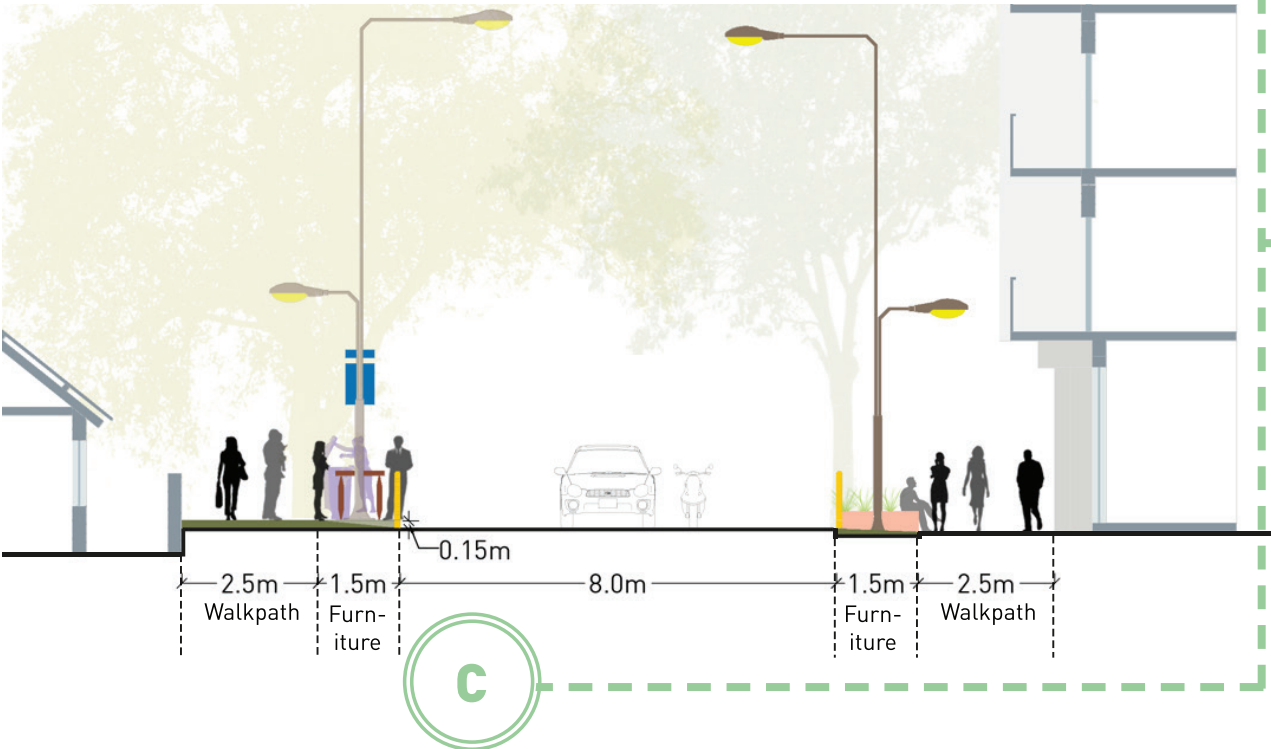


Figure 12: Section of improved conditions at Site 2

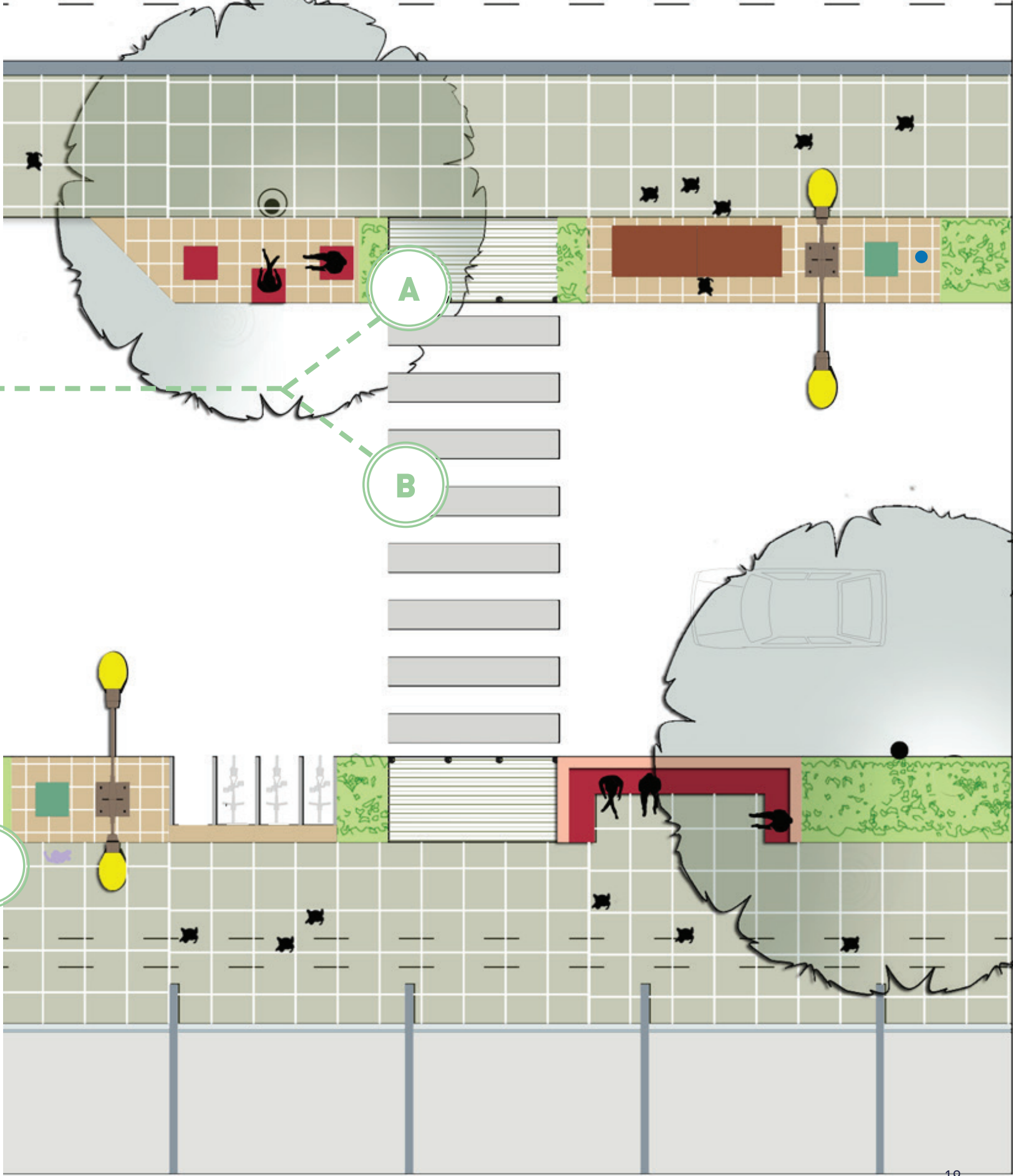


Figure 13: Plan of improved conditions at Site 2



# Site 3

NEAR CANARA BANK

**CURRENT SCENARIO:**

Before going home in the evening, **Joanne** stops at the Canara Bank. After the long walk, she is quite tired but has nowhere to rest. In the monsoon, she is worried about slipping given the **uneven pavement surface**, broken kerbs and **obstructions in the form of poles**. She also worries about rushing to cross the street as there is **no zebra crossing** at the junction.

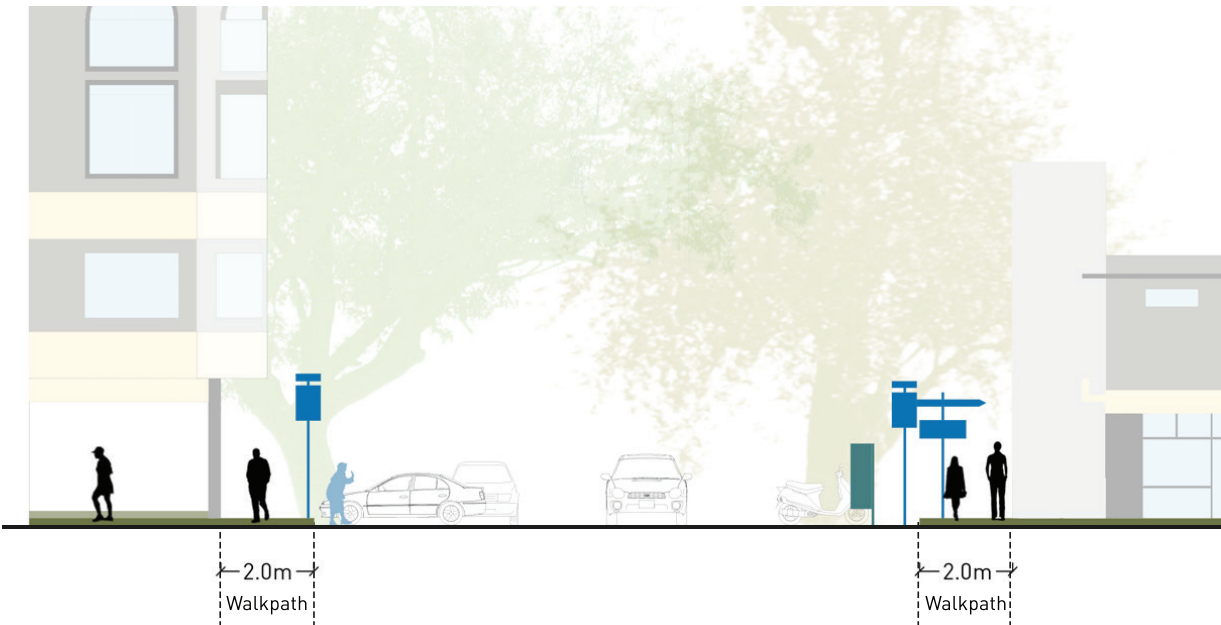


Figure 14: Section of existing conditions at Site 3



Figure 15: Challenges at Site 3



# Site 3

## NEAR CANARA BANK

### RECOMMENDED SCENARIO:

On **Joanne's** next trip to the bank, she is delighted to see that the city has installed pedestrian facilities like **zebra crossings**, **painted kerbs and ramps** to make her trip easier. Cars are also driving slower as the city has installed a **bulb-out**, reducing the turning radius for vehicles. On this block, like many others, the **walk paths have been repaved** so she doesn't have to worry about slipping. The **poles have all been moved to the furniture zone** of the walk path to enable pedestrian flow.

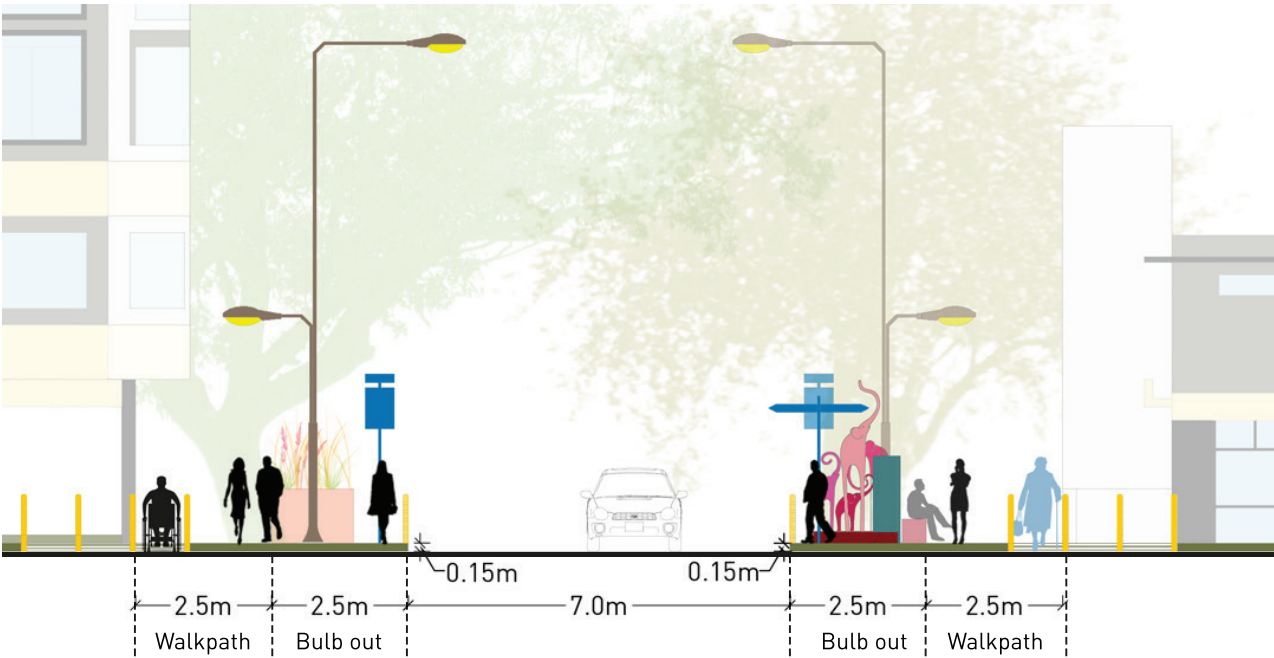


Figure 16: Section of improved conditions at Site 3

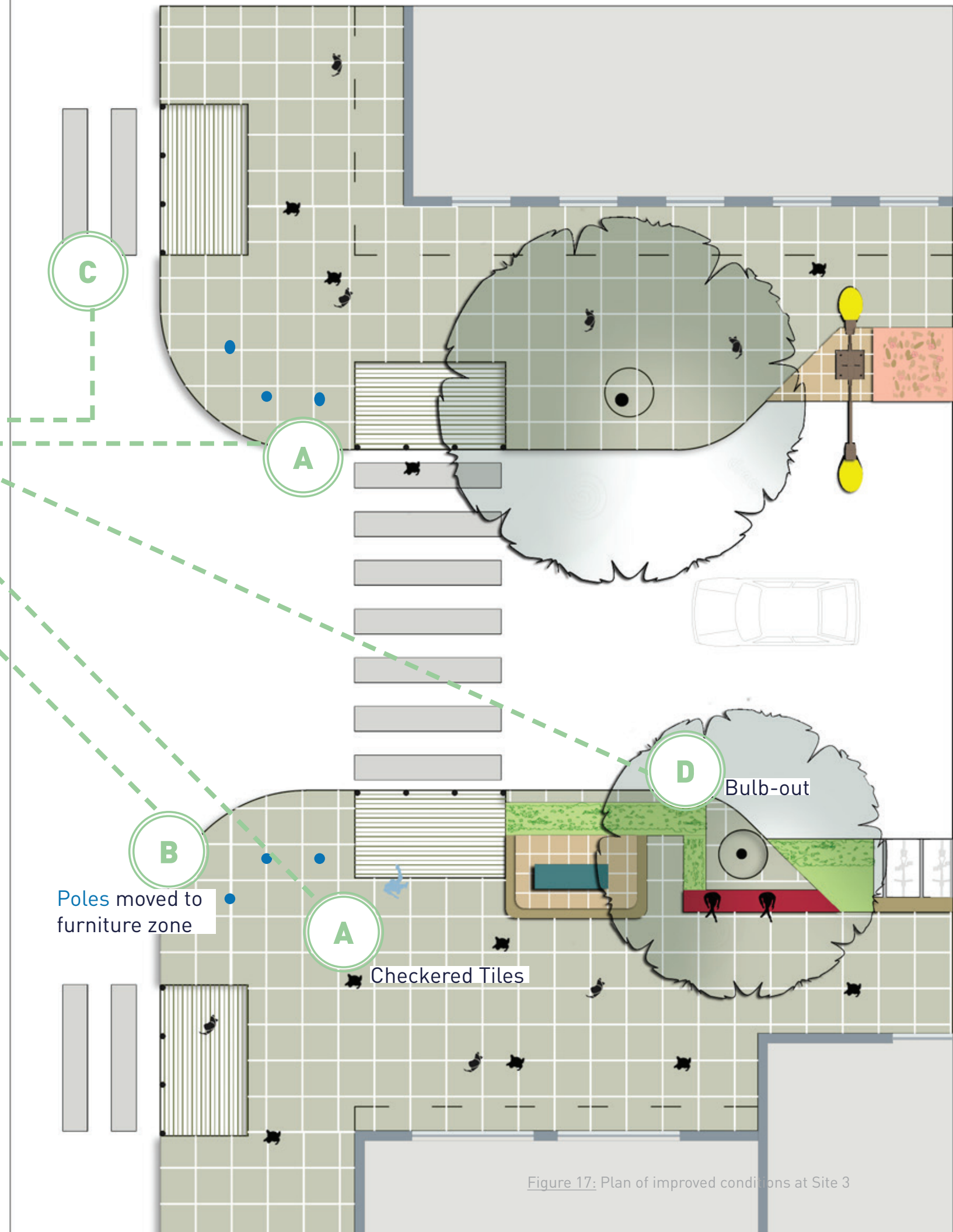


Figure 17: Plan of improved conditions at Site 3



# Site 4

## RESIDENTIAL AREA

### CURRENT SCENARIO:

Maria crosses this area early in the morning while collecting garbage. On winter mornings, the **walk paths are dark** as the street lights are focusing on the motorized carriage way and not on pedestrian areas, which makes her worry about tripping over **obstructions like garbage** that are piled on the walk path. The road is also lined by **blank boundary walls**, making the space feel isolating and lonely.

When Varsha is walking home from the market, carrying her son and shopping bags, she is tired but has **nowhere to rest**. The **narrow walk paths** make it difficult to walk so she must walk on the road, increasing her risk of an accident.



Figure 18: Section of existing conditions at Site 4



Figure 19: Challenges at Site 4



# Site 4

## RESIDENTIAL AREA

## RECOMMENDED SCENARIO:

Once the city has improved pedestrian facilities on this street, Maria feels safe as **human-scaled lighting**, focused on the walk path, makes it easy for her to walk in this area. Garbage and other **obstructions have been removed**, reducing risk of an accident. The city has also used **murals on boundary walls to activate the space** and Maria feels safe walking down this street.

The city has **widened the streets** and installed street furniture on this street, so **Varsha** can take a **break and rest** while walking home. Her son Tony is engaged by the artwork and **watching children playing** hopscotch on the widened walk path further activating the street.

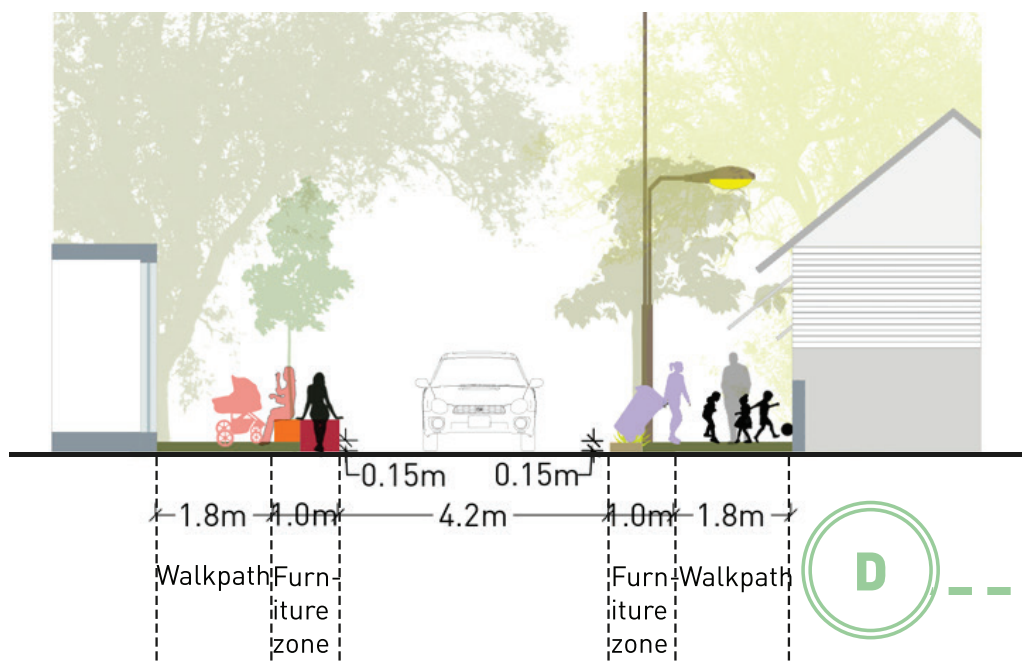


Figure 20: Section of improved conditions at Site 4

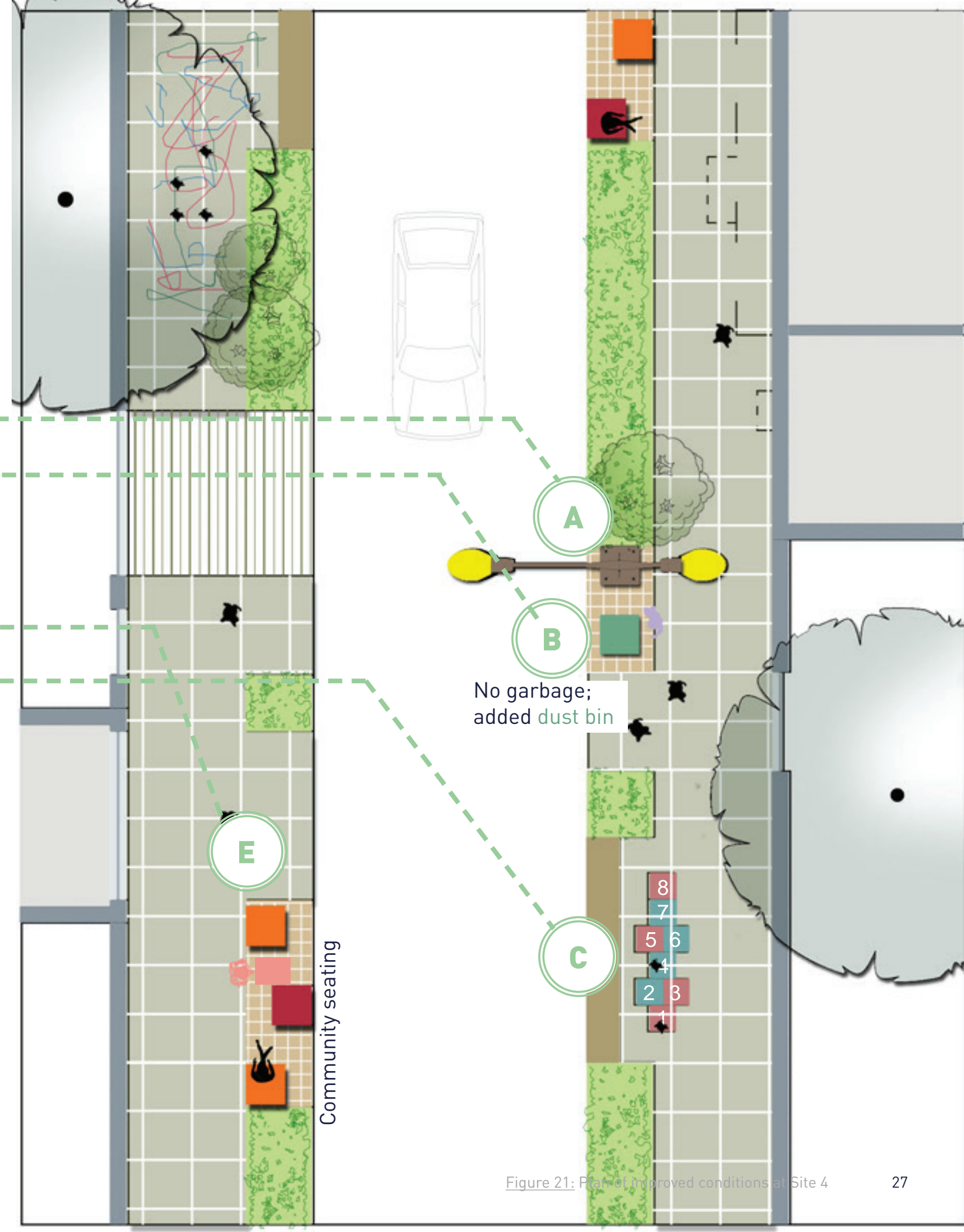


Figure 21: Plan of improved conditions at Site 4





Figure 22: A residential street in Fountainhaas

# Concluding Remarks

By implementing the seven recommendations presented in the Inclusive Streets Implementation Strategy, it is clear that women like **Joanne**, **Varsha** and **Maria** would find it easier to access and navigate Panaji's streets by foot:

With increased lighting and safe crossings, **Joanne** is able to safely cross the street: she can see the elevated kerbs at night and use the ramps with her walking stick to access the wide walk paths to safely move to run her errands.

**Varsha** also benefits from better edge management, wide walk paths and the newly installed community seating, as she's able to easily access safe, wide and designated walk paths with her pram. She can also take rest while walking when she gets tired. The new murals and artwork create a sociable and safe atmosphere for her to rest, even when there are fewer people around.

Finally, **Maria** finds her work much easier in both the summer and monsoons. She isn't worried about slipping while walking as the pavement tiles are now matte and non-slip. She also finds it easier to walk on the walk path with the large garbage bins as there are no obstructions in the pedestrian zone, which earlier forced her to walk on the road.

Overall, Inclusivity in Action showcases how the recommendations from Inclusive Streets can result in improved experiences for female pedestrians throughout Panaji.



# List of Figures

**FIGURE # - TITLE (PG #)**

- Cover page: Walks with Women on 18th June Road
- Figure 1 - Walks with Women on 18th June Road (pg 2)
- Figure 2 - Distribution of Audit scores for the parameter Lighting (pg 4)
- Figure 3 - Distribution of Audit scores for the parameter People (pg 5)
- Figure 4 - Distribution of Audit scores for the parameter Visibility(pg 5)
- Figure 5 - Three women in Panaji face various challenges while walking (pg 8)
- Figure 6 - Section of existing conditions at Site 1 (pg 12)
- Figure 7 - Challenges at Site 1 (pg 13)
- Figure 8 - Section of improved conditions at Site 1 (pg 14)
- Figure 9 - Plan of improved conditions at Site 1 (pg 15)
- Figure 10 -Section of existing conditions at Site 2 (pg 16)
- Figure 11 - Challenges at Site 2 (pg 17)
- Figure 12 - Section of improved conditions at Site 2 (pg 18)
- Figure 13 - Plan of improved conditions at Site 2 (pg 19)
- Figure 14 -Section of existing conditions at Site 3 (pg 20)
- Figure 15 - Challenges at Site 3 (pg 21)
- Figure 16- Section of improved conditions at Site 3 (pg 22)
- Figure 17 - Plan of improved conditions at Site 3 (pg 23)
- Figure 18 -Section of existing conditions at Site 4 (pg 24)
- Figure 19 - Challenges at Site 4 (pg 25)
- Figure 20 - Section of improved conditions at Site 4 (pg 26)
- Figure 21 - Plan of improved conditions at Site 4 (pg 27)
- Figure 22 - A residential street in Fountainhaas (pg 28)
- Back cover: Women Walking in Joggers Park

**MAP # - TITLE (PG #)**

- Map 1 - Selected Sites for Transformation on 18<sup>th</sup> June Road (pg 10)

# Abbreviations

- City Corporation of Panaji (CCP)
- Imagine Panaji Smart City Development Limited (IPSCDL)
- Non-Governmental Organisation (NGO)
- Non-Motorised Transport (NMT)
- Project Urban Living Lab (PULL)
- Public Works Department (PWD)
- Resident Welfare Associations (RWAs)
- Royal Danish Embassy (RDE)
- Urban Local Body (ULB)
- Water, Sanitation and Hygiene (WASH)



