

# Transforming Streets for Safety and Sustainability in the Global South

NACTO Designing Cities Conference

Denver - May 16, 2023

@GlobalStreets

[www.globaldesigningcities.org](http://www.globaldesigningcities.org)

NACTO National Association of City  
Transportation Officials

GDCI Global Designing Cities Initiative



# Who Are the Presenters?



**Uditi Agarwal**

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Program Manager  
uditi@gdci.global



**Fernando de la Torre**

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Local Liaison - Ecuador  
fernando@gdci.global



**Eduardo Pompeo**

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Design Lead  
eduardo@gdci.global

# Agenda



- 
- |           |   |                   |
|-----------|---|-------------------|
| <b>01</b> | <b>Transforming Streets in the Global South</b><br>Eduardo Pompeo       | 1:05 pm – 1:20 pm |
| <b>02</b> | <b>Ecuador Case Studies</b><br>Fernando de la Torre                     | 1:20 pm – 1:35 pm |
| <b>03</b> | <b>Rajender Nagar Neighborhood Improvement Project</b><br>Uditi Agarwal | 1:35 pm – 1:50 pm |
| <b>04</b> | <b>Discussion</b>   | 1:50 pm – 2:15 pm |
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# Global Designing Cities Initiative

# Global Programs

**Bloomberg  
Philanthropies  
Initiative for Global  
Road Safety (BIGRS)**

**Collaboration with  
Bloomberg  
Associates (BA)**

**Streets for Kids (SfK)**

**Early Childhood  
Development (ECD)**

● **BIGRS**

● **Bloomberg Associates**

● **Street for Kids**

● **Early Childhood Development**

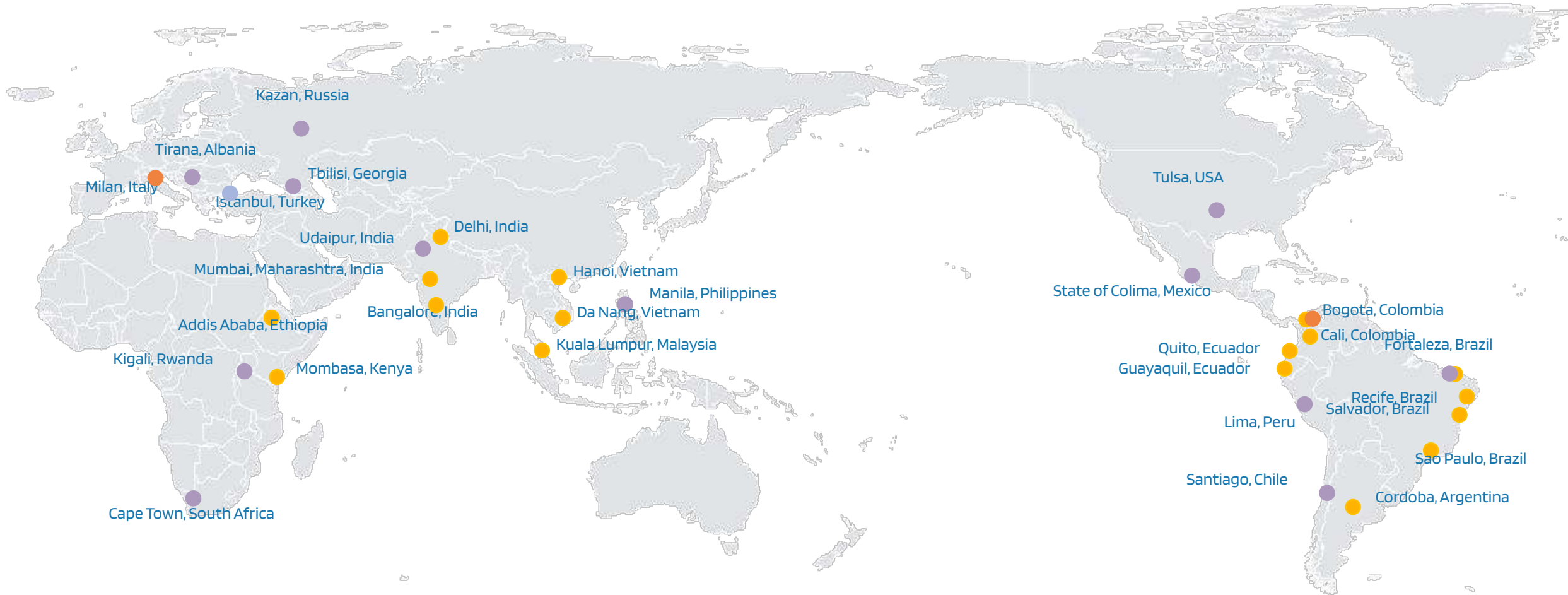


BLOOMBERG INITIATIVE FOR  
CYCLING INFRASTRUCTURE

To learn more visit: [bloombergcities.jhu.edu/bici](https://bloombergcities.jhu.edu/bici)

# Global Designing Cities Initiative

## Global Programs



● BIGRS

● Bloomberg Associates

● Street for Kids

● Early Childhood Development



## Policy and Design Guidance



## Capacity Building and Community Engagement



## Interventions and Transformations



## Metric Collection and Evaluation



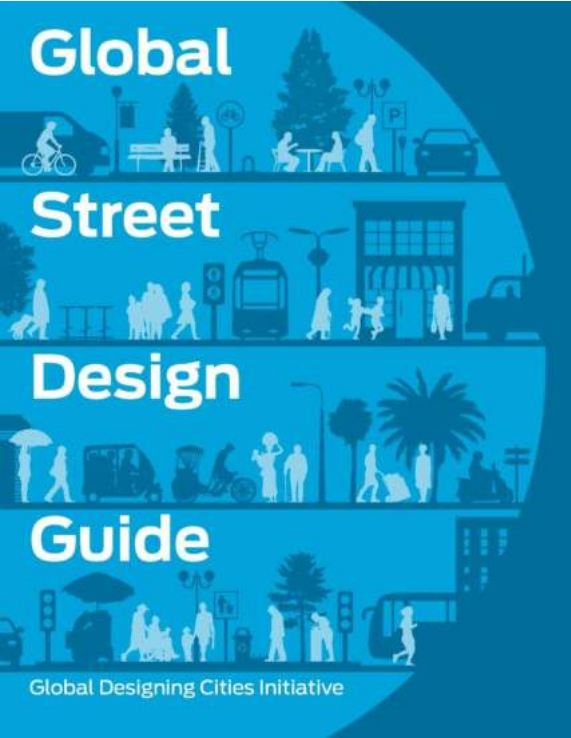
# Policy and Design Guidance

## Capacity Building and Community Engagement

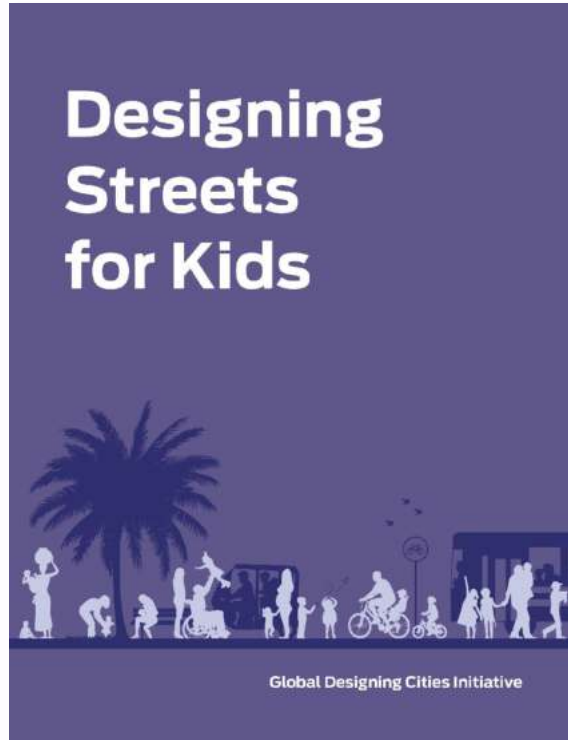
## Interventions and Transformations

## Metric Collection and Evaluation

# Publications

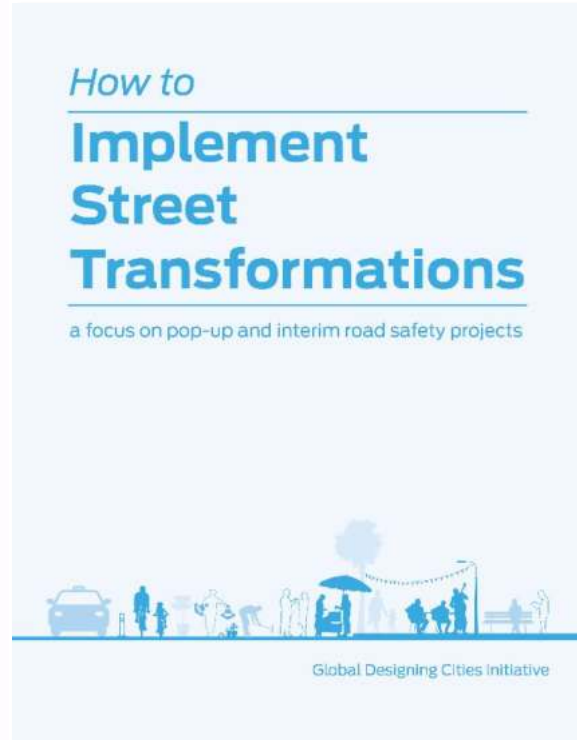
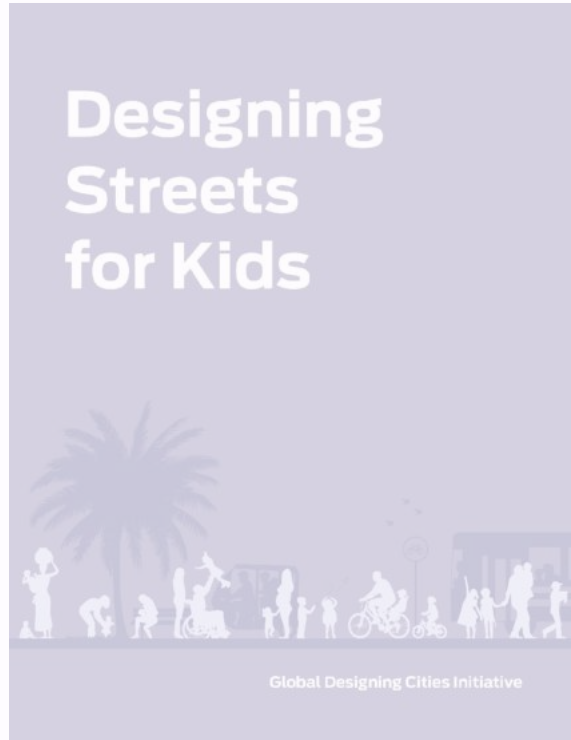


# Publications

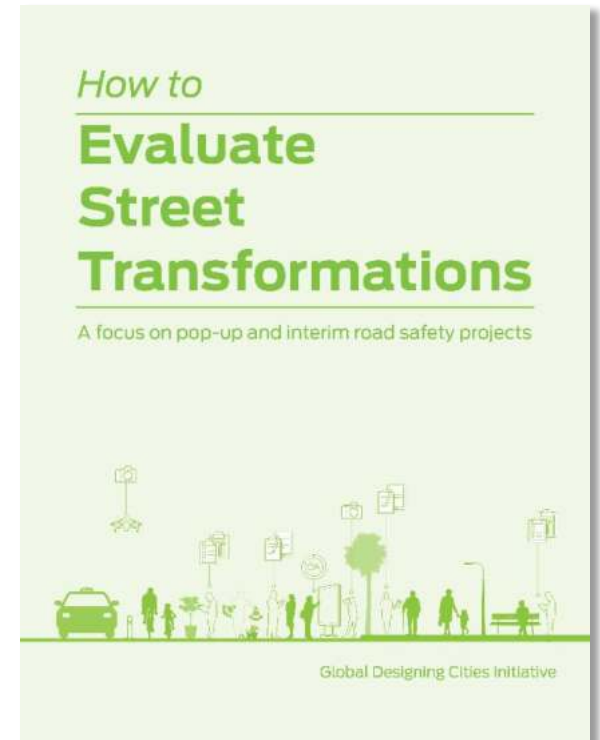


2020

# Publications



2022

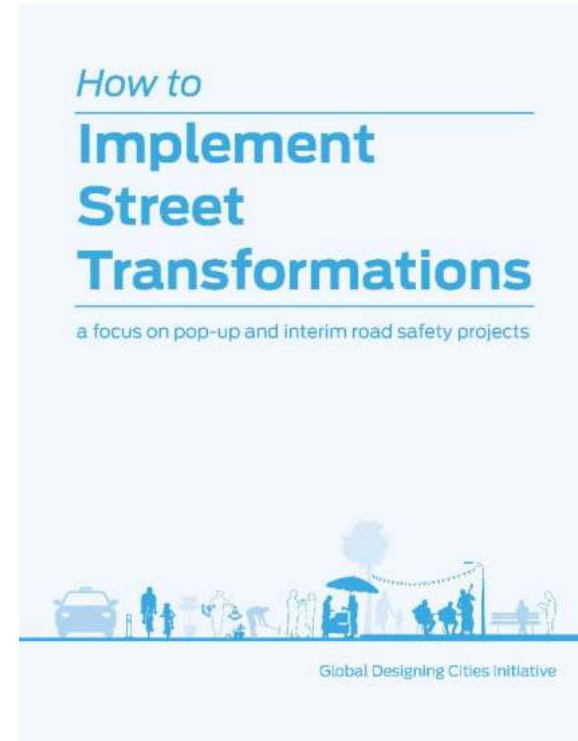


2022

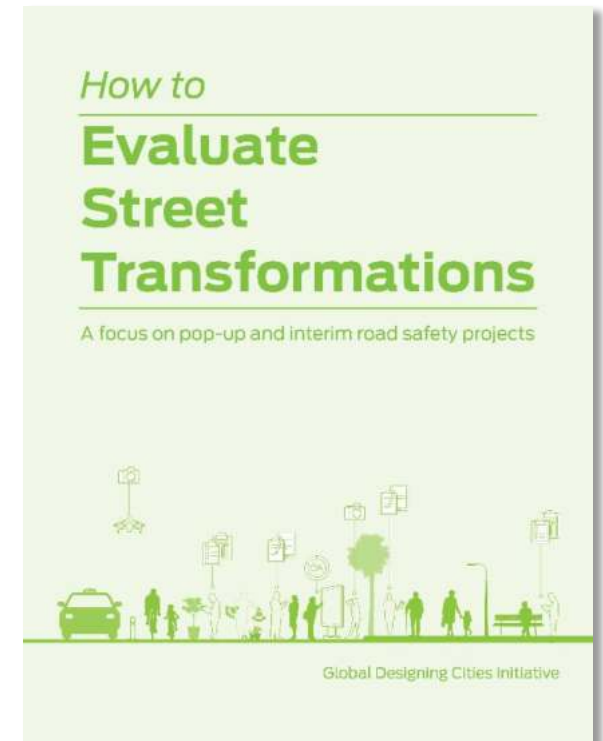
# Publications



NACTO Designing Cities 2022



2022



2022

# 01 Transforming Streets in the Global South

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**Bloomberg  
Philanthropies  
Initiative for Global  
Road Safety (BIGRS)**

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● **BIGRS**

● **Bloomberg Associates**

● **Street for Kids**

● **Early Childhood Development**

A busy street scene in a developing country. In the foreground, a group of about ten pedestrians, including men and women, are walking across the road. Behind them, a yellow taxi with a blue license plate '55' is stopped. To the right, a large white truck is partially visible. The background shows trees and buildings under a clear sky. The overall scene is slightly dimmed to make the overlaid text stand out.

**1.35 million**

**traffic fatalities**

**every year**



A busy street scene in a developing country. In the foreground, a group of pedestrians, including men and women in various attire, are walking across the road. A yellow taxi with a license plate starting with '55' is visible in the middle ground. To the right, a large white truck is partially visible. The background shows trees and buildings under a clear sky. The overall scene suggests a bustling, everyday environment.

93%

of which occur in low- and middle-income countries

1. Enforcement

2. Data

3. Media

4. **Safe Streets & Safe Mobility**

## Partners

- World Resources Institute (WRI)
- WB/ Global Road Safety Facility
- **Global Designing Cities Initiative (GDCI)**
- Global Road Safety Partnership
- Johns Hopkins Bloomberg School of Public Health
- Vital Strategies
- World Health Organization
- International Association of Chiefs of Police (IACP)
- Global Health Advocacy Incubator

Global Designing Cities Initiative  
**Global Programs**



● BIGRS

● Bloomberg Associates

● Street for Kids

● Early Childhood Development



Policy and Design Guidance



Capacity Building and Community Engagement



Interventions and Transformations



Metric Collection and Evaluation



Opportunity to quickly  
transform streets  
using temporary or  
interim materials

# Interim Street Transformations



# Interim Street Transformations



# Interim Street Transformations





# Repurpose existing infrastructure

into safer and accessible spaces for pedestrians and cyclists



Fortaleza, Brazil

# Implement changes quickly

with easily accessible, low-cost materials



Quito, Ecuador

# Engage and invite stakeholders

to participate in changing in their neighborhood streets



Istanbul, Turkey

# Demonstrate bold or new ideas

and gather evidence of their success



Recife, Brazil



**68%**  
fewer people with  
**disabilities**  
walking on the  
roadbed

# Trial and refine designs

prior to capital investments



Bogotá, Colombia

# Inspire new policies and practices

and build capacity to design in new ways city-wide



Addis Ababa, Ethiopia

# Evaluate impact and share results



# Move towards long term impact



Istanbul, Turkey



# Why is this relevant for the North-American context?

**1. Context matters: every city is unique**

## Why is this relevant for the North-American context?

**1. Context matters: every city is unique**

**2. Specificities derived from resource limitation**

# Why is this relevant for the North-American context?

**1. Context matters: every city is unique**

**2. Specificities derived from resource limitation**

**3. Universal challenges and opportunities**

# 02 Ecuador Case Studies

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# Elements to remark

Data collection

Community Engagement  
Strategies

# Quito

Quito

# Context

2.900 masl (2 miles high) • 3 million inhabitants • 10 miles from the equatorial line (MIDDLE OF THE WORLD)



# Context

196.000 trips by bike • 80% use transit, are peds or cyclists





# 2.a San Bartolo project

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# Data Collection

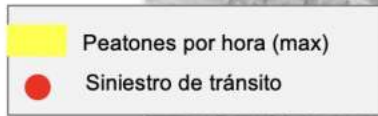
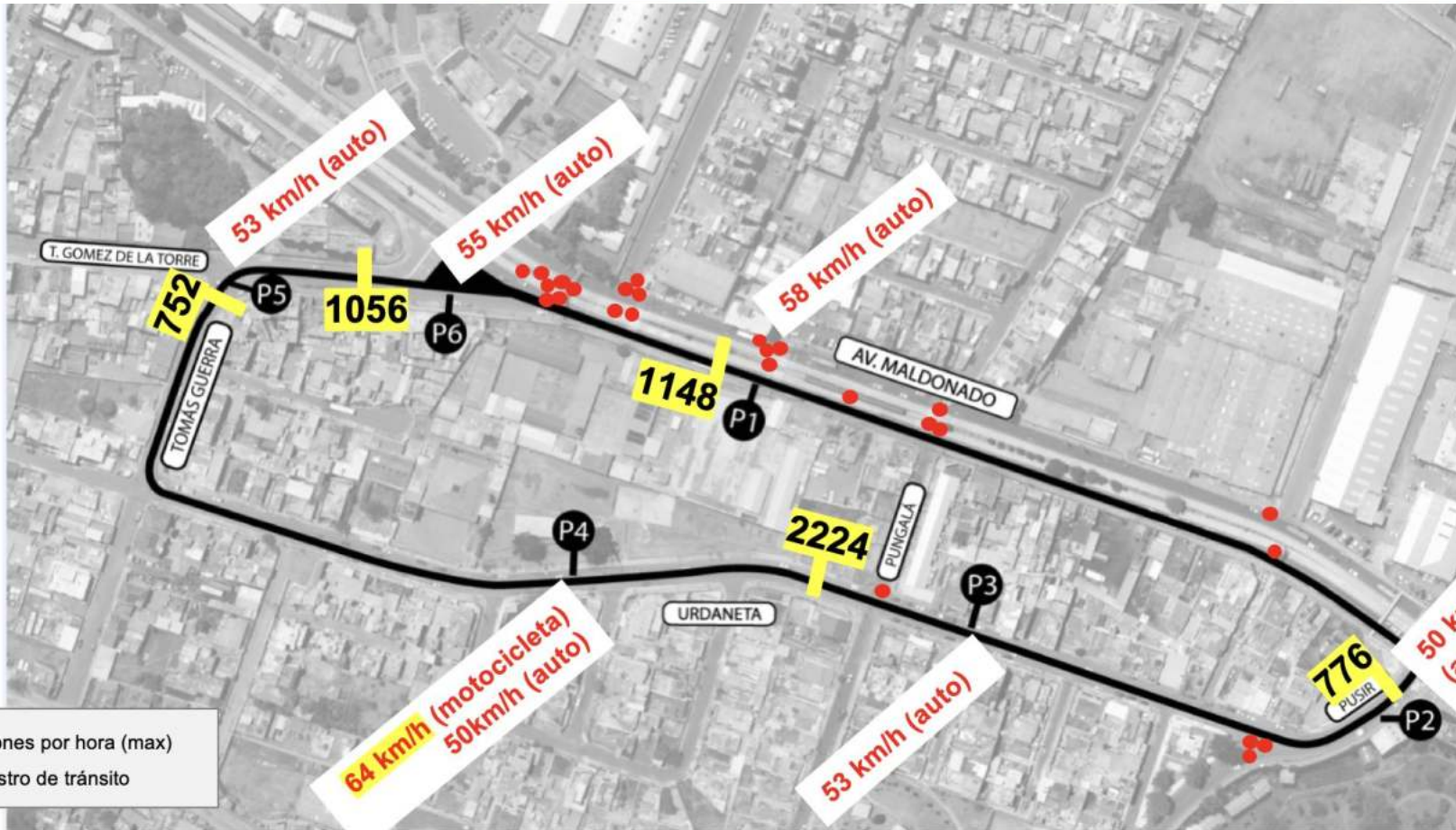
Quito

# San Bartolo

The site



### ¿Por qué se eligió SAN BARTOLO?



**2019-2021**

Siniestros  
**44**

Lesionados  
**25**

Fallecidos  
**1**

Atropellos  
**10**



## Conflicts

### ¿Por qué se eligió SAN BARTOLO?

### Zonas de riesgo para la comunidad y desafíos que encontró el equipo

Puente peatonal bloquea el libre tránsito peatonal, las personas caminan peligrosamente por la calzada



Cruces peatonales y cebras inexistentes





## ¿Por qué se eligió SAN BARTOLO?



Presencia de **dos unidades educativas** cercanas a vías arteriales en un sector con alto número de siniestros de tránsito.



- Instituto Tecnológico Superior Sucre
- Escuela Virginia Larenas

## MARTES

**MAÑANA**

Lineas de deseo		Nombre del proyecto: SAN BARTOLO
Nombre	Gabriela Jaramillo	Notas Niños 2 adultos • Línea continua: de mayor flujo peatonal • debajo del puente • flujo peatonal
Fecha/hora	6:55am	
Día de la semana	Martes 7/06/22	
Clima	Frio	
Instrucciones	Las líneas de deseo indican los caminos deseados por los peatones a través de una calle. Dibuje los lugares por los que la gente cruza la calle para llegar a los destinos clave, para revelar dónde puede haber necesidad de mejorar o añadir instalaciones. Utilice un contador para registrar el número de personas que cruzan durante un periodo.	
Mapa base: Coloque un mapa base en el espacio inferior, y dibuje las trayectorias de los peatones.		

Peatones que no usan el cruce peatonal

Peatones que usan el cruce peatonal casi desvanecido

Peatones que usan el cruce peatonal elevado

## JUEVES

**MAÑANA**

Lineas de deseo		Nombre del proyecto: SAN BARTOLO
Nombre	Alejandra Sandoval	Notas $+2+2+2+1+1+2+2$ $+1+1+1+1 = 19$
Fecha/hora	7:00 de Junio del 2022	
Día de la semana	Jueves	
Clima	Nublado	
Instrucciones	Las líneas de deseo indican los caminos deseados por los peatones a través de una calle. Dibuje los lugares por los que la gente cruza la calle para llegar a los destinos clave, para revelar dónde puede haber necesidad de mejorar o añadir instalaciones. Utilice un contador para registrar el número de personas que cruzan durante un periodo.	
Mapa base: Coloque un mapa base en el espacio inferior, y dibuje las trayectorias de los peatones.		

**MEDIO DÍA**

Lineas de deseo		Nombre del proyecto: SAN BARTOLO
Nombre	Alejandra Sandoval	Notas $+2+19 = 21$
Fecha/hora	9:15 Junio 2022	
Día de la semana	Jueves	
Clima	Nublado	
Instrucciones	Las líneas de deseo indican los caminos deseados por los peatones a través de una calle. Dibuje los lugares por los que la gente cruza la calle para llegar a los destinos clave, para revelar dónde puede haber necesidad de mejorar o añadir instalaciones. Utilice un contador para registrar el número de personas que cruzan durante un periodo.	
Mapa base: Coloque un mapa base en el espacio inferior, y dibuje las trayectorias de los peatones.		

# San Bartolo

Data

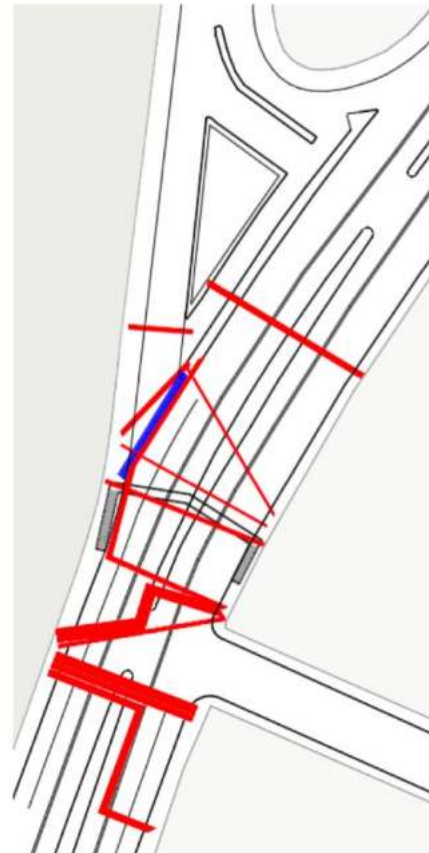
**Peds**  
Desire lines

Peatones que no usan el cruce peatonal

Peatones que usan el cruce peatonal casi desvanecido

Peatones que usan el cruce peatonal elevado

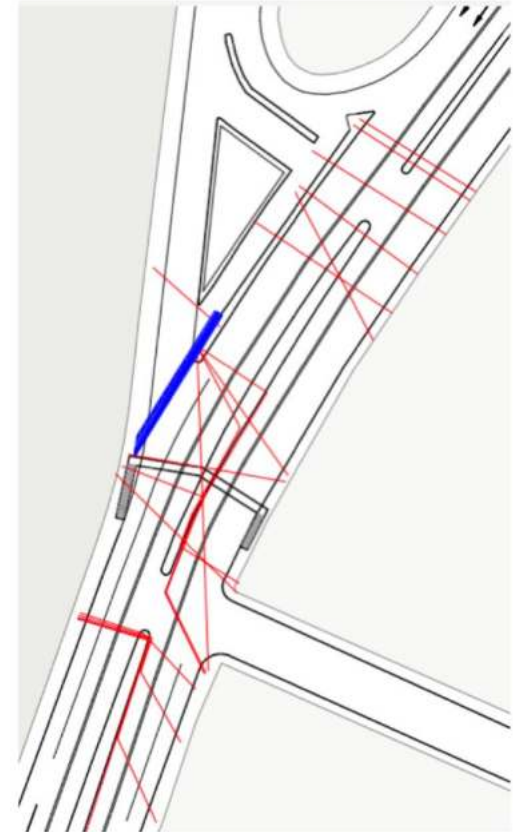
## MARTES MAÑANA



**No usan cruces: 69**  
**Uso de cruce desvanecido: 28**

La seguridad en los cruces a nivel de piso es necesaria.

## JUEVES MEDIO DÍA



**No usan cruces: 16**  
**Uso de cruce desvanecido: 1**



## LOS PEATONES USAN **5 VECES MÁS** LOS CRUCES A NIVEL QUE EL PUENTE PEATONAL

**484** ground level

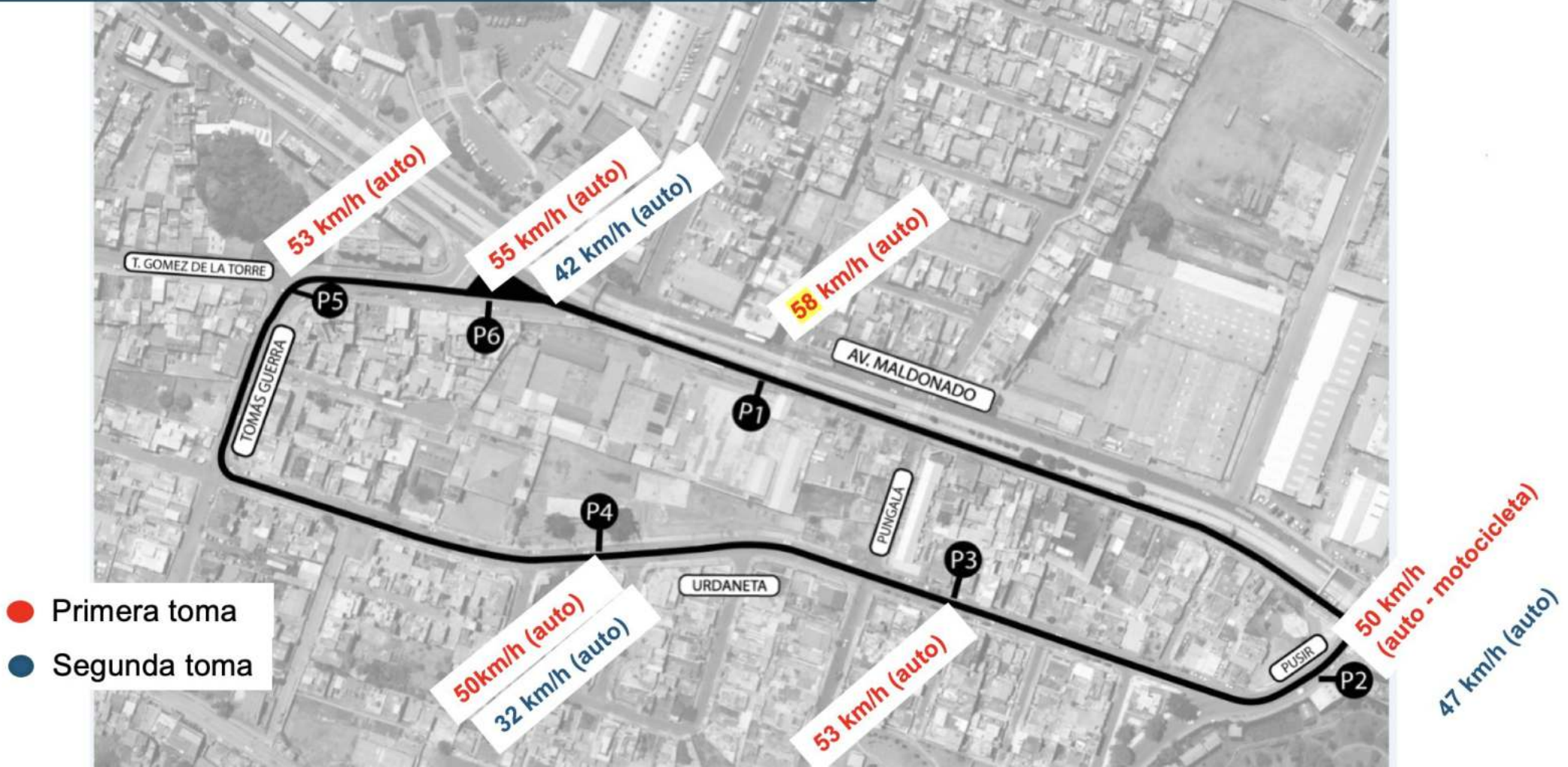
**96** ped bridge



## MAPA DE CONTEOS PEATONALES Y VEHICULARES Máximos

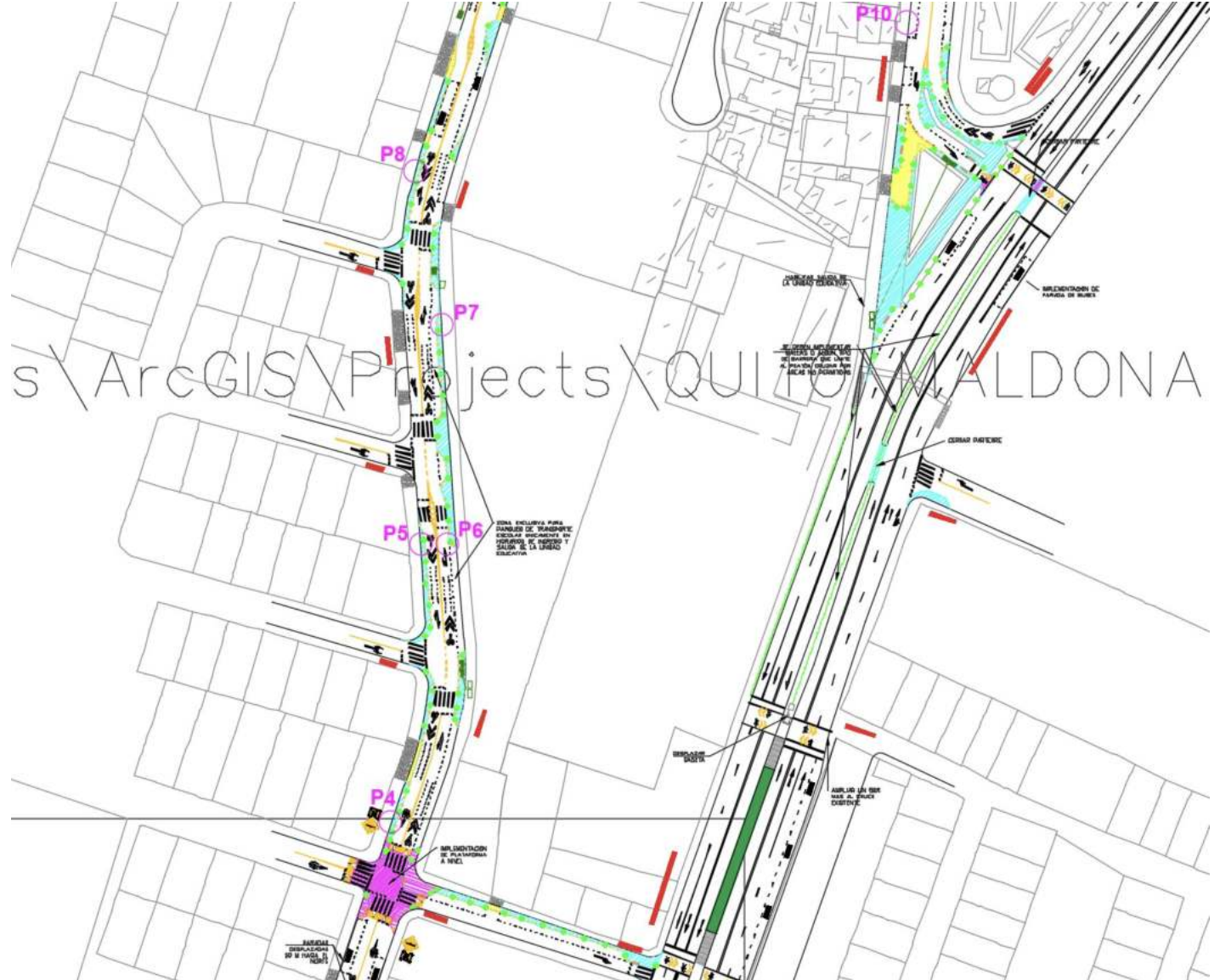
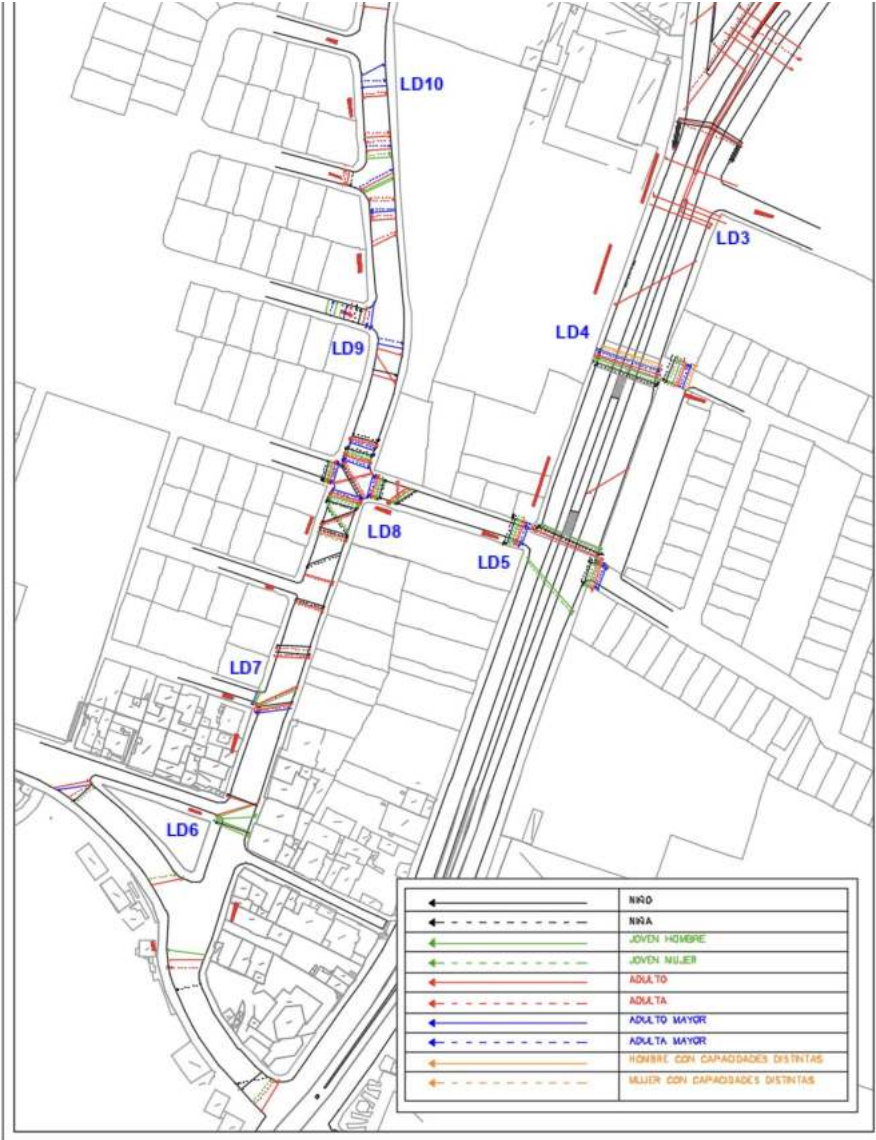


## PUNTOS DE TOMA DE VELOCIDAD



# San Bartolo

## Counts



# Community Engagement

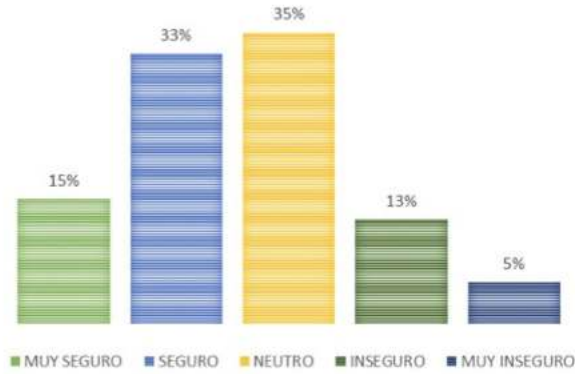


## Recolección de Datos

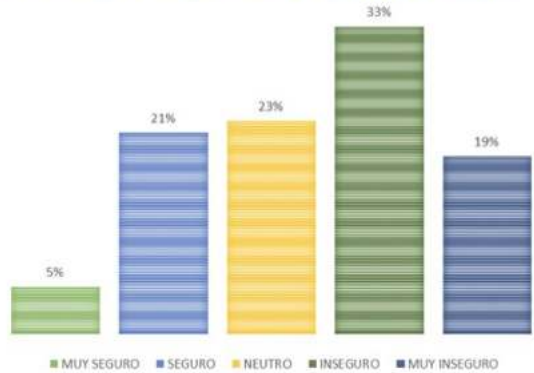


**100 encuestas** de percepción a moradores, comerciantes y transeúntes

¿CUÁN SEGURO SE SIENTE EN ESTA ACERA?

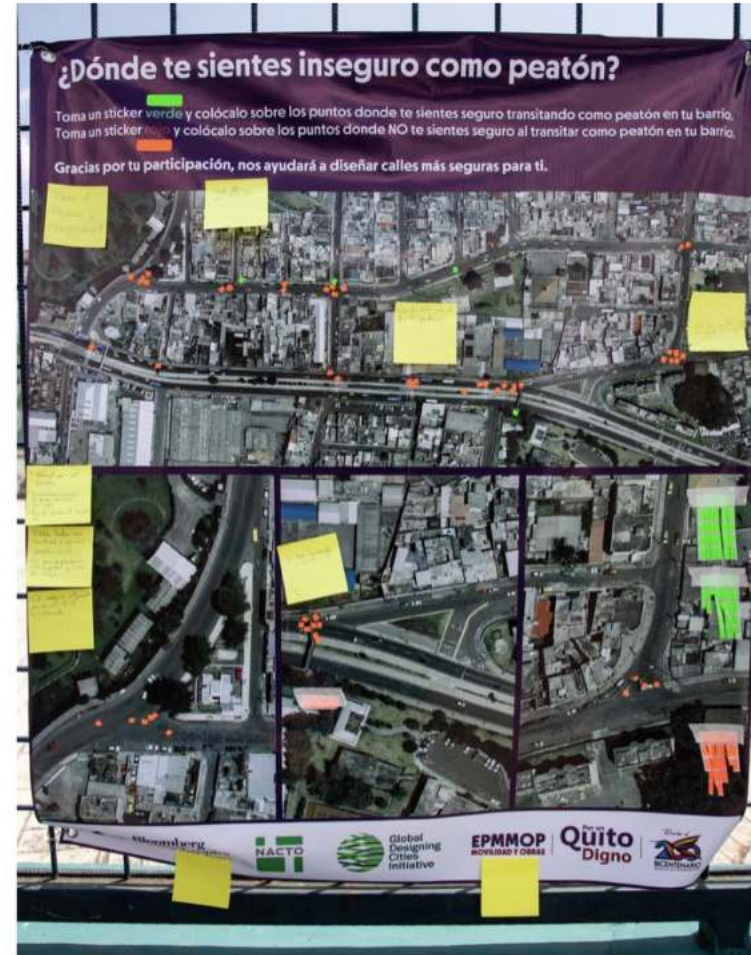


¿CUÁN SEGURO SE SIENTE CRUZANDO ESTAS CALLES?





## Por pedido de la comunidad





## Reunión con la Comunidad San Bartolo

### Ideas y peticiones recogidas desde la comunidad






Nombre	Apellido	Edad	Sexo	Profesión	Residencia	Observaciones
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Nombre	Apellido	Edad	Sexo	Profesión	Residencia	Observaciones
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Nombre	Apellido	Edad	Sexo	Profesión	Residencia	Observaciones
...	...	...	...	...	...	...
...	...	...	...	...	...	...



Casa Somos – 28 de octubre de 2021

- Reubicación de parqueaderos 
- Dar seguridad vial para espacios de tránsito para estudiantes 
- Unidireccionalidad tramo calle Pungalá 
- Proyecto de Ciclovía 
- Espacios seguros para peatones 



# San Bartolo

## Showcase Examples



Bosa, Bogotá, Colombia



Antes



Después



Extensión de Acera

Cruces Seguros

Pacificación de Tráfico

# San Bartolo

## Showcase Examples



**Dragão do Mar, Fortaleza, Brasil**



**Global Designing Cities Initiative**

Antes



Después



Extensión de espacio peatonal

Cruces seguros

Espacio público añadido

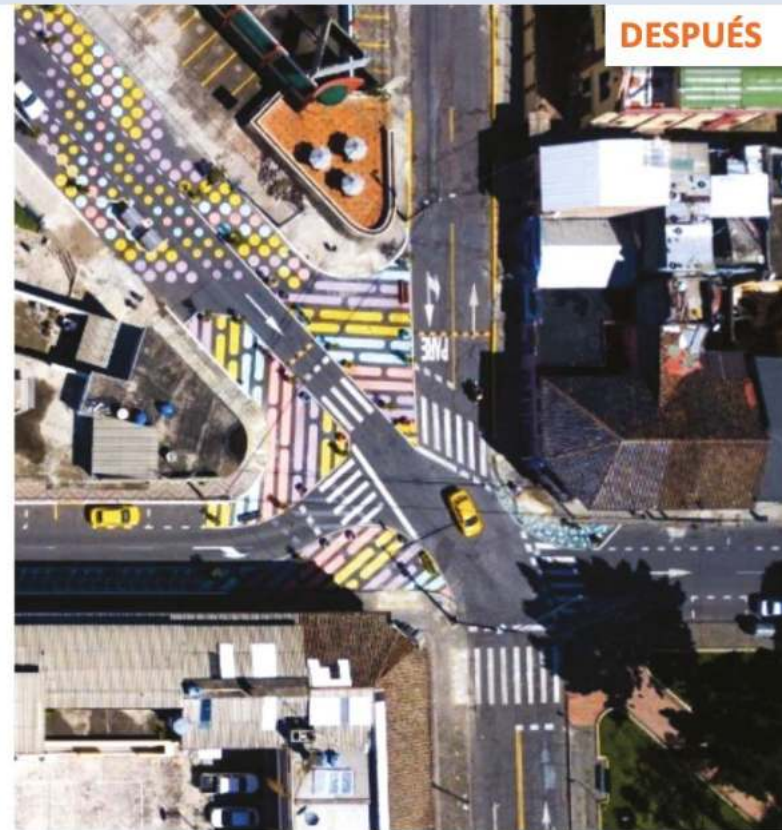
# San Bartolo

## Showcase Examples



Global Designing Cities Initiative

### La Magdalena - Quito - Ecuador





## Componentes de la Propuesta General



- JARDINERAS Y ARBOLADO
- CRUCE A NIVEL
- CAMBIO DE DIRECCIÓN
- CRUCES SEGUROS
- PLAZAS
- CICLOVÍA
- AMPLIACIÓN DE ACERA
- MEJORA INTEGRAL 1
- MEJORA INTEGRAL 2

## Show Proposal

### Renders

Tomás Guerra y Teodoro Gómez de la Torre **Antes**



Tomás Guerra y Teodoro Gómez de la Torre **Después**



## Show Proposal

### Renders

Pungalá y Urdaneta **Antes**



Pungalá y Urdaneta **Después**



# Implemented Project

Quito

# San Bartolo

Outcome





Quito

# San Bartolo

Outcome



Quito

# San Bartolo

Outcome



Quito

# San Bartolo

Outcome



Quito

# San Bartolo

Outcome



Quito

# San Bartolo

Outcome



Quito

# San Bartolo



Outcome



Quito

# San Bartolo

Outcome



# Guayaquil



# 2.b **Cristo Rey project**

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# Cristo Rey



# Data Collection

# Guayaquil

## Cristo Rey

### Site description

#### Guayaquil, Ecuador Ubicación

Ubicación



Vialidad



-  **Vía Arterial**  
Avenida Portete de Tarqui
-  **Vía Colectora**  
Monseñor Cesar Mosquera (38)
-  **Vía Locales**  
Avenida Colombia  
Avenida Venezuela  
Avenida Mariette de Veintimilla
-  **Ubicación de la intersección  
A intervenir**

Coordenadas UTM  
X: 515628.0397  
Y: 1125692.8688

#### Usos de suelo

Comercio



Recreativo



Vivienda

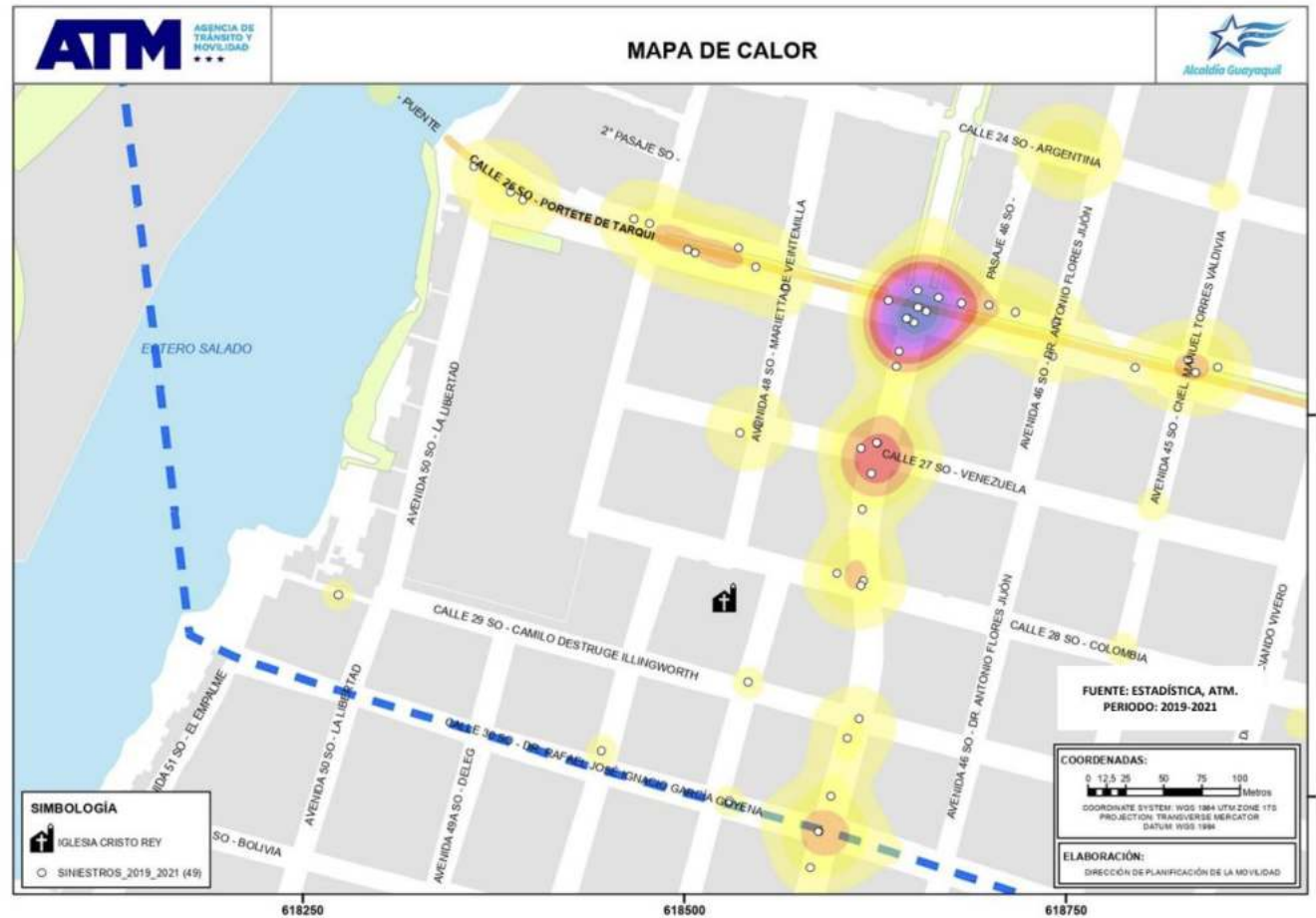


Educativo



Road Crashes

Siniestros de Tránsito  
Mapas

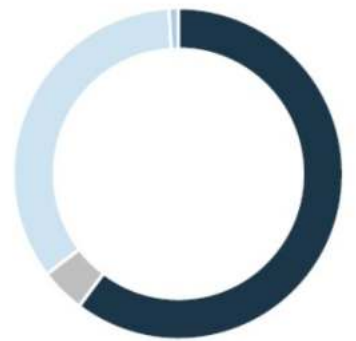


Counts

Vehicular  
 Aforos

AFORO VEHICULAR																		
UBICACION:		Avenida Manette de Veintimilla (Iglesia Cristo Rey)																
FECHA:		Agosto, 2022 - 7:30 am																
GIROS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL
FA SES																		
HORARIO	LIVIANO	712	192	180	212	210	28	312	356	76	232	44	8	12	90	12	268	2688
	PESADO	80	20	8	4	8	24	24	0	16	8	4	0	0	16	4	4	196
	MOTO	480	180	72	160	72	28	116	124	20	20	216	0	16	28	4	100	1536
	TRICIMOTO	4	8	0	4	0	0	4	16	4	0	0	0	0	0	0	4	40
*TOTAL		1252	392	260	376	296	80	452	480	112	260	264	8	28	140	20	372	4420

\*TOTAL expresado en vehículos mixtos



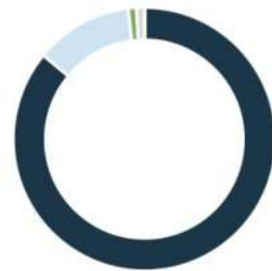
■ LIVIANO ■ PESADO ■ MOTO ■ TRICIMOTO



Counts

Peatonal  
Aforos

UBICACIÓN:		Avenida Mariette de Veintimilla (Iglesia Cristo Rey)																		
FECHA:		Agosto, 2022 - 7:35am																		
TIPO DE PEATON		SENTIDO DE CIRCULACION																		TOTAL
		1		2		3		4		5		6		7		8		9		
		↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	
HORARIO	ADULTO	96	40	12	12	24	36	8	20	28	0	48	20	4	8	32	12	8	0	344
	NIÑOS Y NIÑAS	4	12	0	0	4	0	12	0	12	4	0	0	0	0	4	0	8	0	48
	ADULTO MAYOR	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	PERSONA CON DISCAPACIDAD	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	PADRES COCHE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		100	52	12	12	28	36	24	20	44	4	48	20	4	8	36	12	16	0	400



- ADULTO
- NIÑOS Y NIÑAS
- ADULTO MAYOR
- PERSONA CON DISCAPACIDAD
- PADRES COCHE



## Counts

Líneas de deseo peatonal  
Aforos





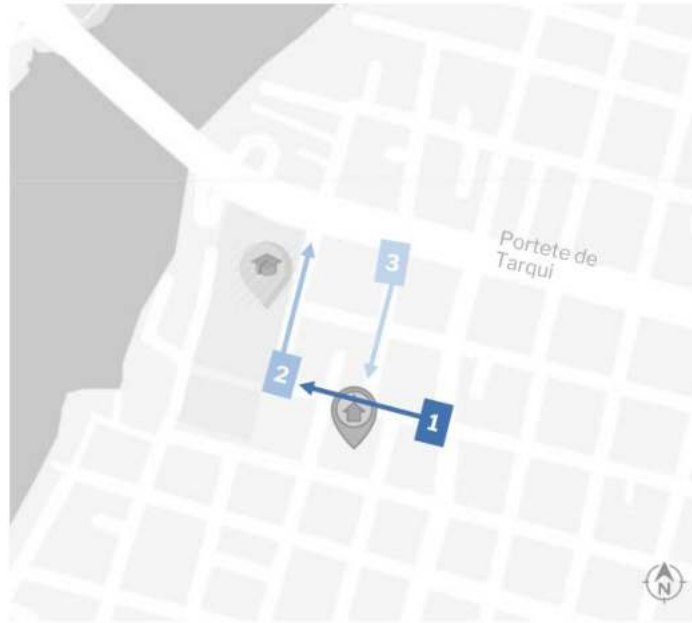
## Stats

### Plano de ocupación de espacio público



## Speeds

### Toma de velocidades



Velocidad		
1	32	km/hora
2	23	km/hora
3	29	km/hora
total	28	km/hora



## Información demográfica

### Equipamiento Urbano

#### Iglesia Cristo Rey

1.000 feligreses semanales  
800 días domingo  
350 capacidad máxima



#### Colegio Patria Ecuatoriana

3.320 estudiantes



## Demographics

### Uso Residencial



Zona residencial, nivel bajo de comercio.

#### **Colegio Patria ecuatoriana - Estudiantes**

-Mañana	-Tarde	-Noche
960 alumnos	2060 alumnos	300 alumnos
Entran 6:40am	Entran 12:45	Entran 6:40pm
salen 12:45	Salen 6pm	Salen 9:40

## Conflicts

### Registro fotográfico

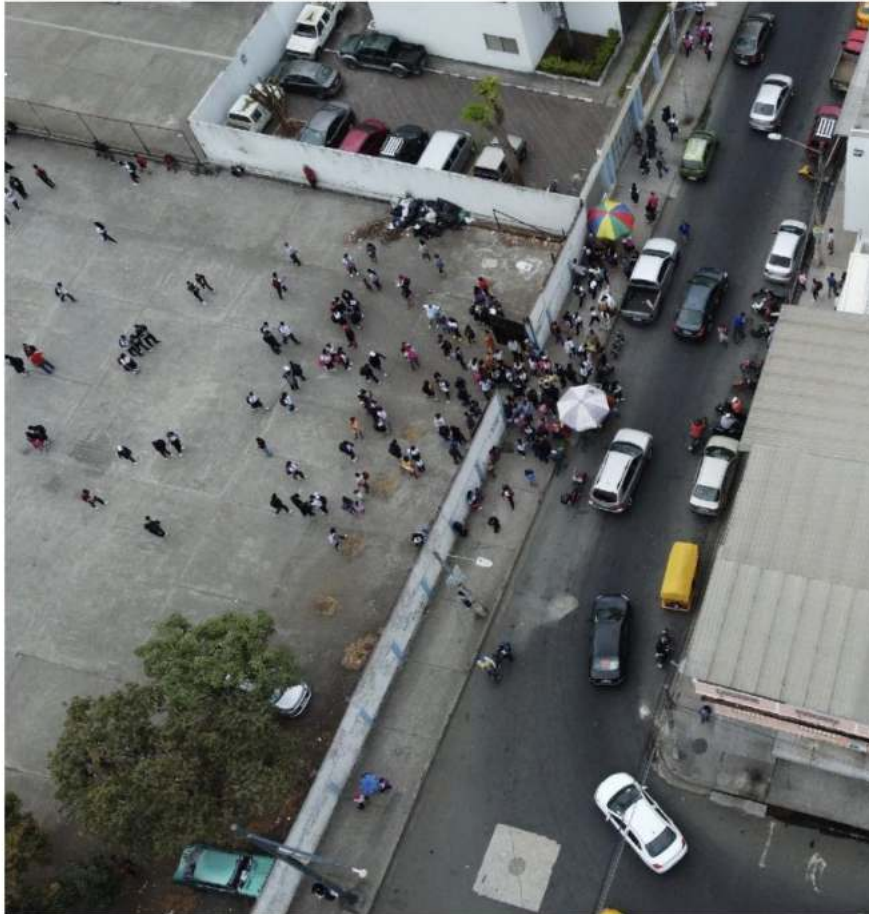
Comercio informal en la Avenida Venezuela y Vicente Ramón Roca.



## Conflicts

### Situación actual

Salida de estudiantes Colegio Patria Ecuatoriana (12:30pm).



## Conflicts

### Situación actual

Avenida Mariette de Veintimilla invasión de carril en la Avenida Colombia.



70 vehículos  
mixtos/hora.



# Community Engagement

Community Consultation

Socialización

11.09.22 - Identificar en el mapa los lugares más seguros e inseguros del sector.





## Community Consultation

### Socialización

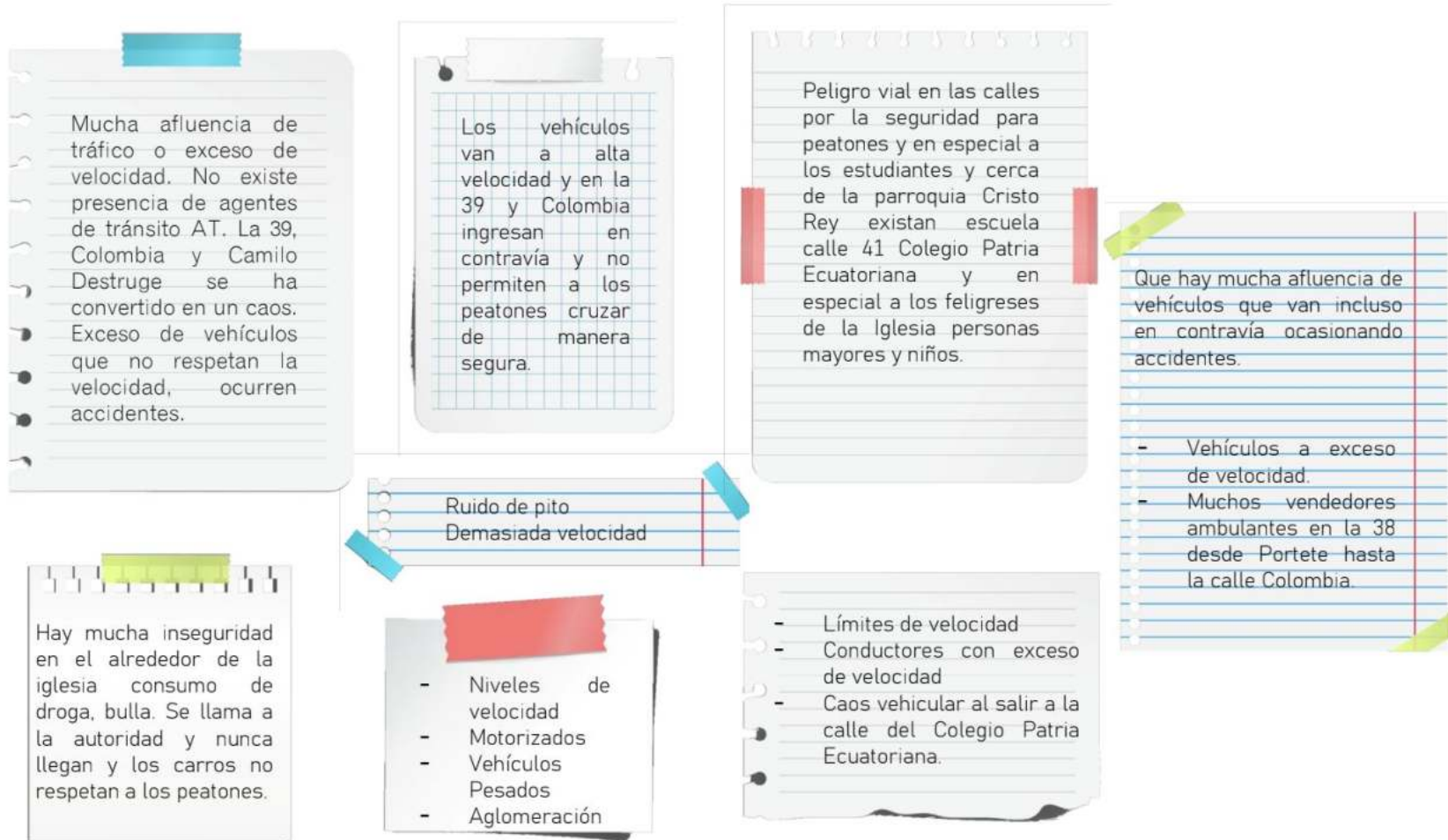
11.09.22 - Identificar en el mapa lo que le gusta de la propuesta de urbanismo táctico del sector.



## Community Consultation

### Socialización

11.09.22 - Problemas evidenciados por los moradores acerca del sector.



## Socialización

11.09.22 - Registro fotográfico de la participación ciudadana.



## Key Engagement Personality



**José Hinostroza**  
Párroco de la iglesia Cristo Rey

porque siempre toda iglesia tiene mucha gente que se acerca, muchos niños y adultos.

Showcase of Examples

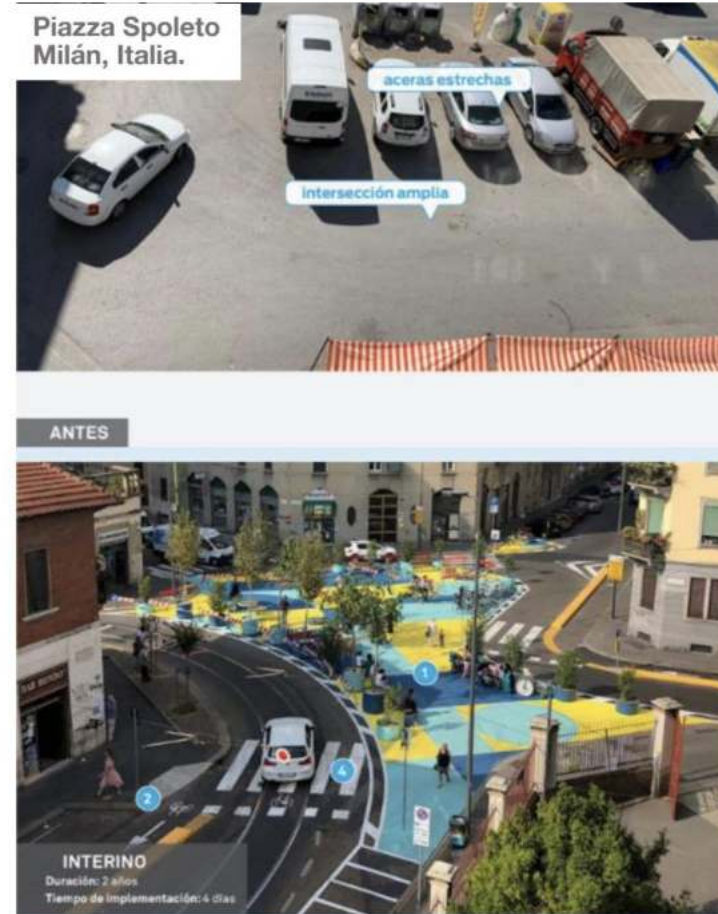
Intervenciones

Ejemplo de propuesta de intervención mediante urbanismo táctico.

Distrito Cultural de Dragao do Mar  
Fortaleza, Brasil.



Piazza Spoleto  
Milán, Italia.



Showcase of Examples

Intervenciones

Ejemplo de propuesta de intervención mediante urbanismo táctico.

Corredor la Magdalena  
Quito, Ecuador.



Antonio José de Sucre.  
Bogotá, Colombia.



### Intervenciones

Peatonalización de la Avenida Mariette de Veintimilla entre Colombia y Camilo Destruge



## Intervenciones

Peatonalización de la Avenida Mariette de Veintimilla entre Colombia y Camilo Destruge

Antes



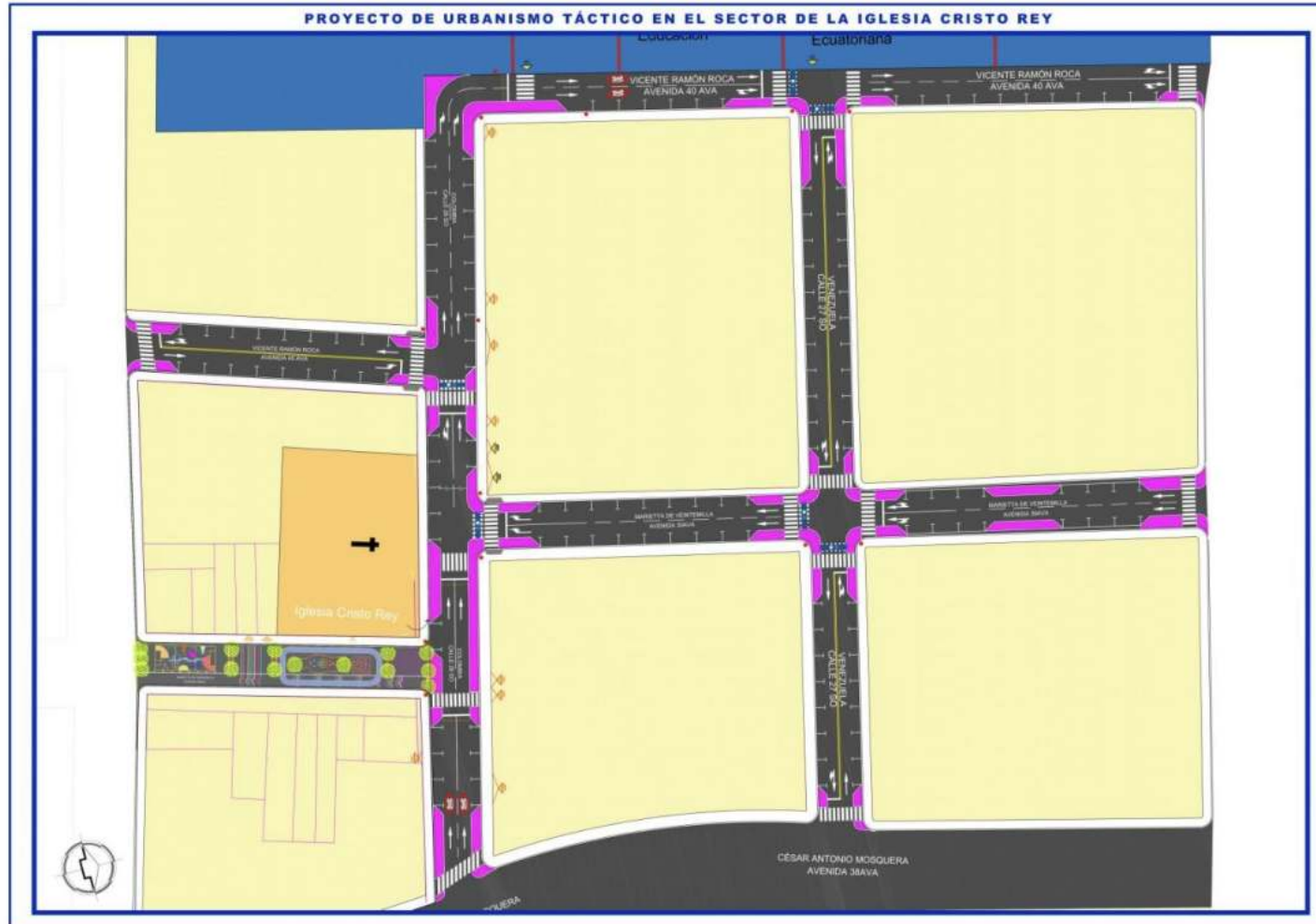
Después





## Intervenciones

Propuesta macro del sector de la Iglesia Cristo Rey



### Intervenciones

Propuesta del sector de la Iglesia Cristo Rey

**SEÑALIZACIÓN AV. VICENTE RAMÓN ROCA**

**TRAMO 5**

VICENTE RAMÓN ROCA  
AVENIDA 40 AVA

**SEÑALIZACIÓN AV. MARIETTE DE VEINTIMILLA**

**TRAMO 6**

MARIETTE DE VEINTIMILLA  
AVENIDA 38 AVA

Ubicación:

**DETALLE DE PINTURA:**  
**EXTENSIÓN DE ACERA = 796.68 M2**  
**CRUCE CICLISTA = 44.31 M2**

<b>ATM</b> AUTORIDAD TRÁNSITO METROPOLITANO Guayaquil	<b>EMPRESA PUEBLO MUNICIPAL DE TRÁNSITO Y MOVILIDAD DE GUAYAS</b> DIRECCIÓN DE PLANIFICACIÓN DE LA MOVILIDAD
PROYECTO: "PROYECTO DE ORDENAMIENTO TERRITORIAL DE LA AVENIDA MARIETTE DE VEINTIMILLA ENTRE AVENIDA 38 Y AVENIDA 40 GUAYAS"	
CONTENIDO: "PROYECTO DE ORDENAMIENTO TERRITORIAL (INCLUYE SEÑALIZACIÓN HORIZONTAL Y VERTICAL)"	
ESCALA: 1:500	
HECHO POR: ING. TONY TORRES SUAREZ DISEÑADO POR: ING. TONY TORRES SUAREZ	HECHO POR: ING. MIGUEL PAZ DISEÑADO POR: ING. MIGUEL PAZ
FECHA: 07/11/2023	HOJA: 3/3

# Implemented Project

Guayaquil  
**Cristo Rey**

Community Involvement



Guayaquil  
**Cristo Rey**

Community Involvement



Guayaquil

# Cristo Rey

Outcome



# Cristo Rey

## Outcome



Guayaquil

# Cristo Rey

Outcome





# Cristo Rey

Outcome



Guayaquil

# Cristo Rey

Outcome



Guayaquil

# Cristo Rey

The Dream Team



## 02 Cristo Rey

**Link for the video:**

**[https://drive.google.com/file/d/1z0kCOGqINyjGcnHD99\\_-qJNsm8UiNLF9/view?usp=sharing](https://drive.google.com/file/d/1z0kCOGqINyjGcnHD99_-qJNsm8UiNLF9/view?usp=sharing)**

**g**

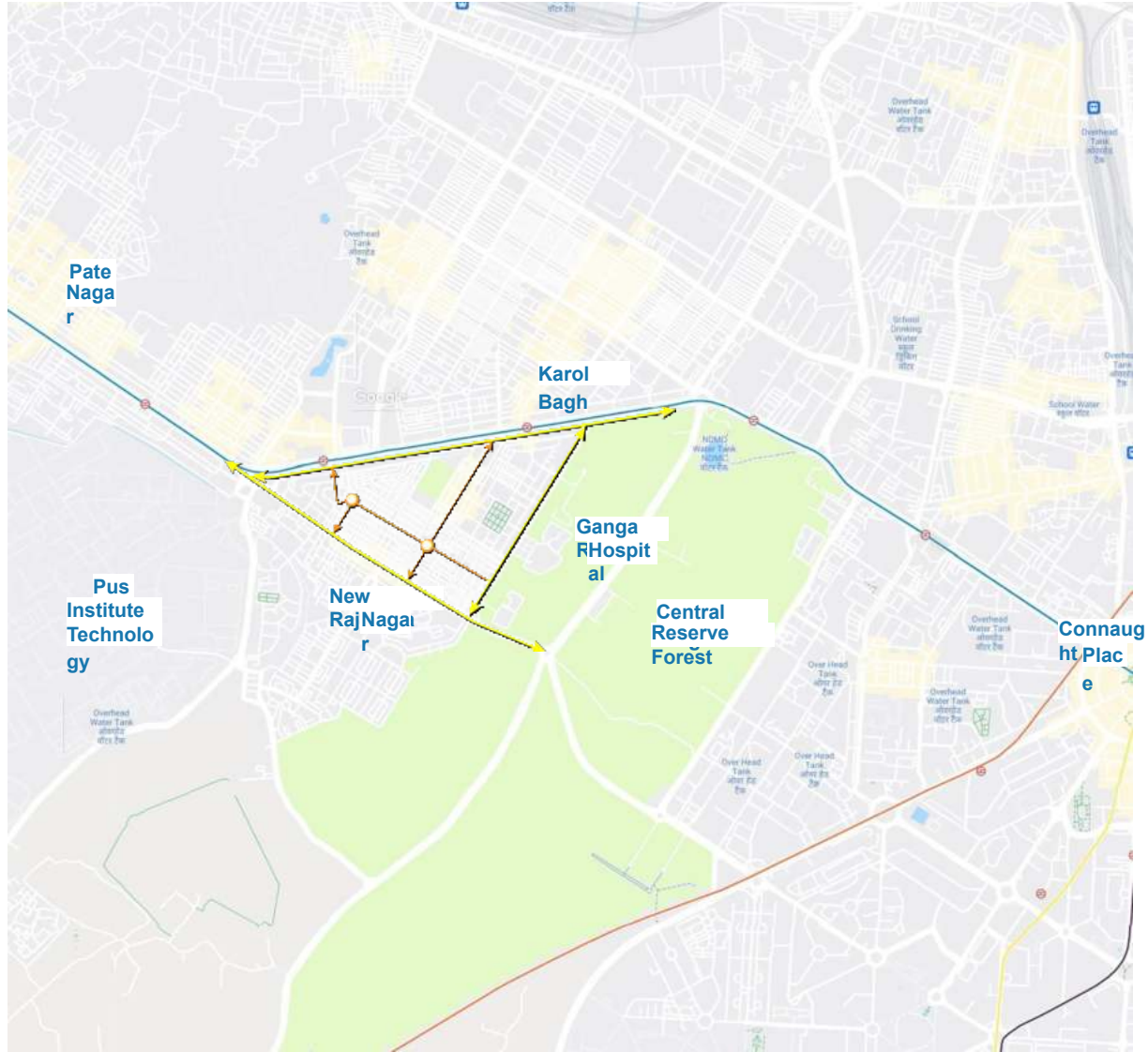
# Delhi

**03** **Rajender Nagar  
Neighborhood  
Improvement  
Project**

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# Urban Context & Connectivity



Old Rajendra Nagar located in the central zone is well connected to the city, it is bordered by the **Central Ridge Reserved Forest** on the east and south making it an ecologically enriched zone.

ORN is well connected to other **commercial centers like Connaught Place and Patel Nagar** through mass transit networks like Metro and Bus and via the arterial road network.

**Ganga Ram hospital** which borders the neighbourhood in the east attracts high volumes of traffic and emergency vehicles movement.

Across Pusa road on the north, lie commercial centres of **Karol Bagh and Gaffar Market**. Proximity and **access to two metro stations within a walkable range (<500m)** is an asset for the neighbourhood and the large population of students who rely on public transport for commute.



# Street Network



Old Rajendra Nagar's periphery is marked by **three arterial roads - Pusa Road, Shankar Road and Ganga Ram Marg** which connect the area to other parts of the city.

The arterial roads act as **'hard edges'** between Old Rajendra Nagar and adjacent neighbourhoods of Karol bagh and New Rajendra Nagar. Heavy motorised traffic flow forms a barrier to pedestrian movement across these adjacent neighbourhoods.

Pusa road and Shankar road are predominantly mixed-use, **commercial activity seeps** in into the neighbourhood through these edges.

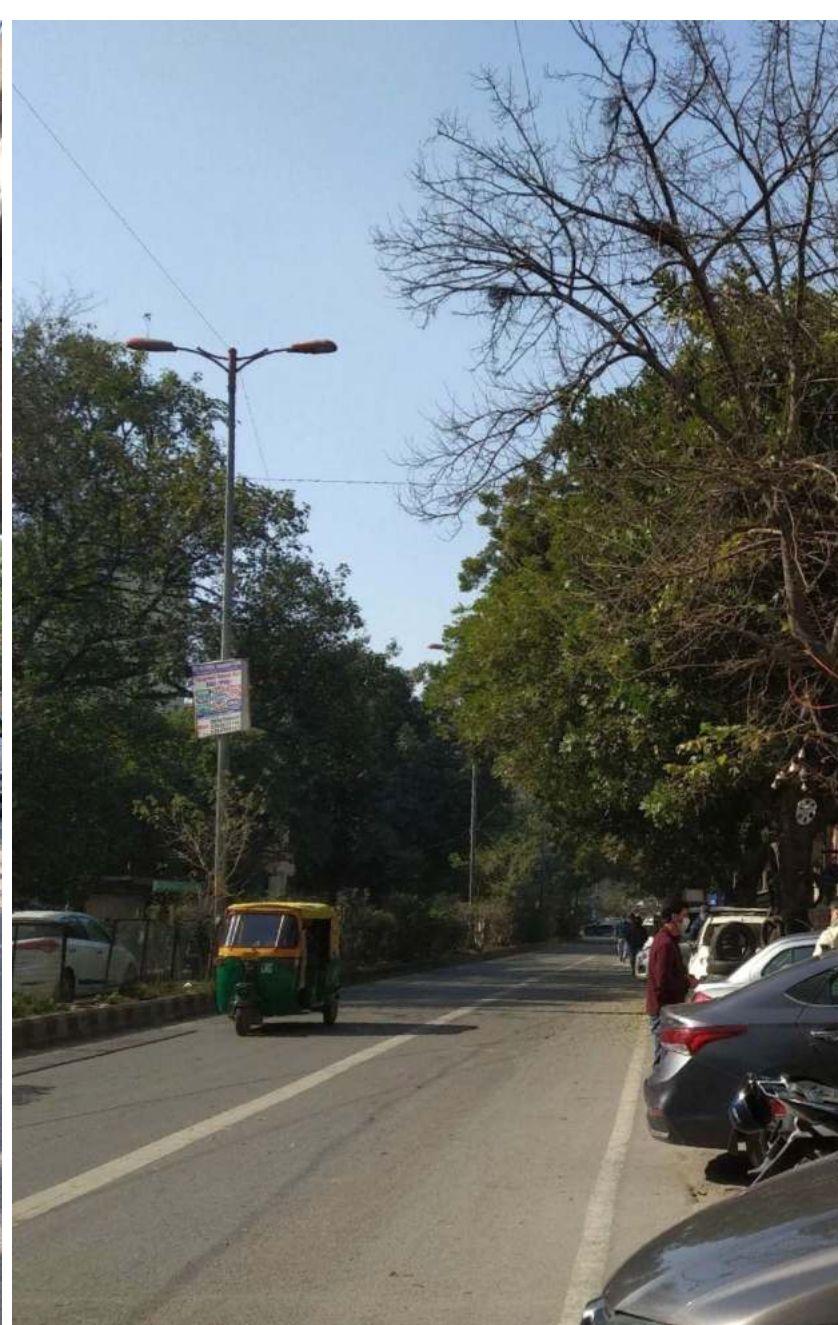
Bada Bazaar - the internal commercial and mixed use street intersects with the two arterial roads- Pusa & Shankar Road, these junctions form interesting intersections & points of entry into ORN.

↔ Arterial Edges

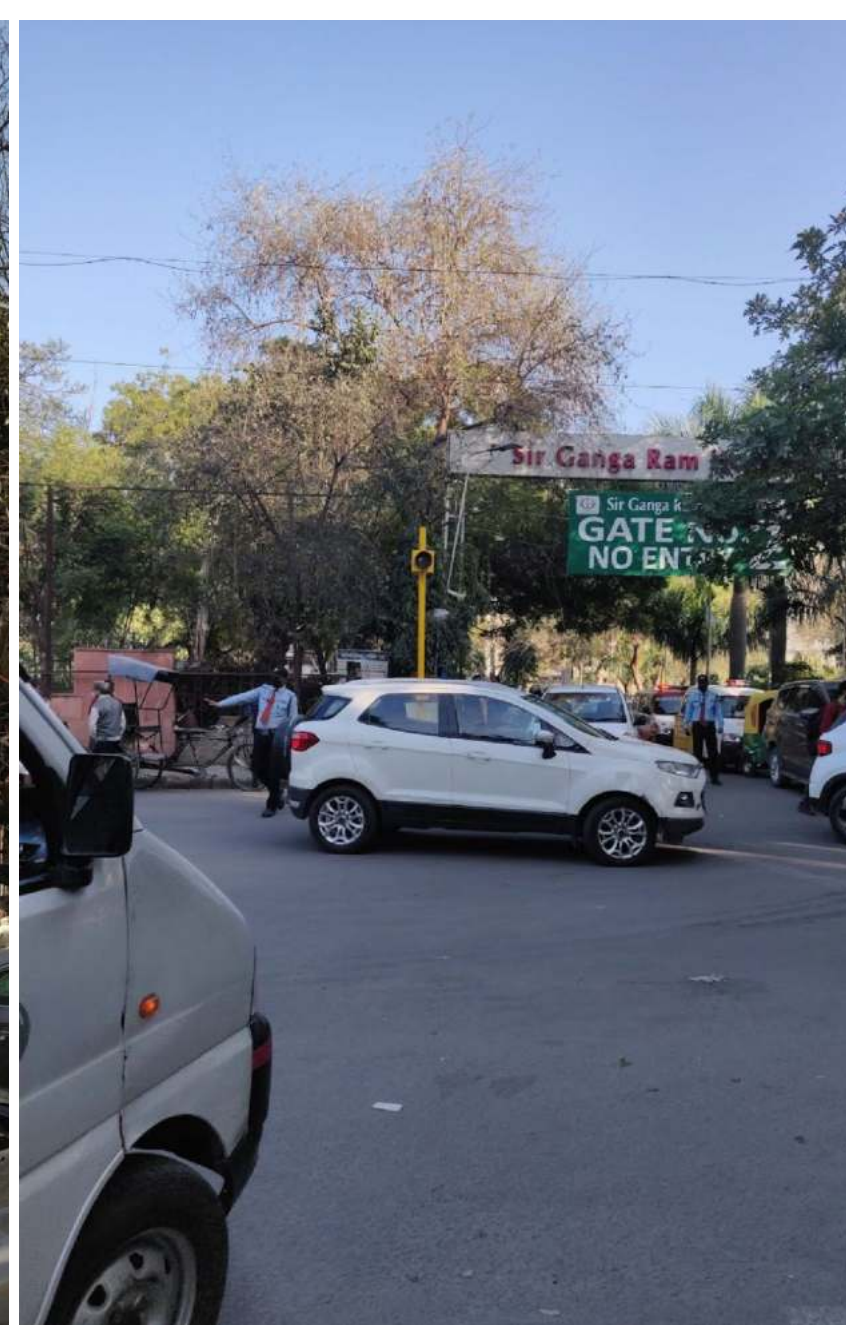
↔ Internal Axes



Pusa Road



Shankar Road



Ganga Ram Marg



Bada Bazaar Marg



Gol Chakkar Marg



Neighbourhood streets



Parks



Market Plazas



Parking lots

# Community Engagement

# Target User Groups in Old Rajendra Nagar



**Students**



**Residents  
(Elderly)**



**Residents  
(Women)**



**School  
Students**



**E-rickshaw  
Drivers**



**Rickshaw  
Pullers**



**Motorists**



**Pedestrians**

# Public Wall Activities in ORN



Public Wall Activities



Heat Map Activity



# Interviews and Group Discussions with User Groups



Interviews



Focus Group Discussions

# Neighborhood-level Strategies

# Design Brief

Improving mobility experiences and quality of life



Create safe mobility experiences for the most vulnerable — like school students and the elderly — within the neighbourhood and adjacent areas



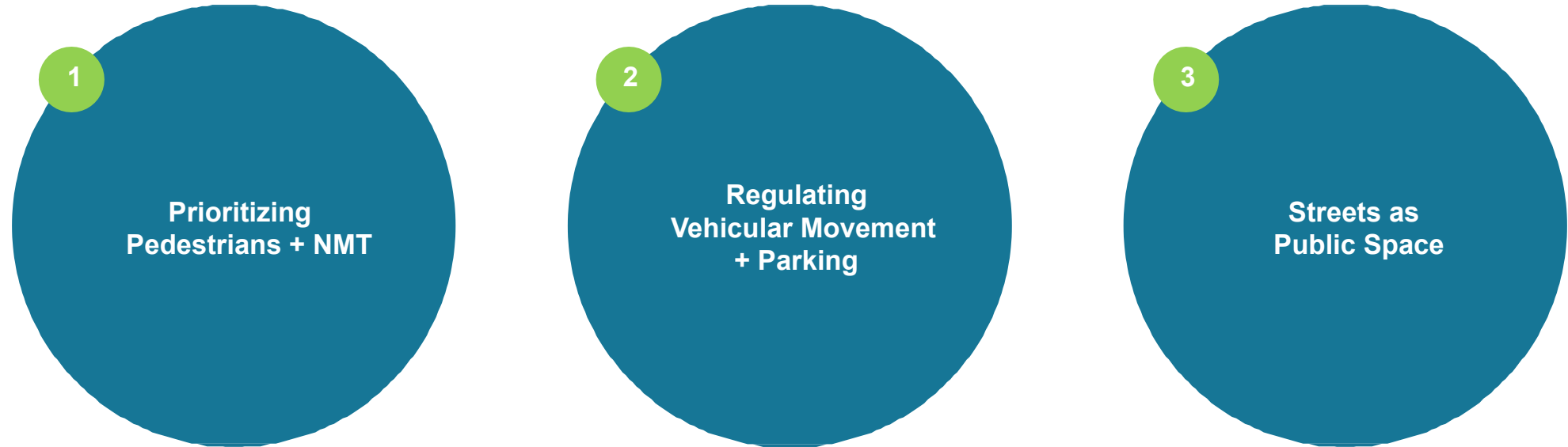
Encourage and reinforce sustainable choices in transport modes — like walking, cycling and shared transit like metro



Revive open spaces and green infrastructure in the neighbourhood and to improve liveability and reverse the impact of concentration of vehicles

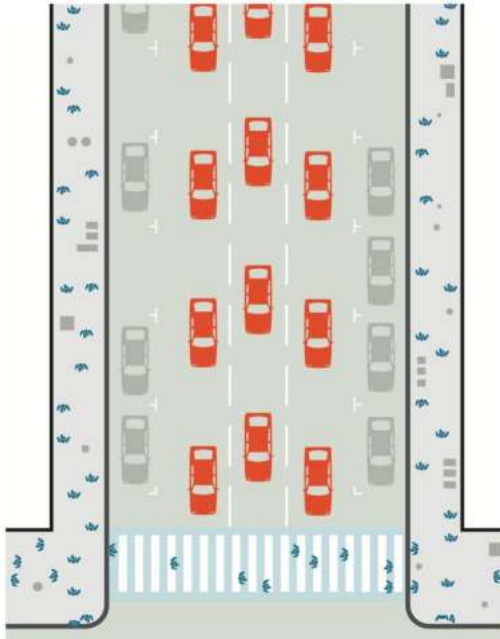


# Neighbourhood-Level Strategies



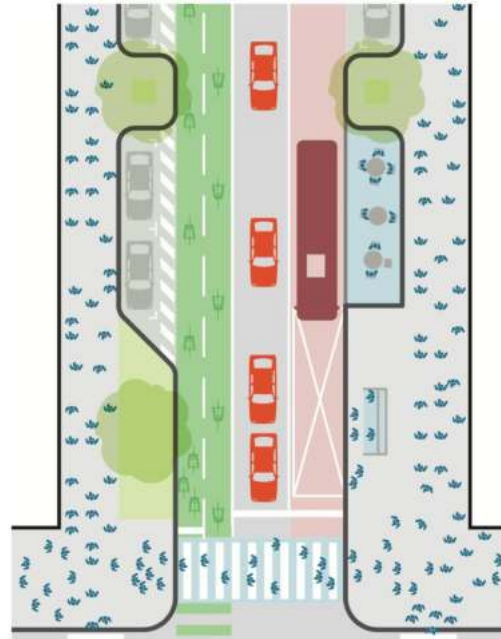
# Pedestrian + NMT Prioritization

**Car-oriented Street**



Total capacity: 12,300 people/h

**Multimodal Street**



Total capacity: 30,100 people/h<sup>29</sup>

Multimodal streets offer people options for safe, attractive, and convenient travel by foot, by cycle, on transit, as well as in motorized vehicles.

**Redistributing ROWs** →

Redistributing street ROWs to embrace multi-modality and prioritise pedestrians, cyclists and create unobstructed footpaths.

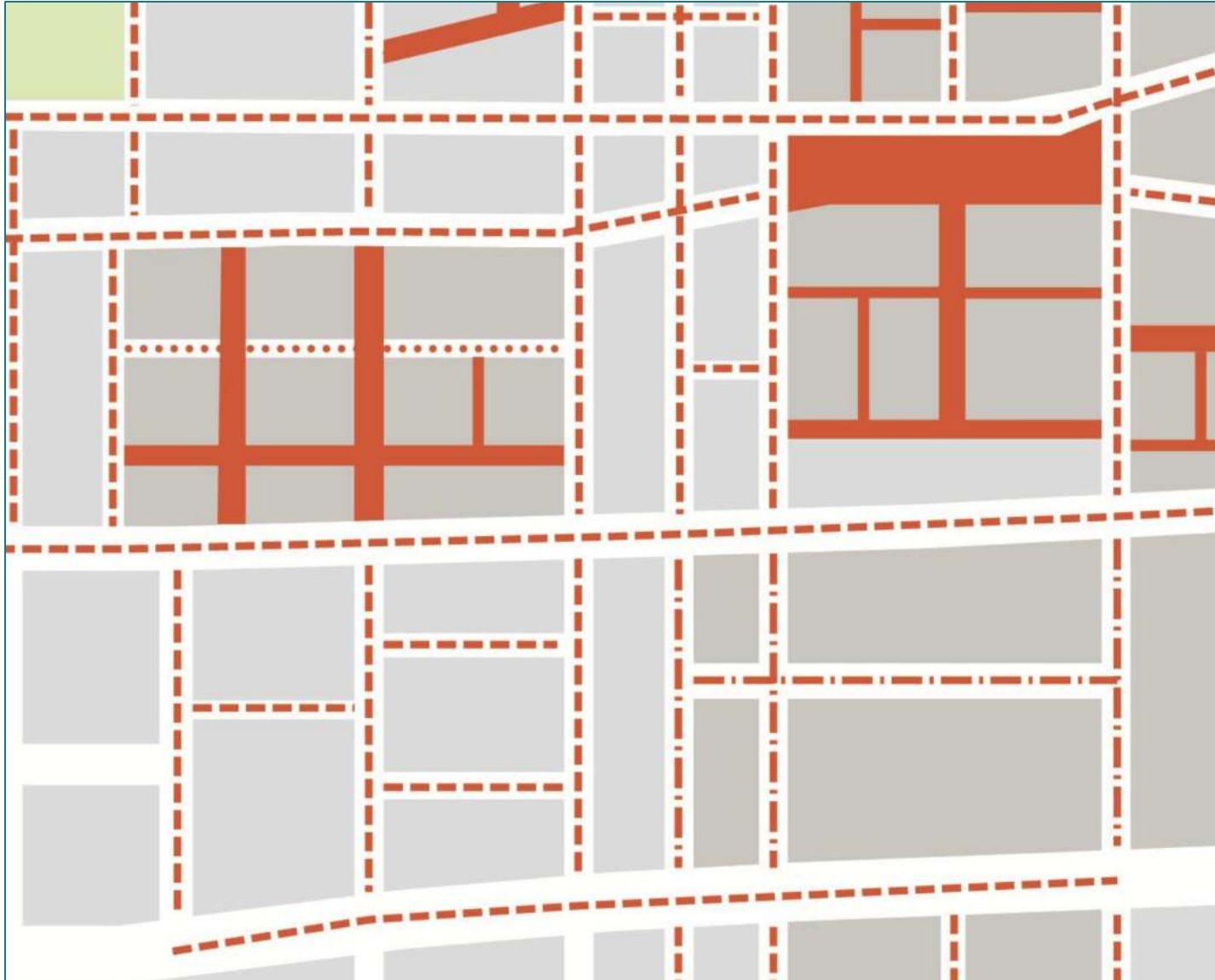
**Car-free corridors** →

Selected streets that support high pedestrian movement, or provide access to transit stations or parks are proposed as car-free zones in the neighbourhood.

**NMT Infrastructure** →

Elements like sidewalk extensions, refuge islands and ramps are proposed with parking and signages dedicated to cyclists.

# Regulating Vehicular Movement + Parking



Rethinking mobility in the neighbourhood to create new networks of two-way streets, one-way lanes, and shared streets.

## Operational changes →

Operational changes like diverters, one-way couplets to regulate vehicular traffic in the neighbourhood

## Traffic calming elements →

Elements like narrower lanes, speed bumps and sidewalk extensions to reduce traffic speed and improve road safety

## Parking regulations →

Unregulated parking patterns obstruct traffic flow, and encroach sidewalks. Many residents park their cars on Shankar road or near the Gol Chakkar.

- Car-free areas
- Shared spaces
- Slow zones
- Limited traffic zones

# Streets as Public Space



Streets play a big role in the public life of cities and communities, and should be designed as places for cultural expression, social interaction, celebration, and public demonstration.

## **Open space networks** →

Revival of open spaces and green infrastructure in the neighbourhood and reverse the impact of concentration of vehicles in the area

## **People doing business** →

Establishing symbiotic relationship with businesses like coaching institutions, libraries, book sellers and food joints

## **Street elements for comfort and safety** →

Elements like shaded parklets, seating spaces and street lights to elevate the experience of users on the street and offers spaces for pause and play

# Intervention Sites



# Heat Map Activity



A heat map activity was conducted at different locations on site to understand the trends and patterns of usage, inhibitors and facilitators within Old Rajendra Nagar.

The exercise was facilitated near high-footfall landmarks to generate a 'heat-map' based on people's perception of road safety & comfort within the neighbourhood. Participants were encouraged to map areas where they felt safe (green sticker) & where they felt unsafe (red sticker).

A series of hotspots emerged forming tentative sites for intervention.

# Location-based Qualitative Takeaways



Furthermore, location specific responses from qualitative research conducted in the form of interviews, FGDs and other public activities were overlaid on the plan.

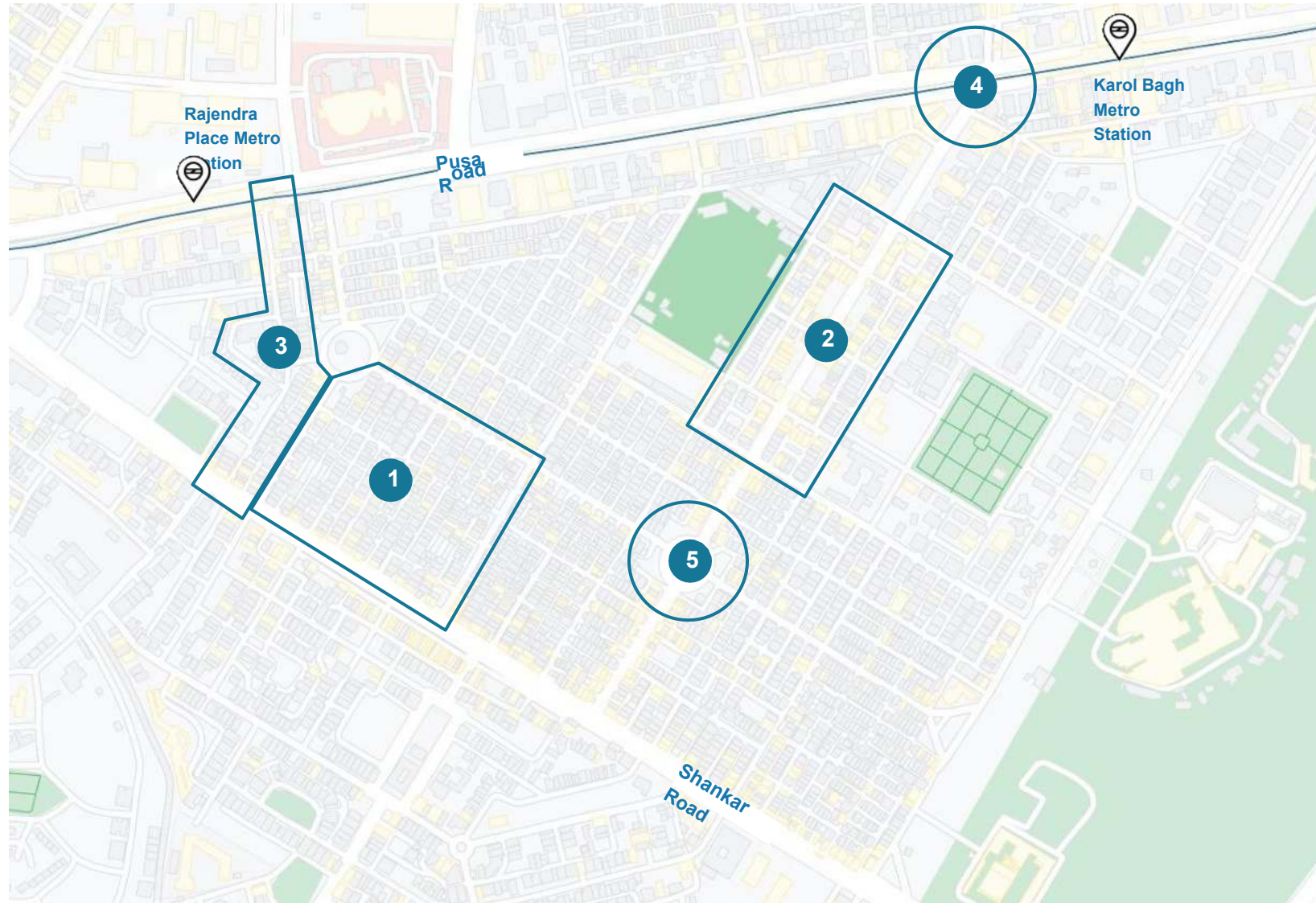
The patterns emerging out of the responses complement the patterns of the heat map.

## Colour Legend →

Pedestrian	Transport Department	street vendors	residents
motorist	cyclist	business owners	students

Identifying Critical Sites

# Proposed Sites for Intervention



## Legend

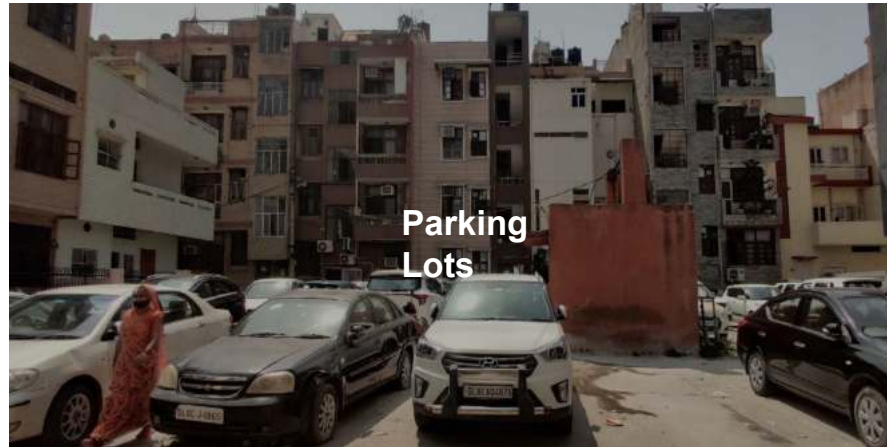
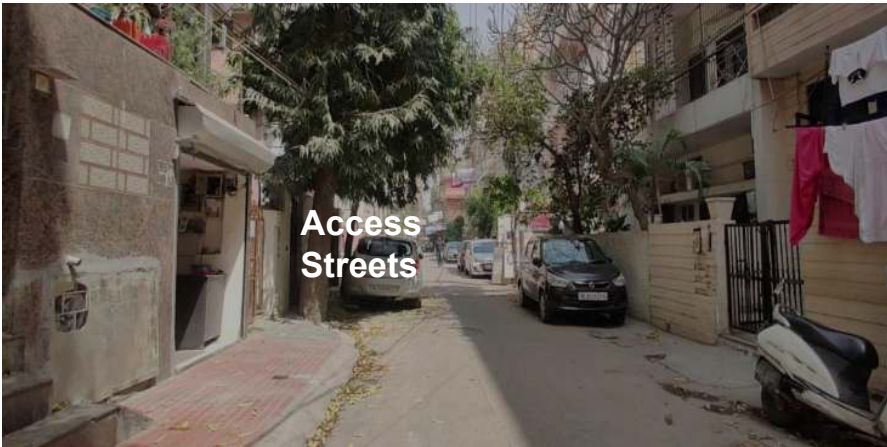
→

- 1. Residential Block
- 2. Bada Bazaar Stretch
- 3. Rajendra Place Metro Station to Shankar Road
- 4. Vajiram Junction
- 5. Gol Chakkar Intersection

4.1

# Residential block

# Context and Challenges



## Unsafe pedestrian experience →

The limited ROW is unable to accommodate vehicular and pedestrian flow with parking. The absence of sidewalks forces them to walk on the road bed along with fast-moving vehicles.

## Unregulated parking →

Unregulated parking patterns obstruct traffic flow, and encroach sidewalks. Many residents park their cars on Shankar road or near the Gol Chakkar.

## Lack of open space →

Small parks and interstices which were an integral part of the initial planning have invariably transformed into parking lots. This has resulted in a lack of open spaces in the neighbourhood.

Typologies of streets and open spaces within the residential block

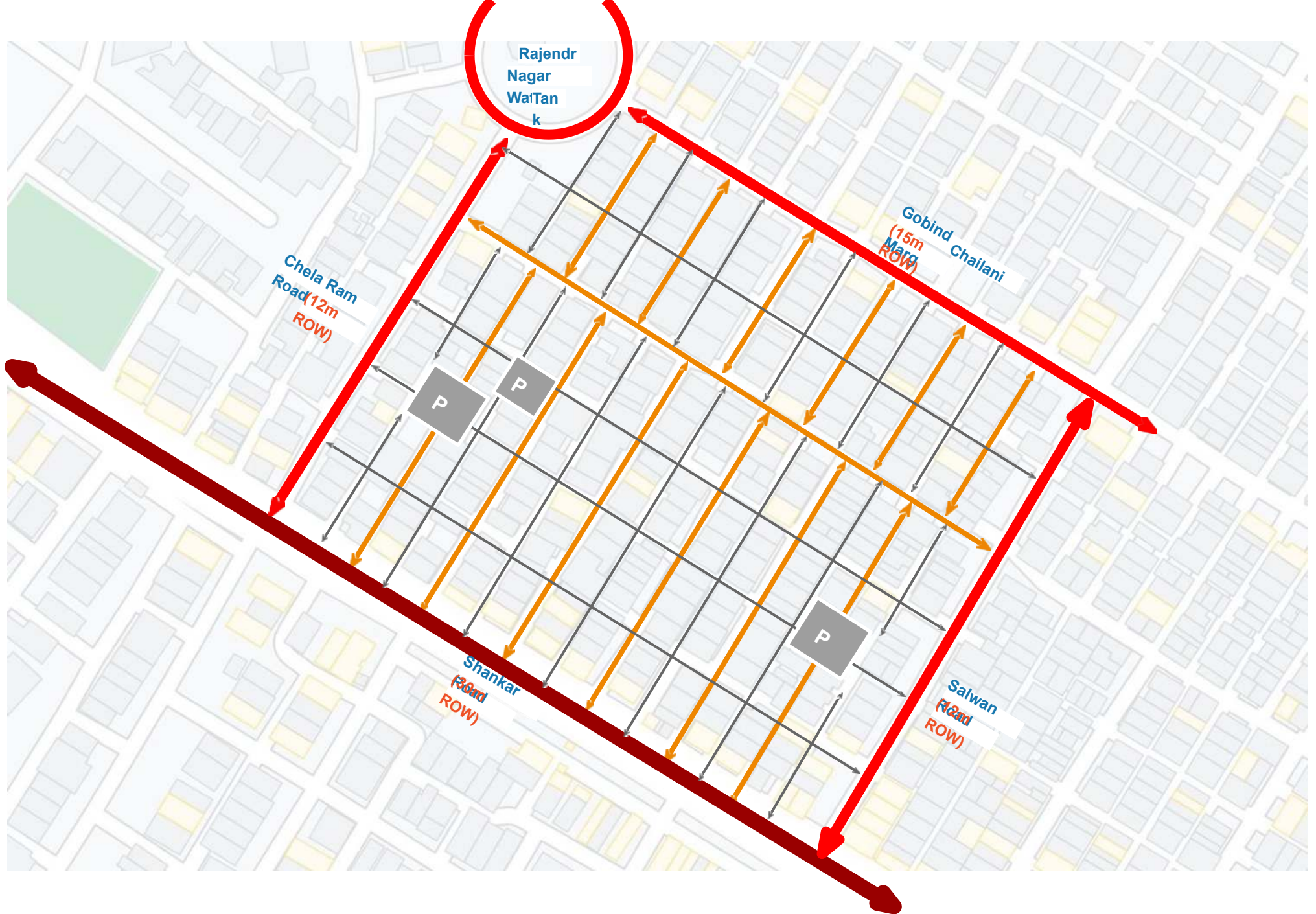
# Existing Conditions

Sub-Arterial Road  
30M ROW

Distributor / Collector Road  
12-15M ROW

Access Streets  
4M-6M

Laneways/ Alleys  
2M-4M



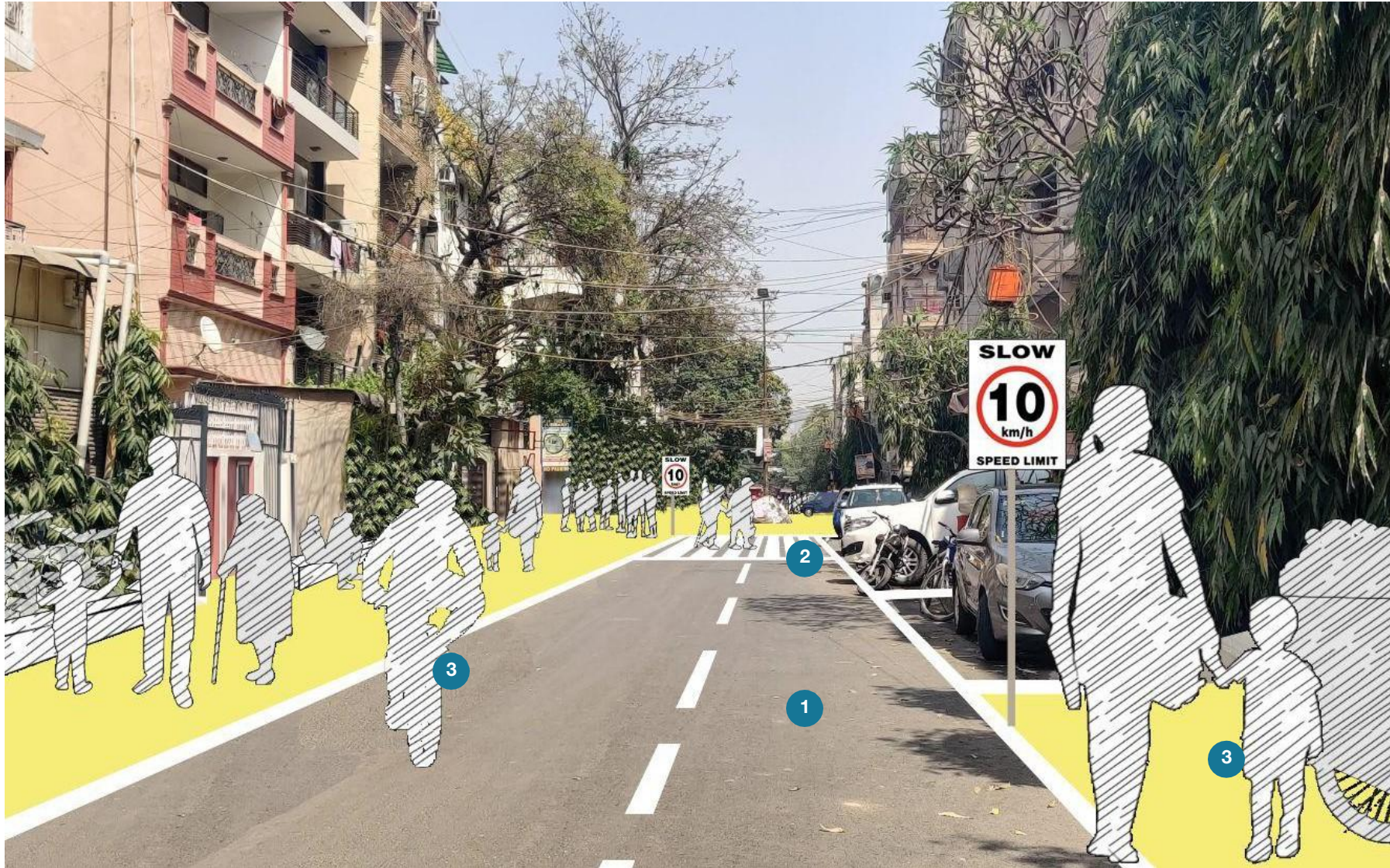
# Distributor/Collector Roads [12-15m RoW]



EXISTING  
CONDITIONS



# Distributor/Collector Roads [12-15m RoW]



## PROPOSED DESIGN

### 1— Two way traffic

Retaining two way traffic to allow for easy entry and exit into the residential block. Creating organized parking spaces for all.

### 2— Traffic calming elements

Continuous sidewalks combined with raised crossings, curb extensions and speed limits signs to improve pedestrian safety.

### 3— NMT infrastructure

Cycle-friendly infrastructure like stands and signages are incorporated into the design





# Access Roads [6-9m RoW]



EXISTING  
CONDITIONS



# Access Roads [6-9m RoW]



## PROPOSED DESIGN

### 1— One-way traffic

Unidirectional flow of vehicular traffic to create space for other elements on the street

### 2— Shared carriageway

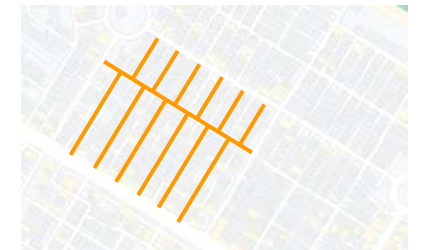
Pedestrians share the carriageway with cyclists and slow-moving vehicles

### 3— Parallel parking

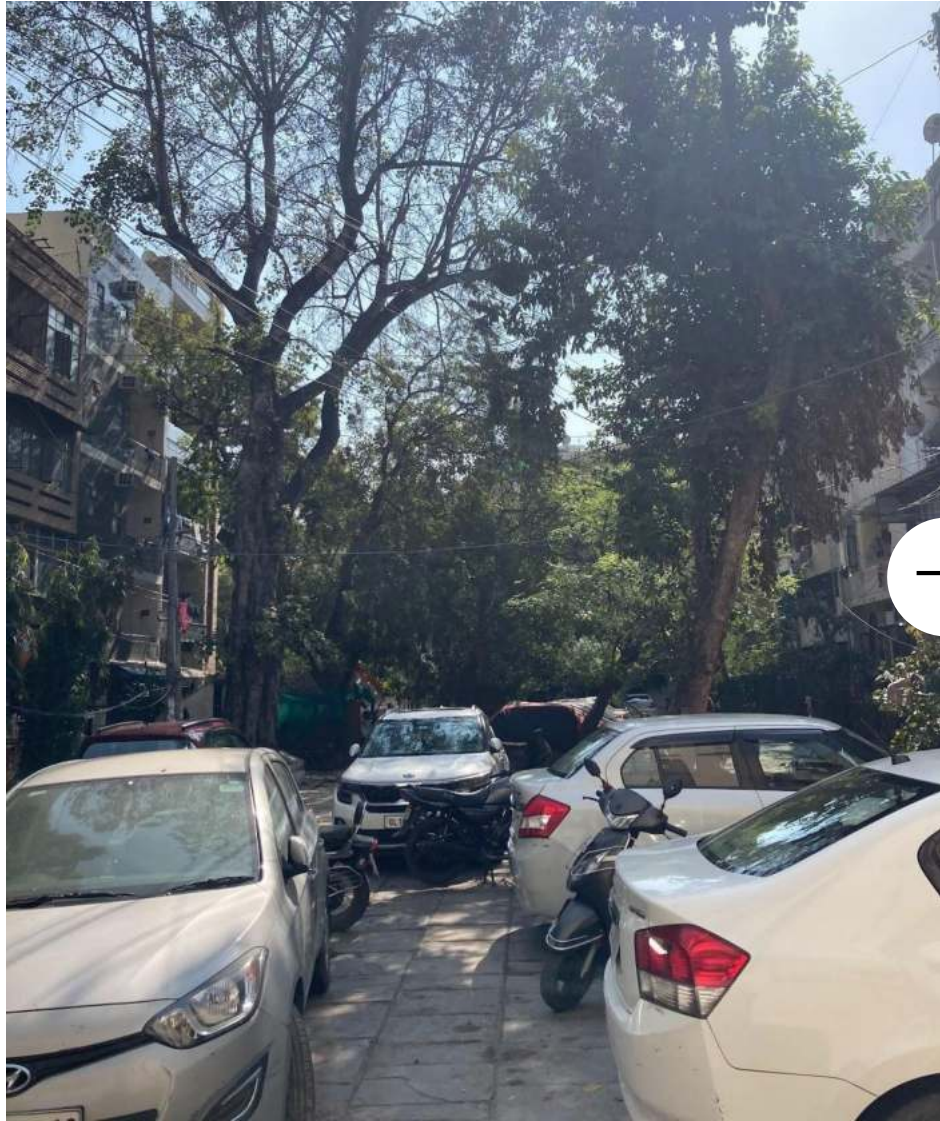
Alternate parking modules to form chicanes which would further slow the speed down

### 4— Chicanes

Accommodating trees within chicanes to slow down the traffic speed and create shaded rest spaces



# Parking plots as Public Plazas



## PROPOSED DESIGN

Transforming parking lots into public plazas and shared open spaces which ties in with the pedestrian network.

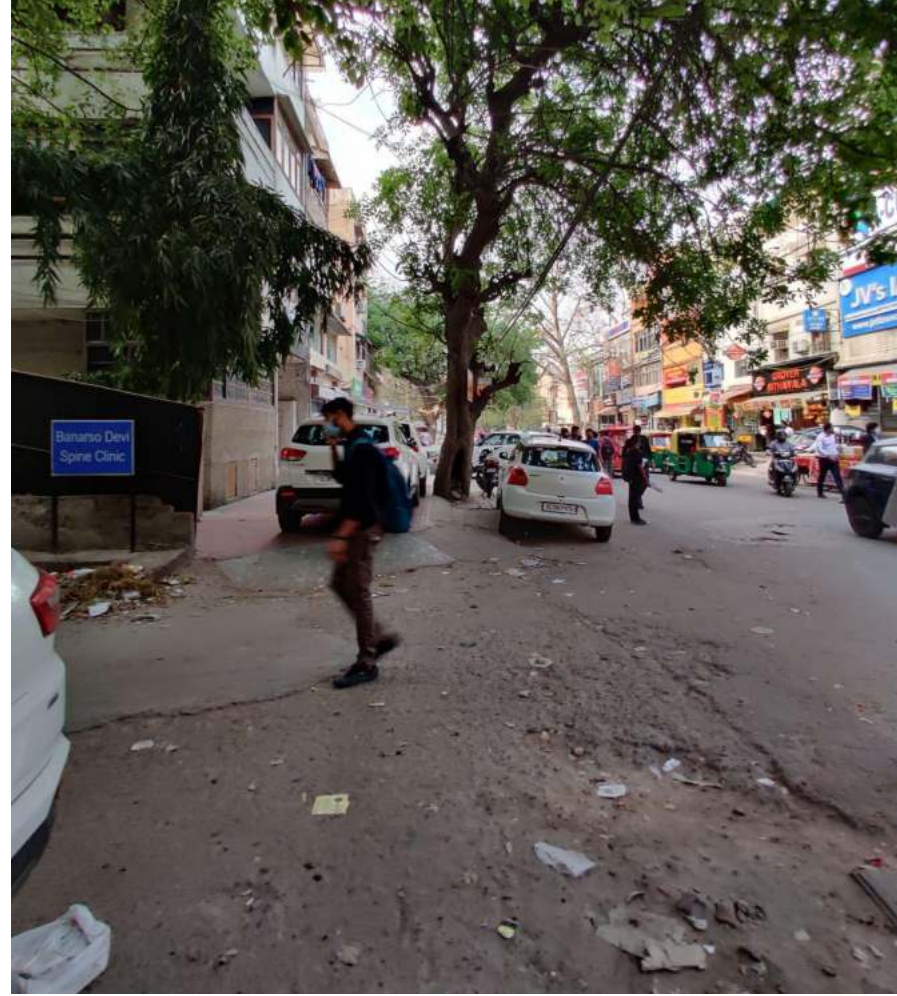
These plazas have immense potential to become vibrant and active spaces that bring the community together and promote intergenerational interactions.



4.2

# Bada Bazaar

# Context and Challenges



The Bada Bazaar is the primary commercial cum-institutional zone in Old Rajendra Nagar. Coaching institutes, book shops and food centres line the street with a heavy flux of students on foot.

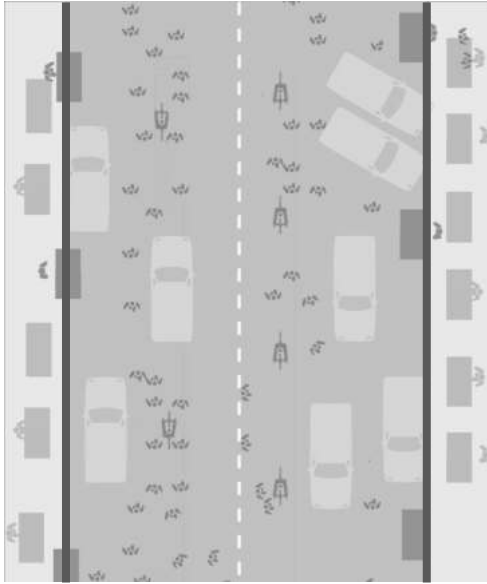
## **Obstructed footpaths** →

Absence of a clear footpath forces pedestrians to walk on the carriageway alongside e-rickshaws, cars and vendors. Shops spill over and unregulated parkings and vendors cover the pathway.

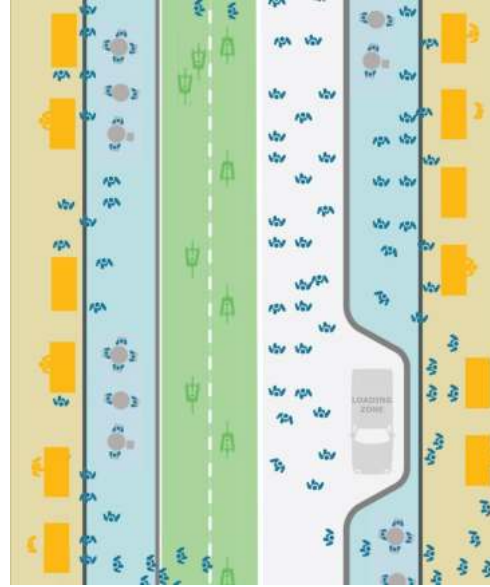
## **Lack of infrastructural upkeep** →

E-rickshaws, vendor carts and vehicles navigate potholes with unexpected maneuvers that cause a safety hazard to all users on the street.

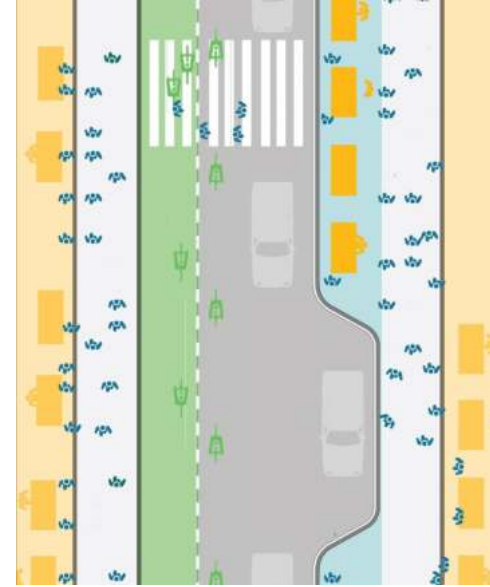
# Concept Explorations for RoW Distribution



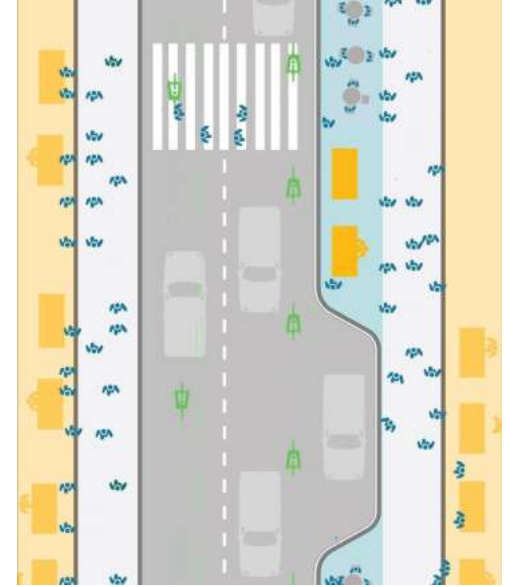
Existing conditions



Pedestrianized



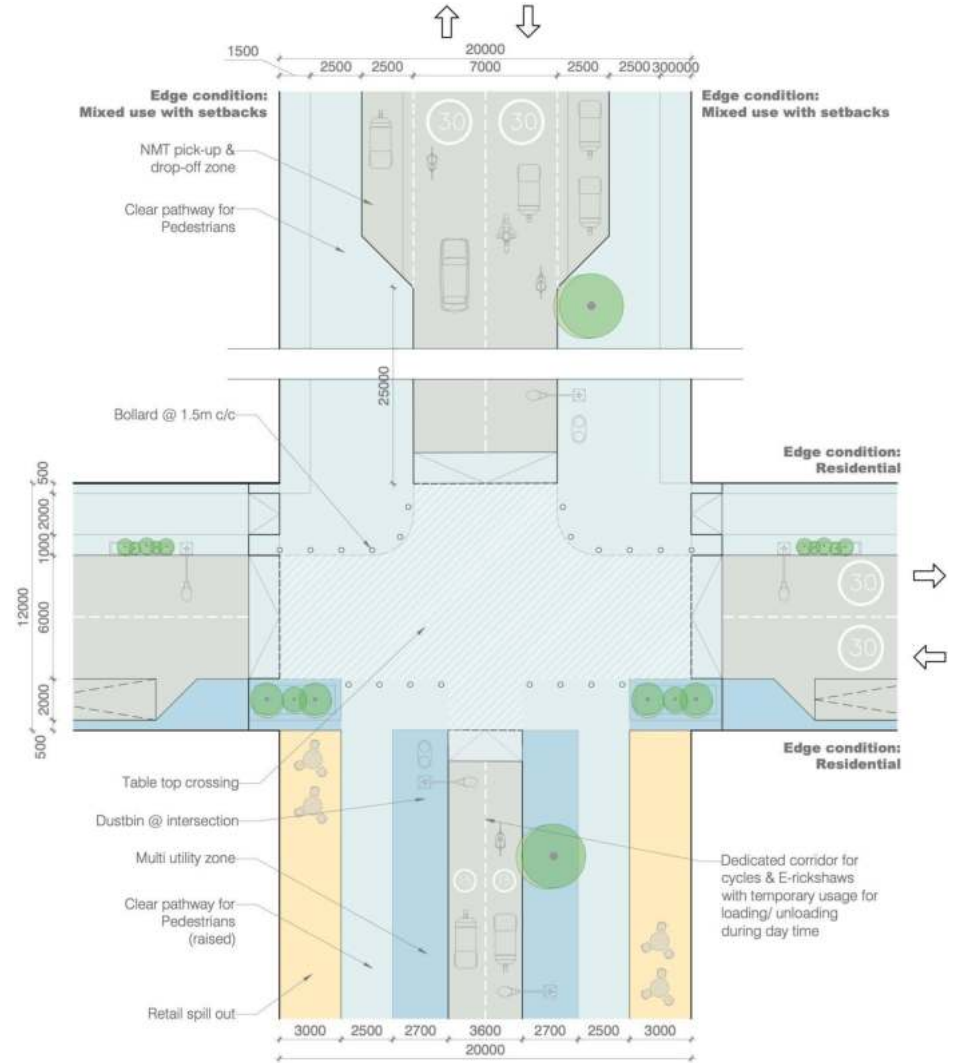
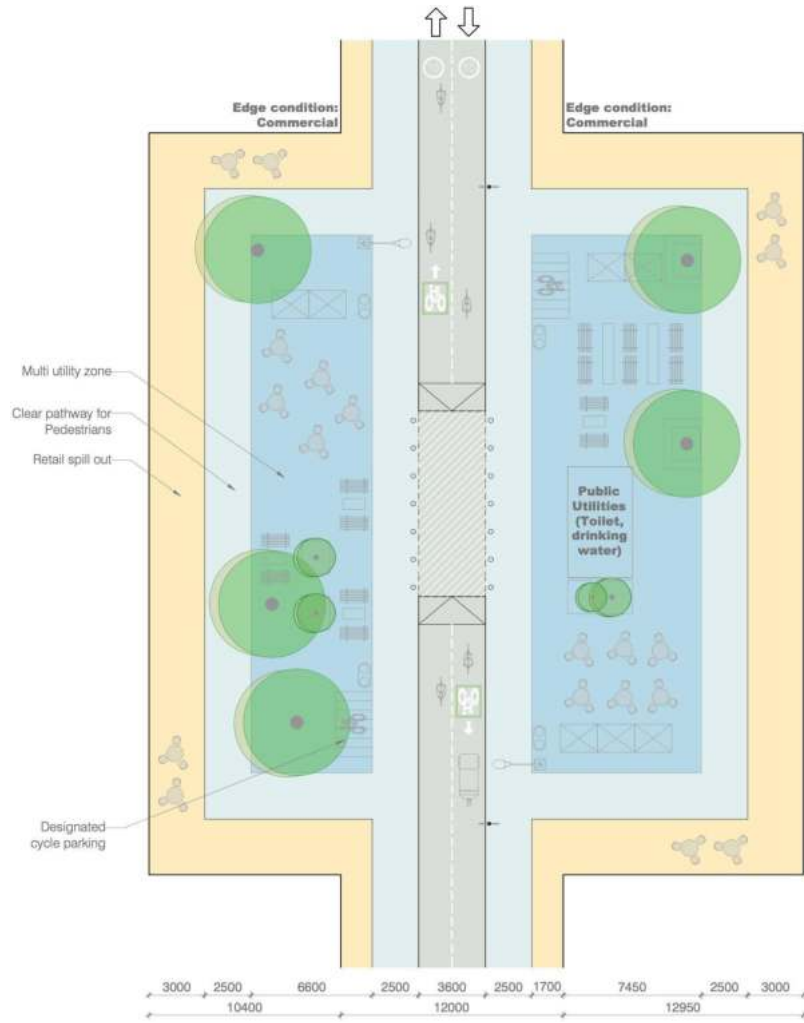
One-way vehicular



Two-way vehicular

Clear footpath	Yes	Yes	Yes
Traffic calming elements	Yes	Yes	Yes
Retail spill-outs	Yes	Yes	Yes
Cycle + NMT lanes	Yes	Yes	No
Vendor zones	Dedicated	Shared with parking + loading/unloading bays	Shared with parking + loading/unloading bays

# Partial Pedestrianization [Block based scheme]



# Art Corridor

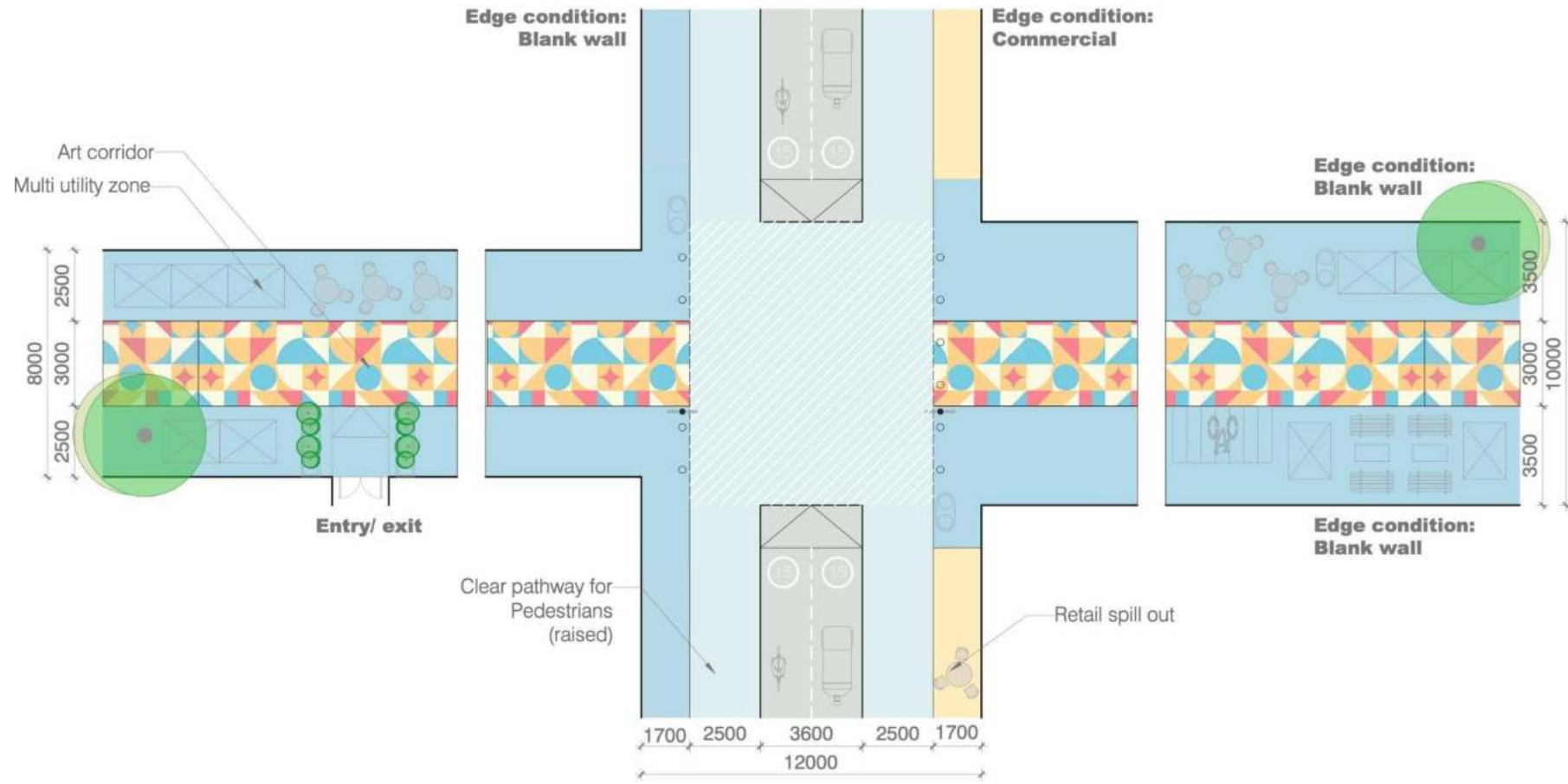


Art Corridor Connecting Central Plazas to Sindhi Park and Salwan Public School





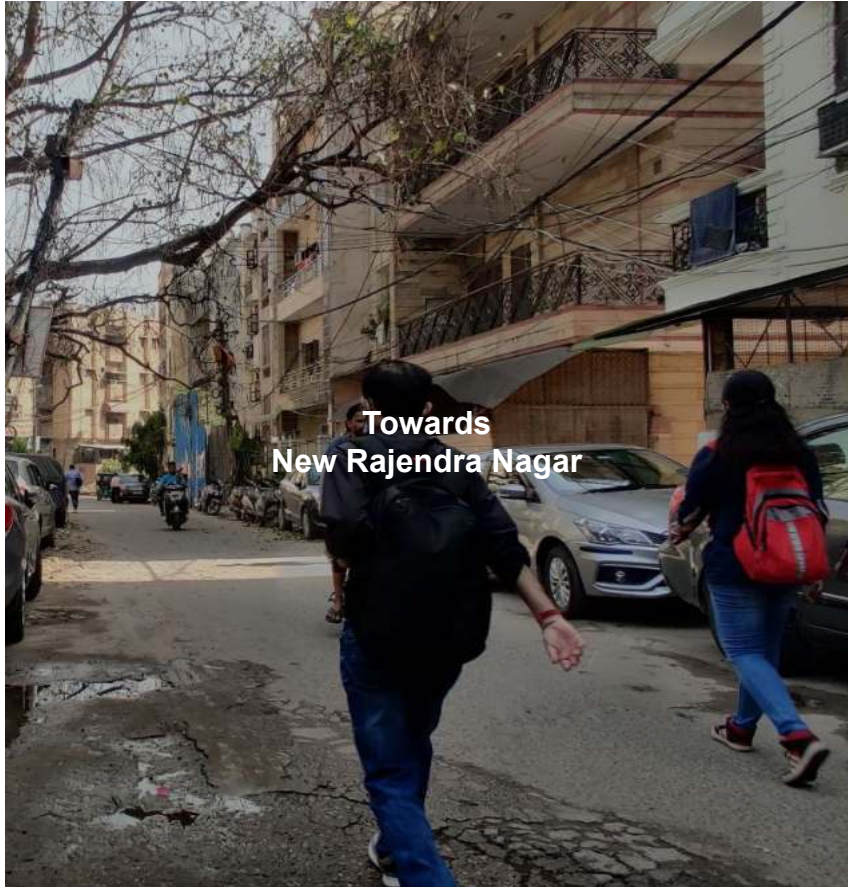
# Art Corridor — Detailed Design



# 4.3

# Metro Access Corridor

# Context and Challenges



The streets that connect ORN with metro stations and adjacent neighbourhood like NRN are shared between high pedestrian footfall and vehicular traffic like cars, motorbikes and E-rickshaw.

### **Unsafe & obstructed pedestrian experience →**

The route poses a visible conflict that puts pedestrians, especially vulnerable user groups, at risk and make the experience unsafe and obstructed.

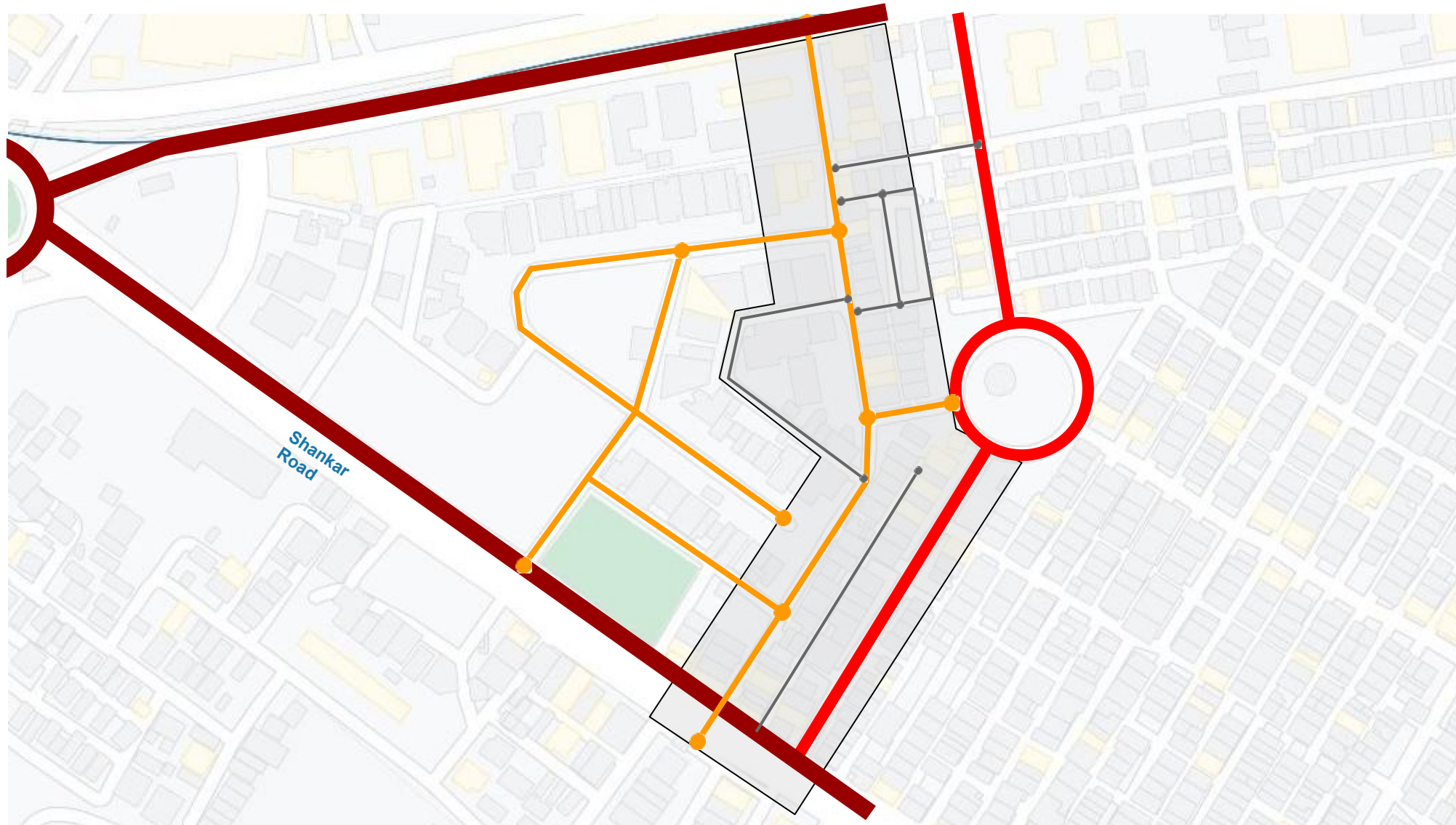
### **Roadside parking →**

Lanes are filled with roadside parkings which further reduces usable spaces on such streets





### **Underutilised spaces →**

Specific intersections and spaces along blank walls are left with low usages. Such spaces can be used for “pause & play” and adding back to the network of open spaces within the neighbourhood

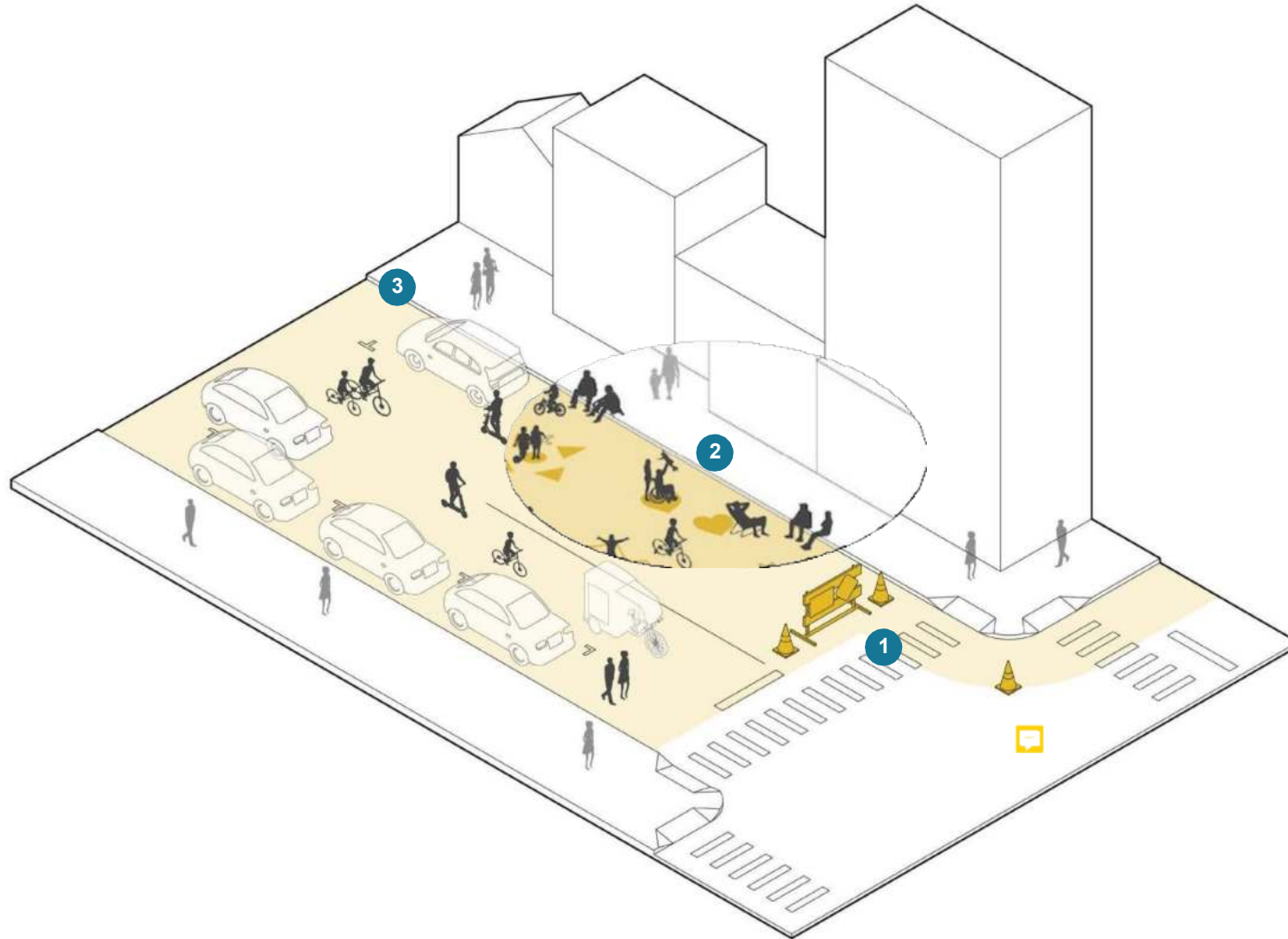
# Existing Conditions



Shankar Road

-  Sub-Arterial Road  
30M ROW
-  Distributor / Collector Road  
12-15M ROW
-  Access Streets  
4M-6M
-  Laneways/ Alleys  
2M-4M

# Slow Street [8-10M RoW]



## 1 — Restricting vehicular thoroughfare

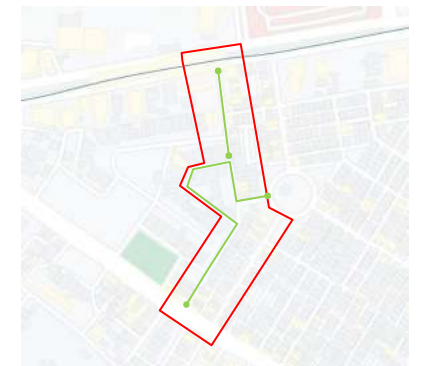
Introducing signs and barriers to indicate 'local traffic only' and ensure low speeds.

## 2 — Pause & Play

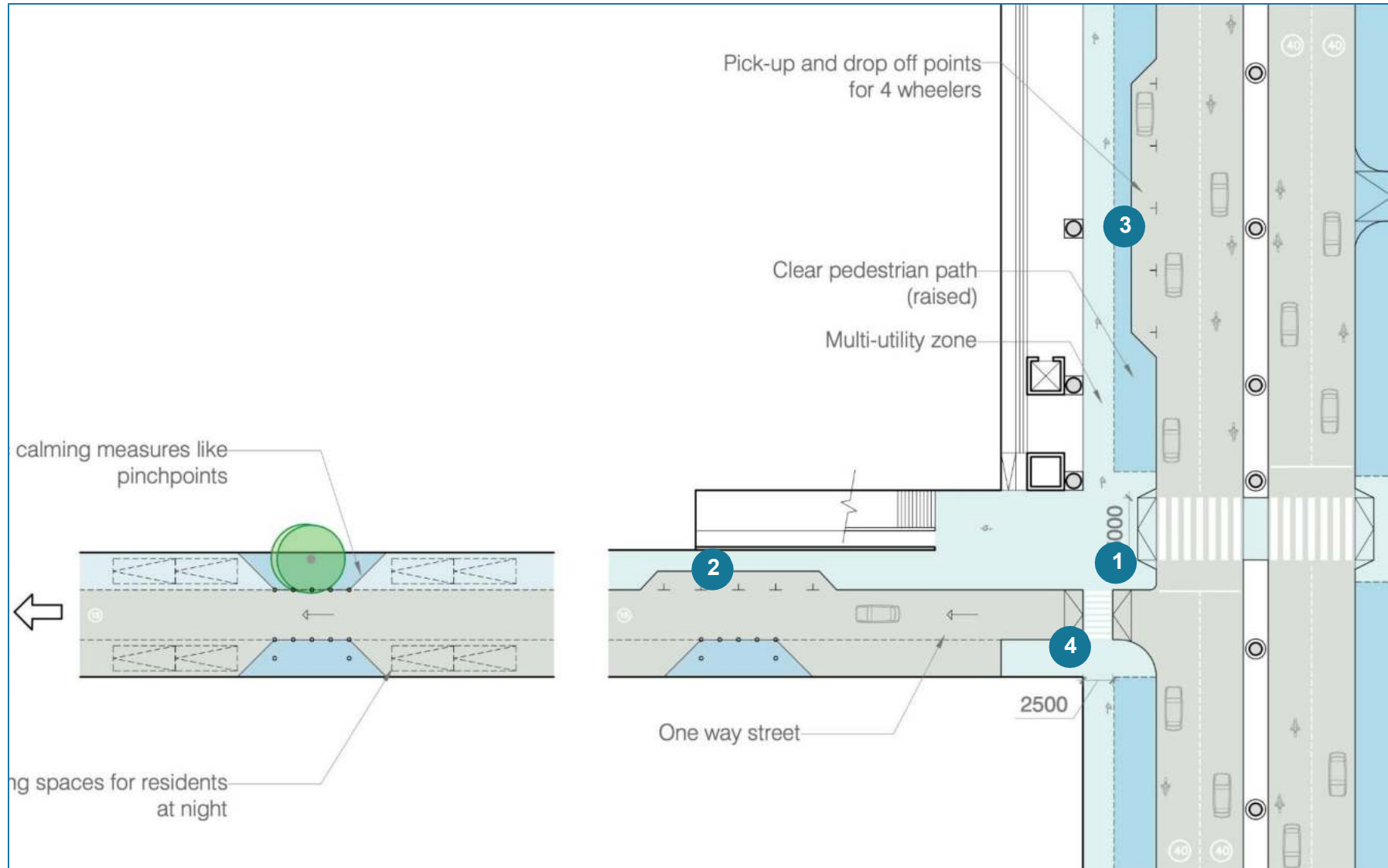
Elements like seating, benches and landscaping to make spaces for leisure for different user groups — especially for elderly.

## 3 — Night parking spots for residents

Streets would accommodate parkings for residents during the night time (say 8:00 PM to 8:00 AM).



# Connections with Metro Stations



**1— Pinch points at corners**

Discouraging parking near the metro station

**2— Active parkings for e-rickshaws**

Dedicated parking for e-rickshaws on the inner street to regulate pickups

**3— Active parkings for vehicular traffic**

Dedicated parking for motor vehicles like auto-rickshaw, cabs on the main roadside

**4 — Raised crossing**

Prioritizing safety of pedestrians walking across junctions





Connection 1: Rajendra Place Metro Station



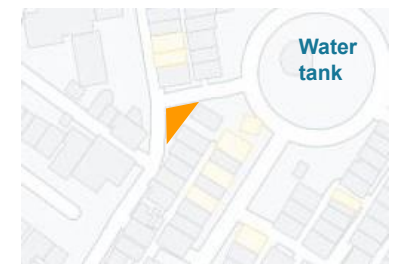
Connection 2: Shankar road

# Reclaimed intersection for a Public Plaza



**1 — Reclaiming the carriageway** Demarcating the space using different material or an artwork to prohibit vehicles from entering the space. Placing heavy objects like bollards and planters that alert drivers to the new curb line.

**2 — Placemaking** Populating the area with temporary and permanent street furniture to give its contextual use cases.







Intersection — Existing



Intersection — Proposed

# 4.4

# Vajiram Junction

# Context and Challenges



## Unsafe pedestrian experience →

Lack of continuous pathways and safe crossings across the junction hamper road safety for pedestrians

## Unregulated usage →

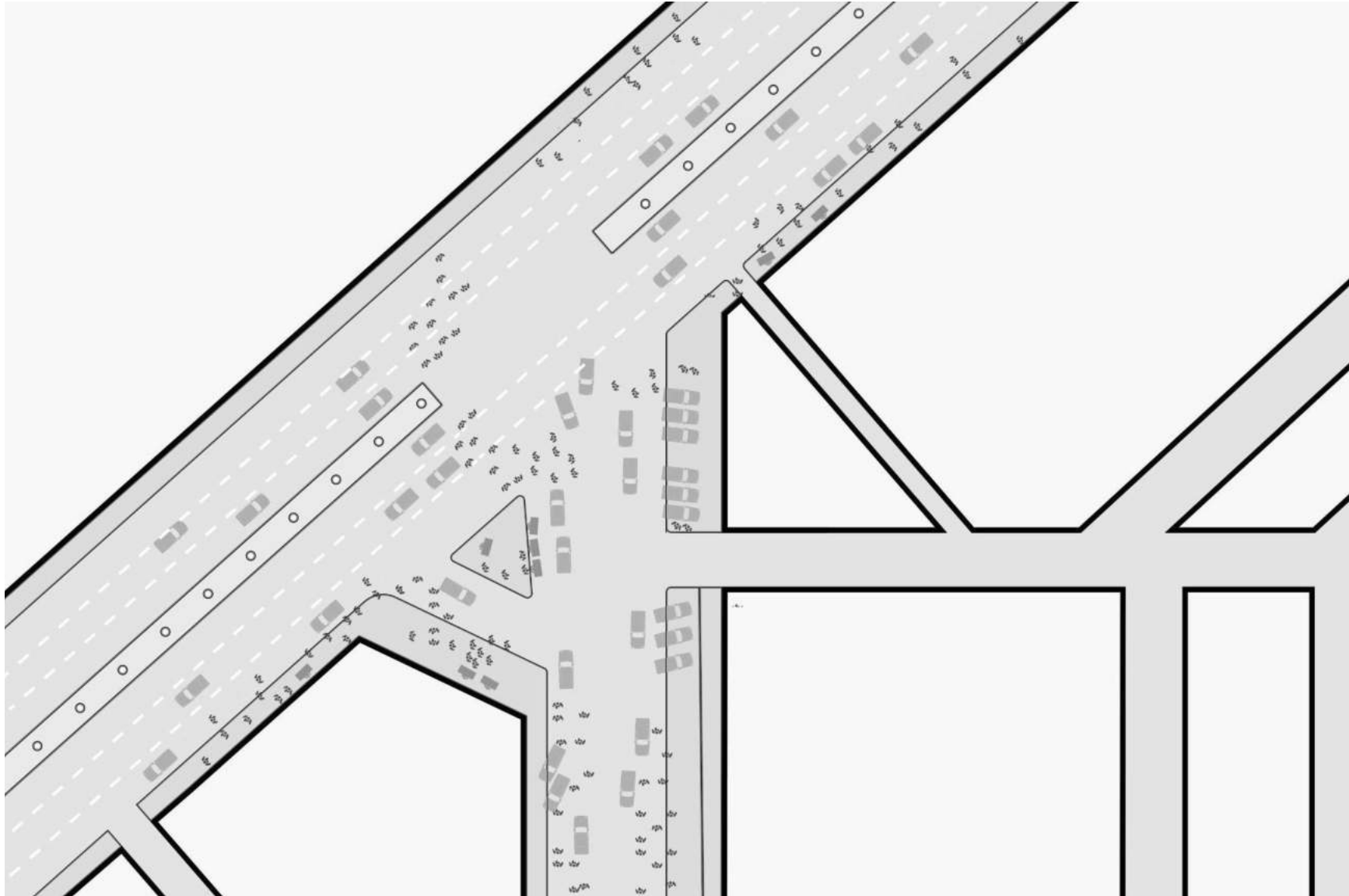
Unregulated elements like e-rickshaws, parking and street vendors at the junction itself, add to the inconvenience for pedestrian movement



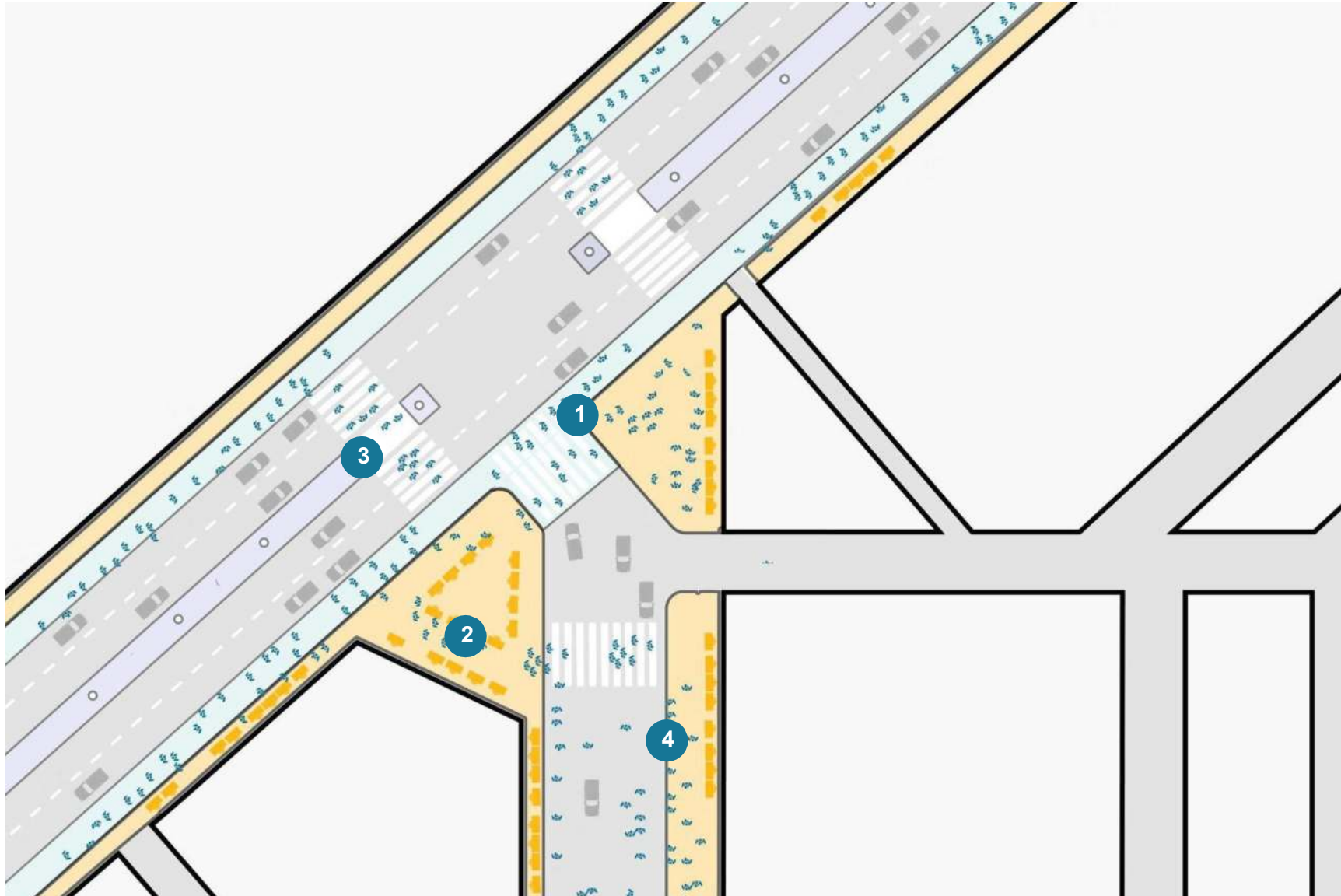
## Irregular carriageways →

Presence of curbs with large turning radius, slip lanes, ambiguous edges of carriageways poses a challenge to regulated flows for all users of the streets

# Existing Conditions



# Concept Proposal



**1— Geometric correction**

Simplifying the geometry of the junction to reduce the distance and travel time to cross the junction for pedestrians and vehicles

**2— Reclaiming carriageway**

Slip lane removal and tightened corners to reclaim space for unobstructed pedestrian passage, shared transit and street vendors

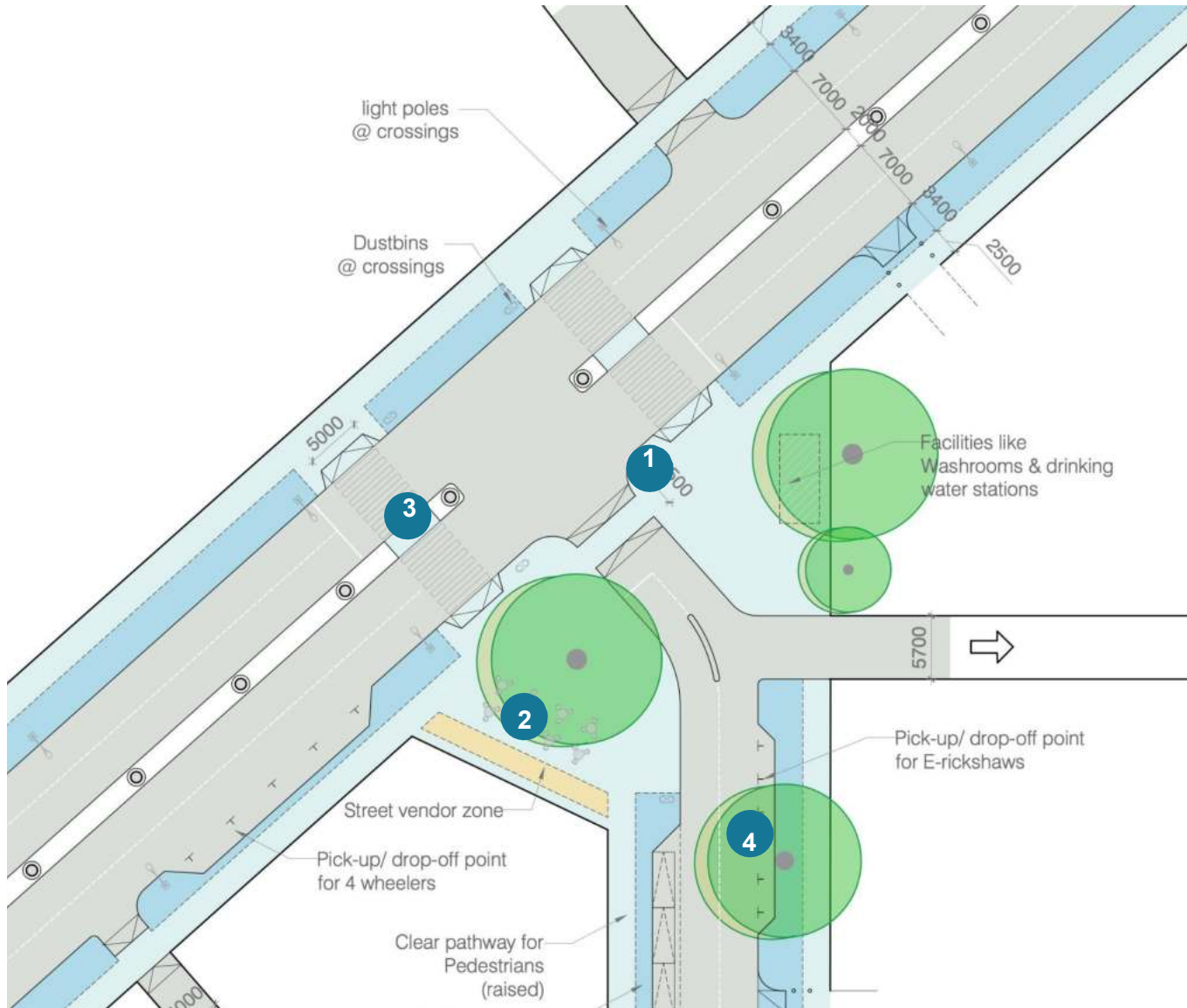
**3— Improving pedestrian experience**

Introduction of traffic calming and accessibility elements like raised crossings, refuge Islands and ramps to improve experience for pedestrians

**4 — Facilitating shared transit**

Incorporating facilities dedicated drop-off/pick up points for rickshaws and e-rickshaws

# Detailed Design



## 1 — Geometric correction

Simplifying the geometry of the junction to reduce the distance and travel time to cross the junction for pedestrians and vehicles

## 2 — Reclaiming carriageway

Slip lane removal and tightened corners to reclaim space for unobstructed pedestrian passage, shared transit and street vendors

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4.5

# Gol Chakkar

# Context and Challenges



## Unregulated usage →

Unregulated elements like e-rickshaws, parking and street vendors at the junction itself, add to the inconvenience for pedestrian movement

## Fragmented open spaces →

Open spaces including four corners and the roundabout are underutilised and disconnected

## Thoroughfare for vehicular movement →

Located at the heart of the neighbourhood, it connects two major vehicular streets for ORN. It encourages vehicular movement for shortcuts, connectivity to major arterial roads.



# Existing Conditions



# Concept



Redistributing surface areas between carriageways and open spaces to make the junction more efficient for vehicles and open spaces more lively for the residents

### 1 — Reclaiming excess carriageway

Implementing measures like geometric corrections, prohibiting parking spaces along the edges

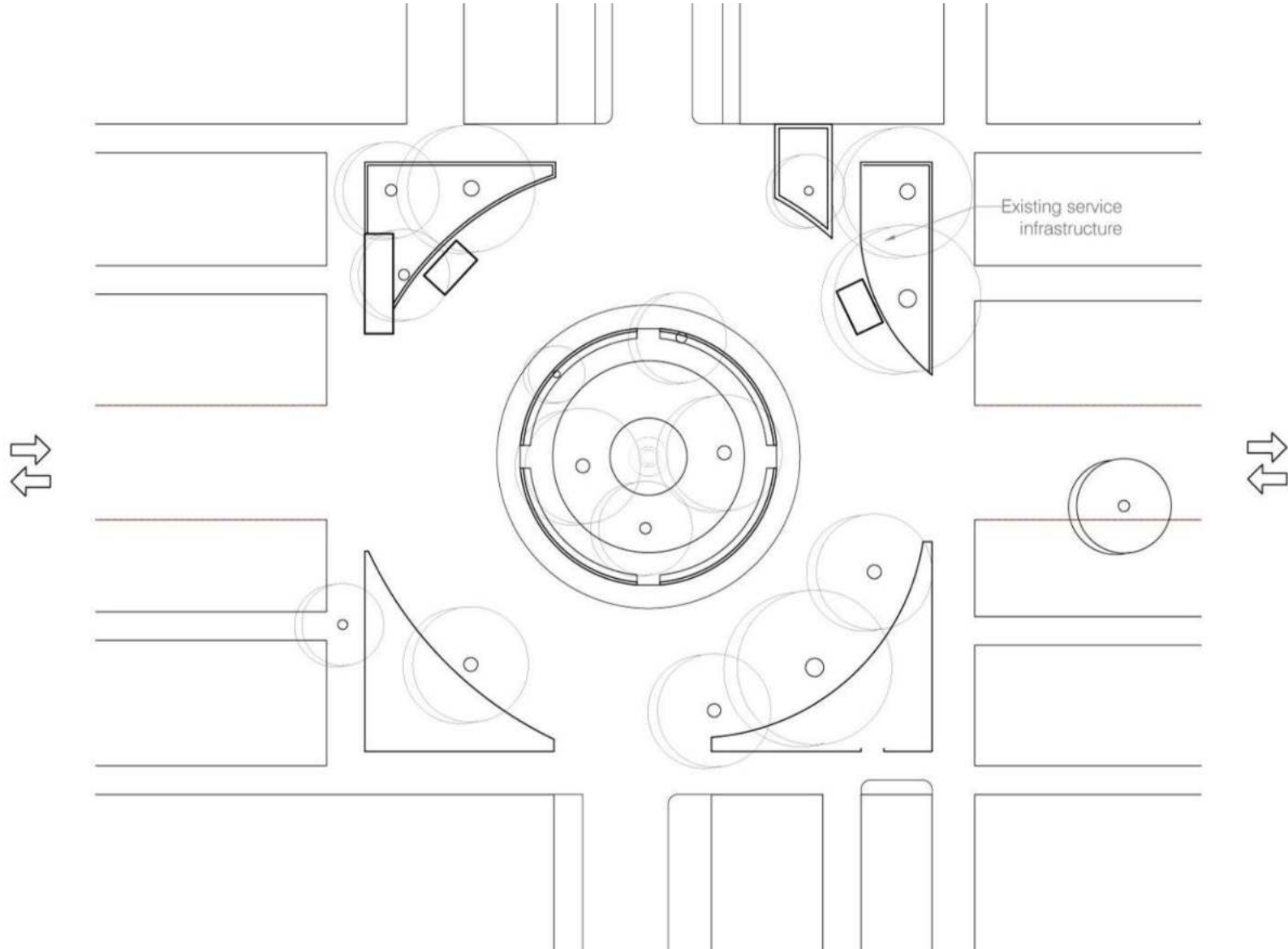
### 2 — Improved accessibility to the park

Establish pedestrian connections to connect open spaces at the center as well as the four corners with barrier-free edges

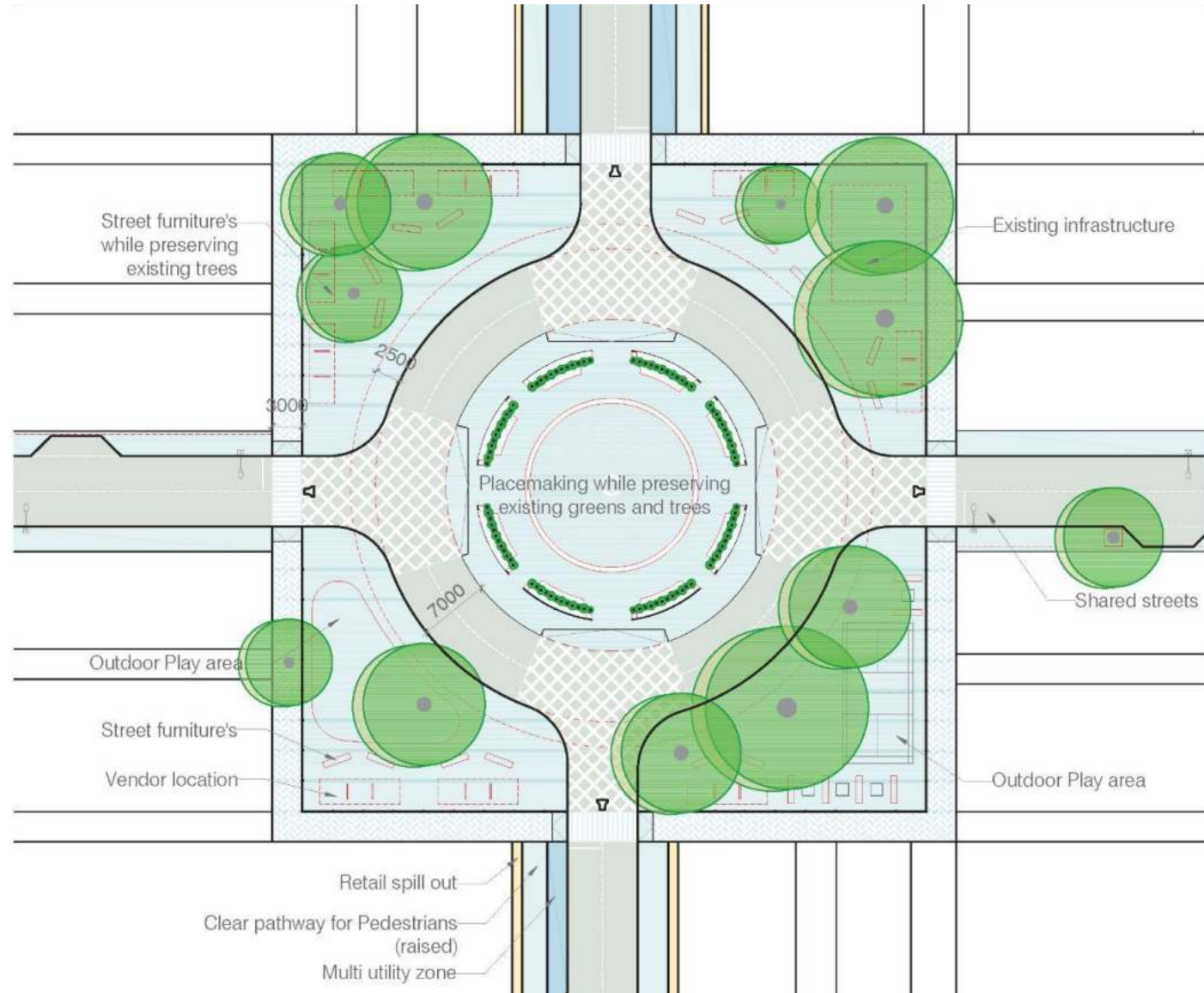
### 3 — Reclaiming street as a public space

Activating edges with designated street hawkers and elements for pause & play where residents can use these spaces for leisure

# Existing condition



# Detailed design



## View 1: Access to Rotary



### 1 - Optimized carriageway

Measures like consistent lane width, no roadside parkings along the intersection and lane separators to build an efficient traffic flow and management

### 2 - Extended spaces for pedestrians

Reclaimed carriageways to be used for establishing dedicated pathways for pedestrians like a high-paced pedestrian loop and extended footpath along the central park

### 3 - Improved access to central rotary

Demarcating a pedestrian prioritised conflict zone at the T-junctions.

### 4 - Upgrading infrastructure

Introducing street lighting to increase safety and security for all users

## View 1: Access to Rotary



### 1 - Optimized carriageway

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Demarcating a pedestrian prioritised conflict zone at the T-junctions.

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Introducing street lighting to increase safety and security for all users

## View 2: Axes road



### 1 - Activating edges along the carriageway

Wide pathways that can host different activities from leisure to play spaces,

### 2 - High paced pedestrian loop

Introducing a dedicated loop along the edge to strengthen pedestrian movement

## View 2: Axes road



### 1 - Activating edges along the carriageway

Wide pathways that can host different activities from leisure to play spaces,

### 2 - High paced pedestrian loop

Introducing a dedicated loop along the edge to strengthen pedestrian movement



## View 3: Open spaces at corners



### 1 — Barrier-free at-grade open spaces

Retaining two way traffic to allow for easy entry and exit into the residential block. Creating organized parking spaces for all.

### 2 — Placemaking with existing greens and other infrastructure

### 3 — Secondary corridor for pedestrian

## View 3: Open spaces at corners



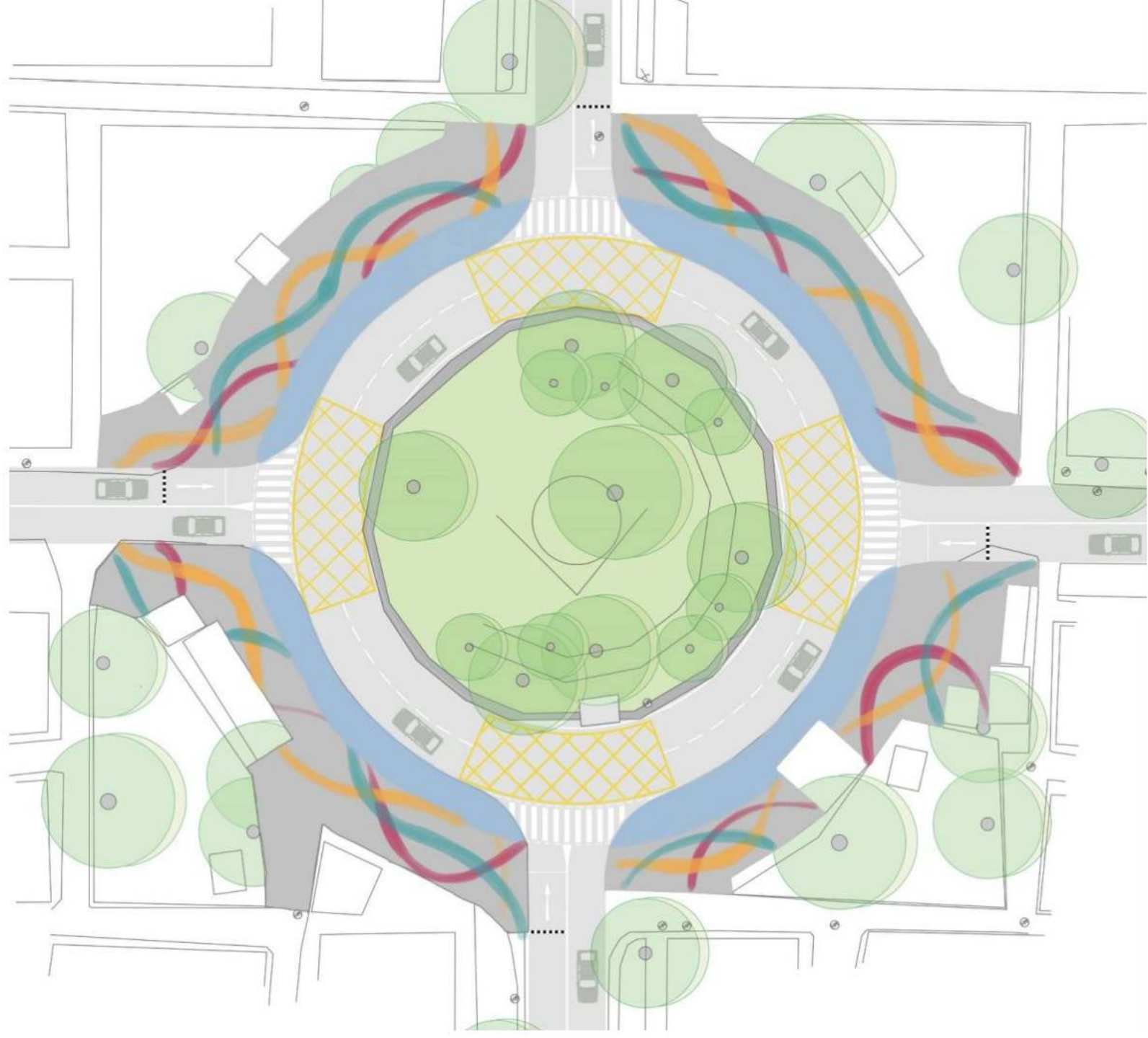
### 1 — Barrier-free at-grade open spaces

Retaining two way traffic to allow for easy entry and exit into the residential block. Creating organized parking spaces for all.

### 2 — Placemaking with existing greens and other infrastructure

### 3 — Secondary corridor for pedestrian

# Proposed Design: Interim Phase













# Material Palette



Material palette has been divided into 5 broad categories. Grouping materials by function is intended to embrace the resourcefulness and creativity that is essential to the project.

- Barriers
- Surface treatments
- Street furnitures
- Landscaping elements
- Signages

# Barriers

## Posts



## Solid Barriers



## Planters



## Curbing



# Surface treatments

## Striping

- Thermoplastic paints
- Traffic tapes



## Markings

- Using stencils with spray/ brush paints



## Color

- Acrylic paints
- Water based paints



# Signages

## Traffic signs



# Street Furniture

## Milk Crates as

- Screens/ barriers
- Planters
- Benches



## Shipping pallets

- Screens/ barriers
- Planters
- Benches
- Bicycle parking



## Table & Seatings



## Shade structure/ Movable Umbrella



# Landscaping elements

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## Grass surface

- Astro turf
- SOD (Live Grass)



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## Small trees



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## Small/ medium plants



# Signages

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## Traffic signs



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## Wayfinding signs



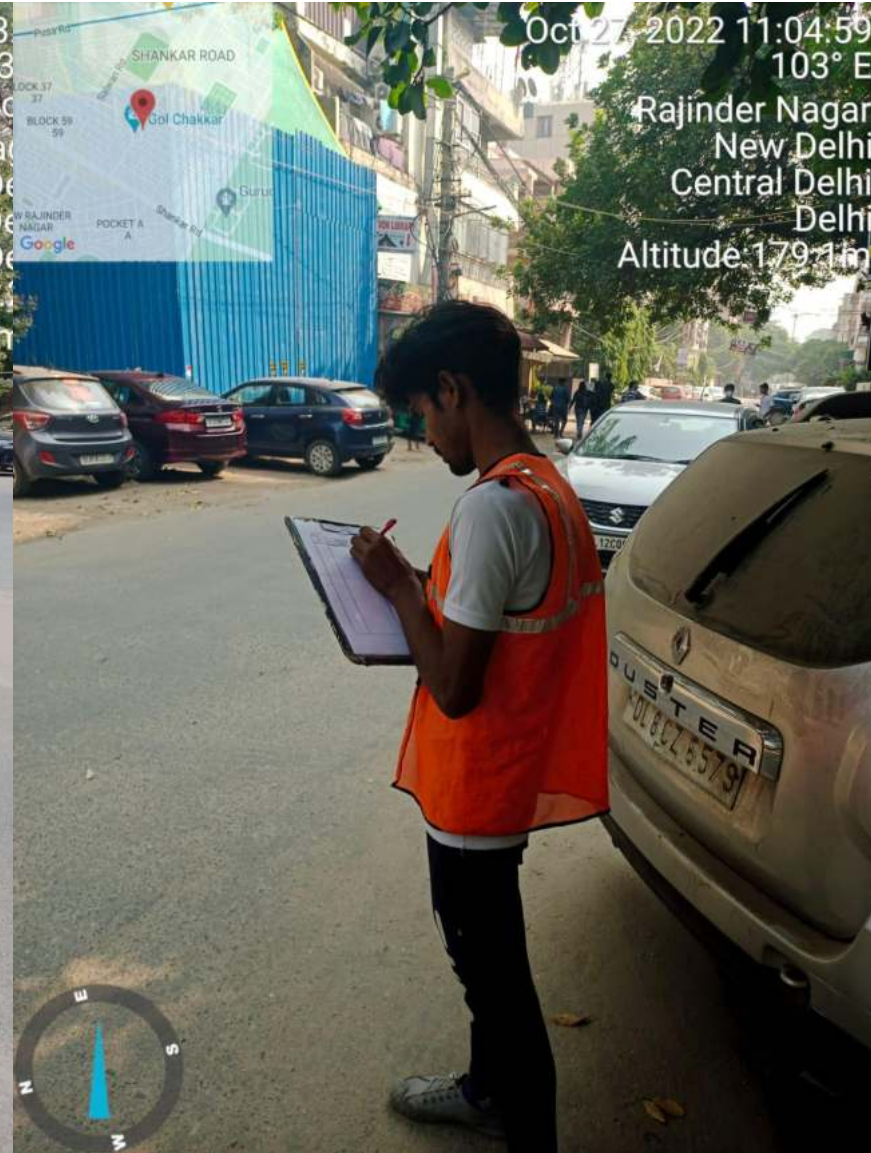
---

## Information signs



# Interim Transformation

# Data Collection













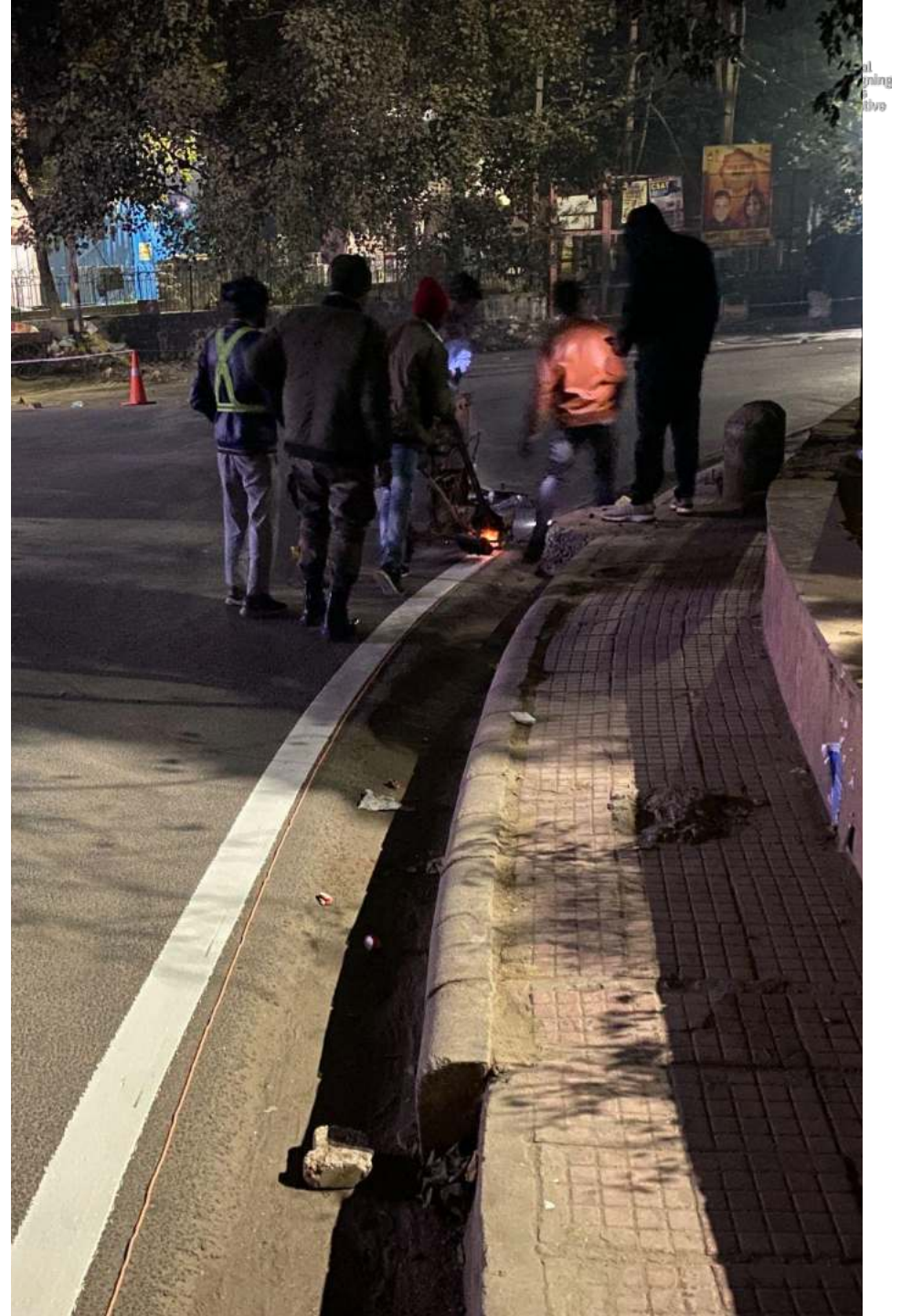










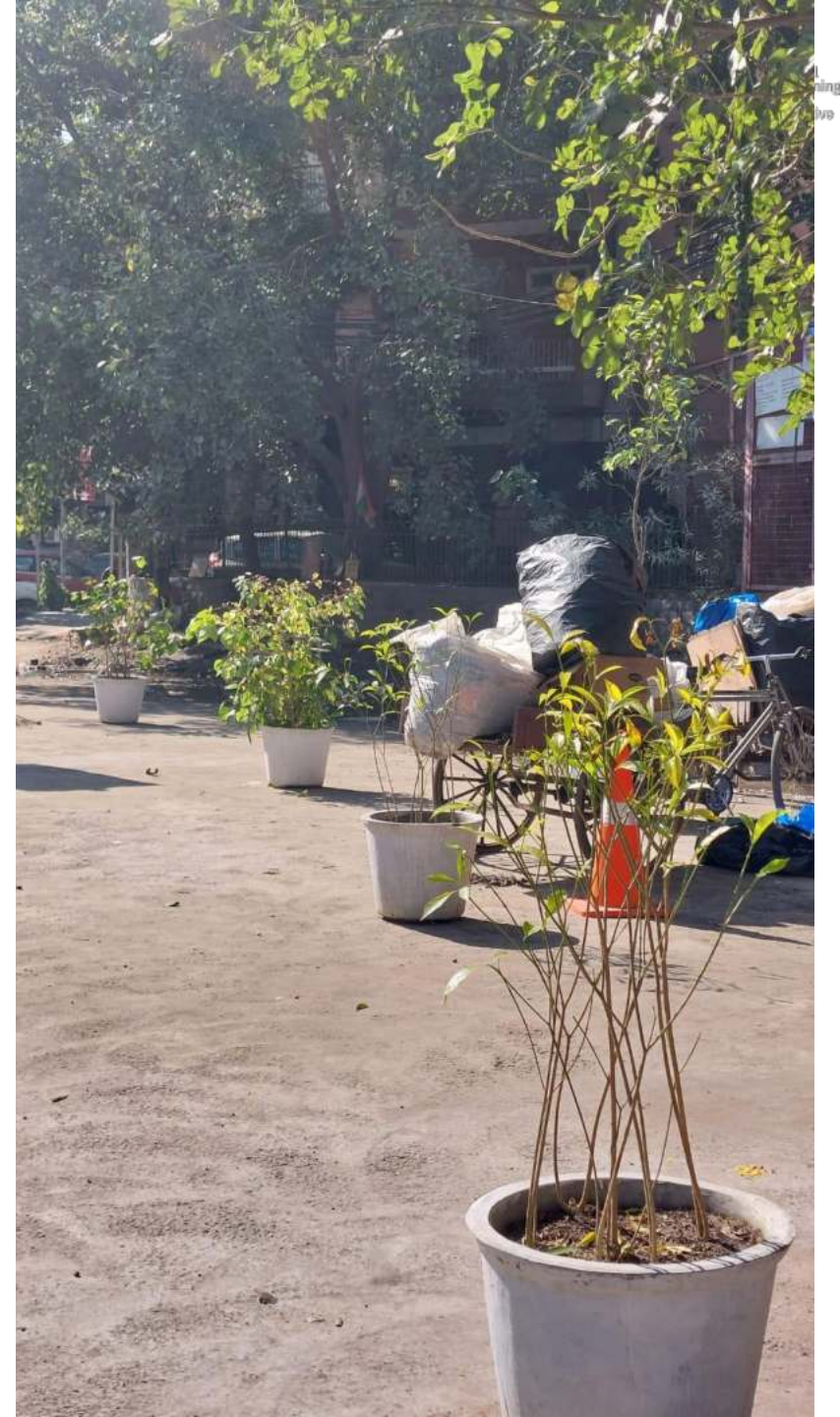






















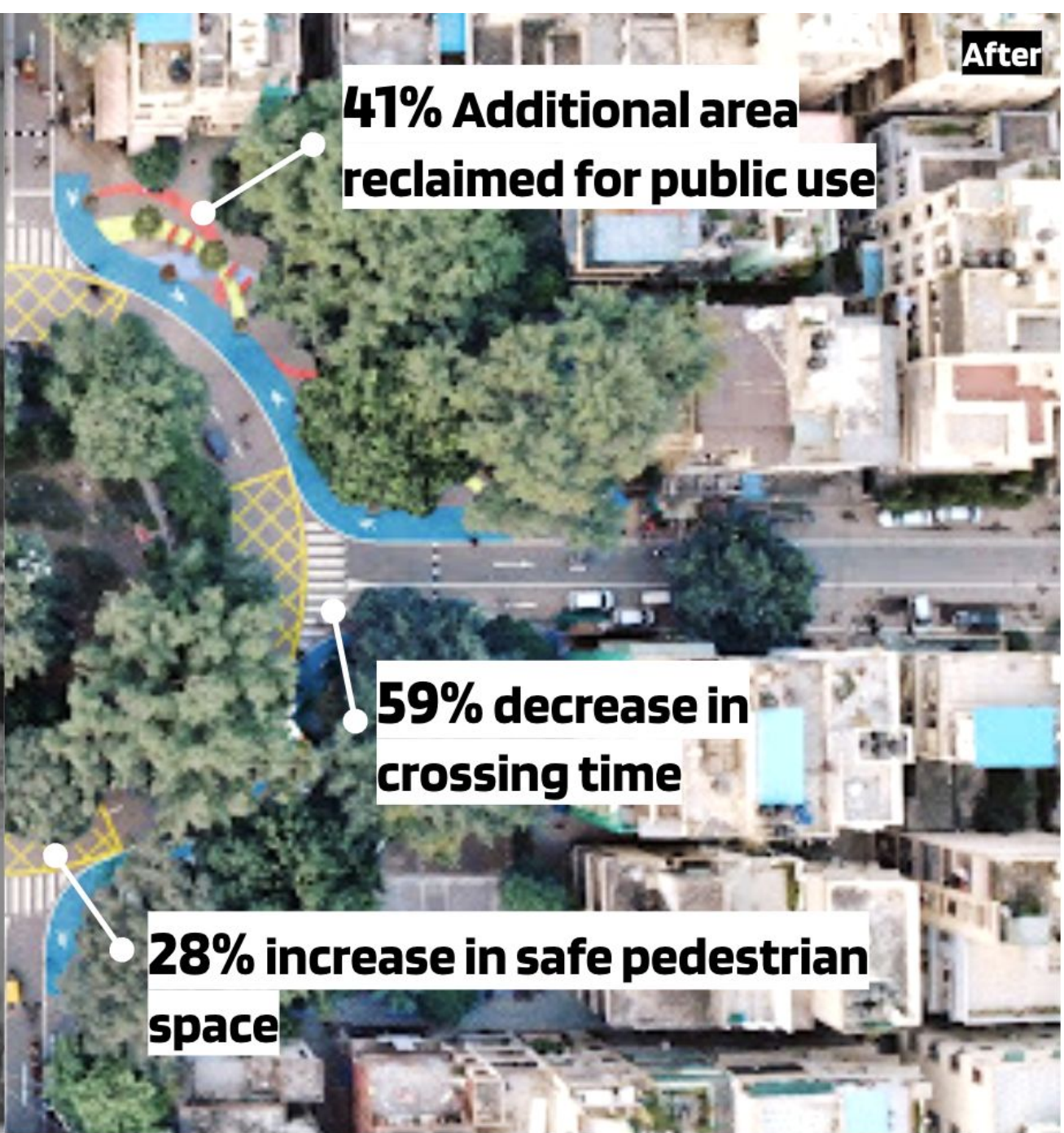






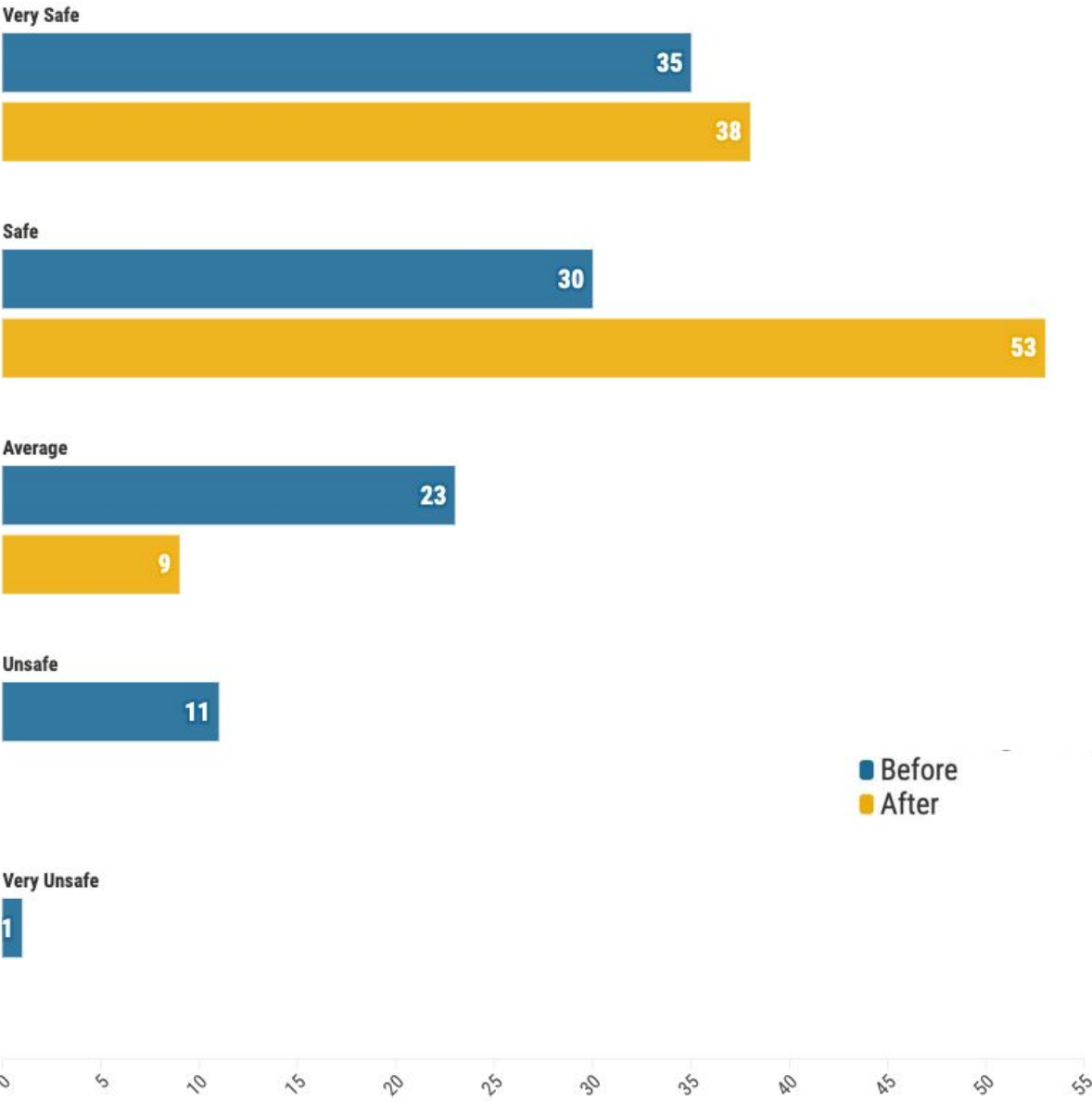








# How safe do you feel on this Street?



# OVERALL

**+80%**

**+95%**

Before: 1272  
After: 2485

KAROL BAGH METRO STATION

Before: 393  
After: 815

**+107%**

**+34%**

Before: 1134  
After: 1525

RAJENDER NAGAR WATER TANK

Before: 393  
After: 957

**+144%**

GOVIND CHAILANI MARG

**+35%**

Before: 481  
After: 651

Before: 244  
After: 786

**+222%**

**+93%**

Before: 360  
After: 693

SHANKAR ROAD

Before: 1147  
After: 1681

**+47%**

\*Total number of people observed from 3 sessions throughout the day

# Vehicular speeds



# Thank you