Terms of Reference (TOR) for Street Design

March 2014

ITDP
Institute for Transportation & Development Policy

Street design elements

Scope of Work

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1. Review of existing transport and land use plans
2. Definition of study area
3. Survey of land uses
4. Survey of pedestrian facilities
5. Survey of pedestrian movements
6. Parking survey
7. Survey of street vending and related activities
8. Analysis of crash data
9. Preparation of detailed street designs

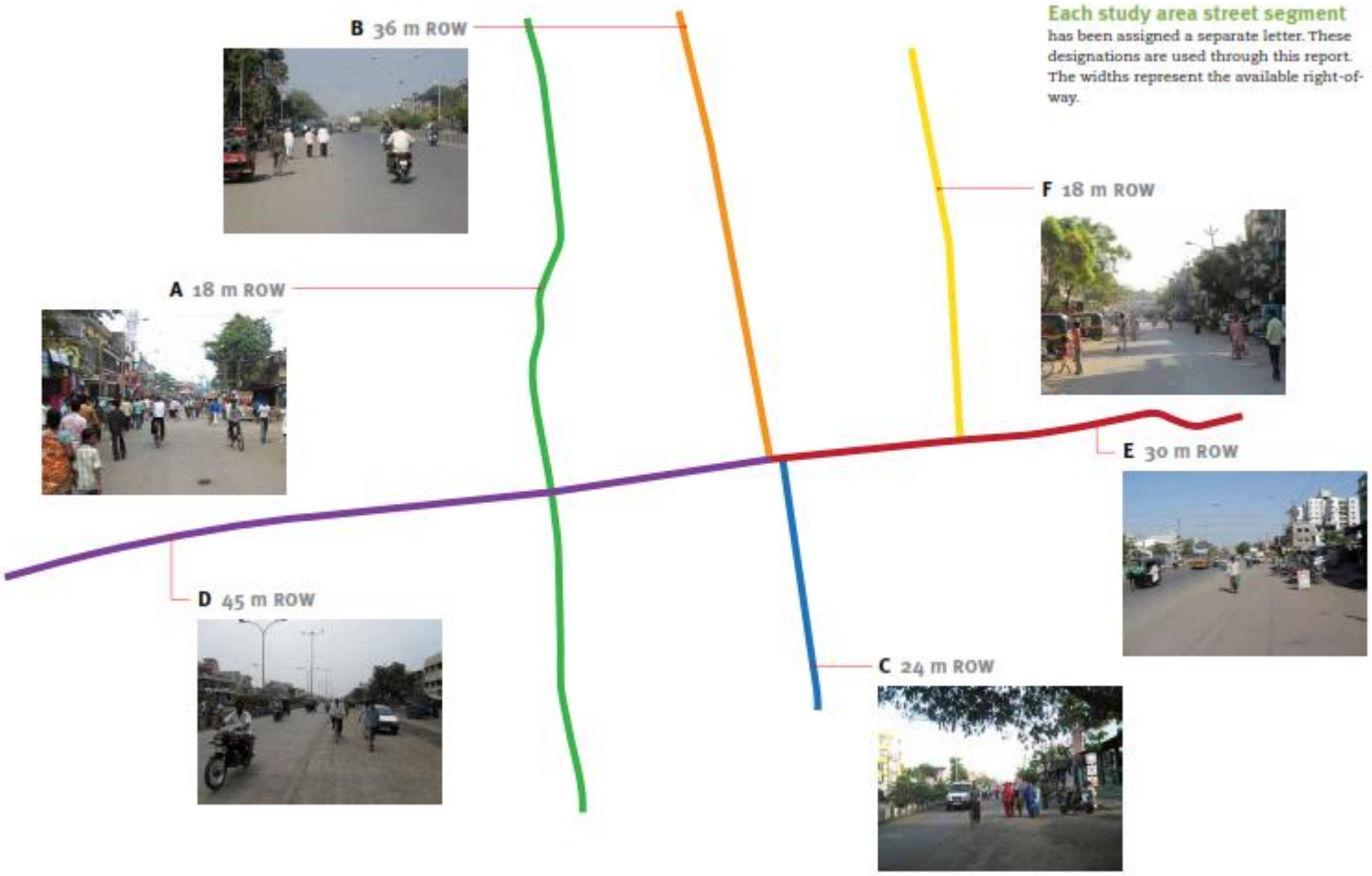
Step 1: Review of existing transport and land use plans

Collect and review all relevant reports on transport

- Compile data on socio-economic characteristics, vehicle ownership, demographics, land use, linkages, environmental issues
- Compile spatial information on plans for bus priority/BRT , cycle tracks, pedestrian networks and zones from previous studies
- Compile information on underground utility networks as per information available with the Client and mapped using GIS
- Identify transport system goals

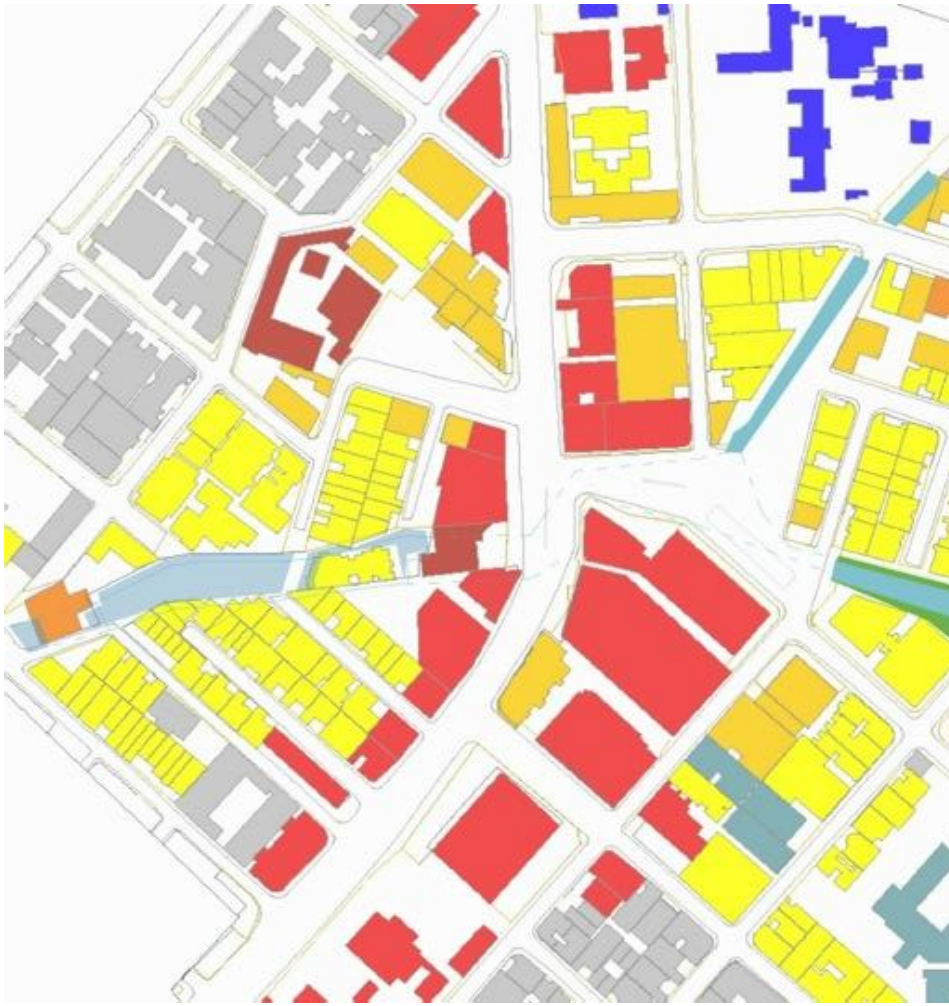
Step 2: Definition of study area

Map Study Area streets using GIS



Step 3: Survey of land uses

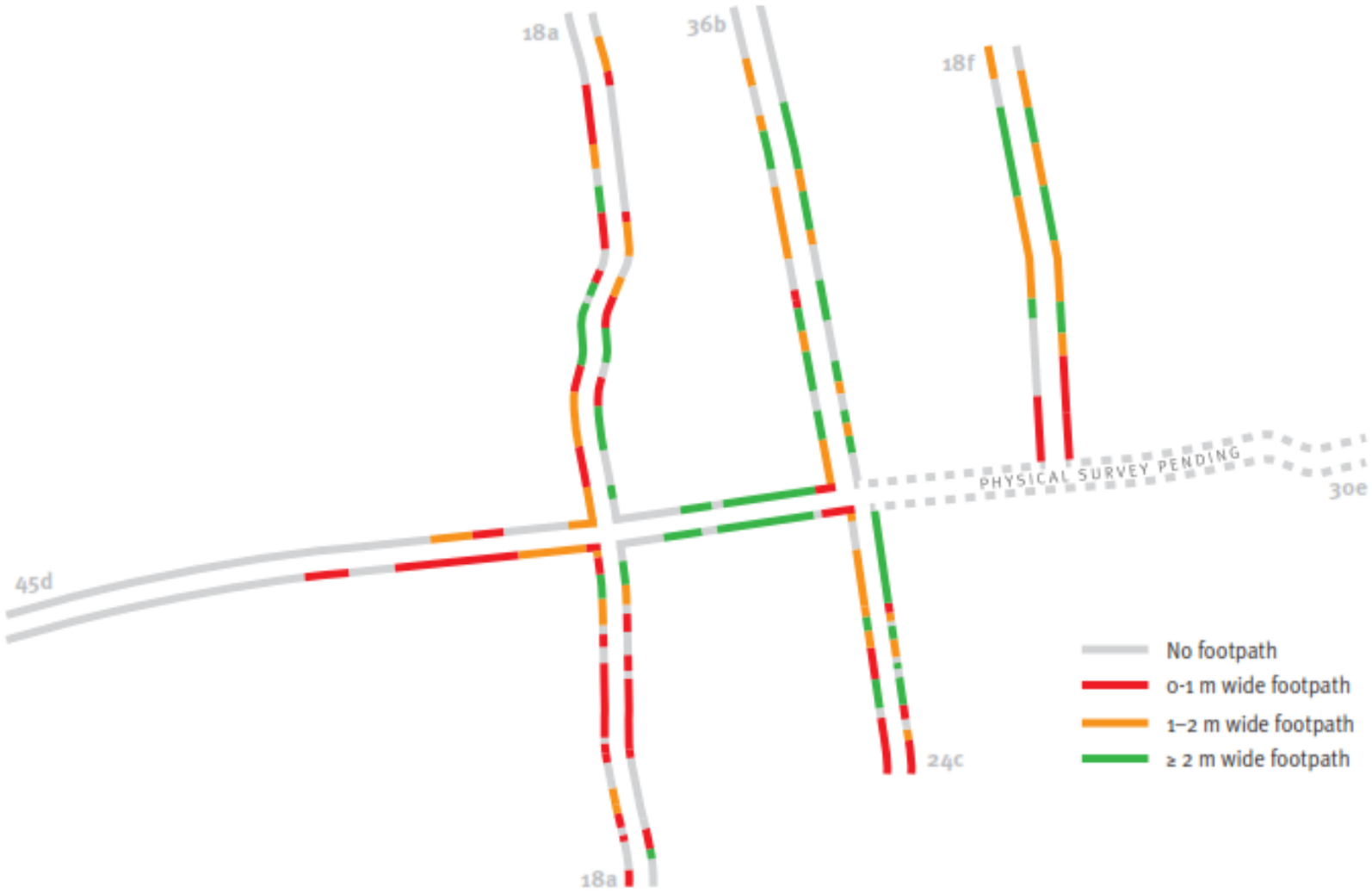
- Identify for all buildings in the study area:
  - Ground and upper floor land use
  - Number of floors
  - Type of activities in each building



Step 5: Survey of pedestrian facilities

- Map all existing pedestrian facilities on GIS
  - Clear width of the footpath (if present)
  - Number of obstructions per km in the clear width
  - Presence of shade at 2 p.m. (from buildings or trees)
  - Cycle tracks

Footpath widths



Indicate footpath widths that include space occupied by street furniture, light poles, utility boxes and other objects.

Data on footpath obstructions

OBSTRUCTIONS	LEG AB
Temporary (non parking):	
2W Parking	
4W Parking	
Auto Parking	
Permanent:	

OBSTRUCTIONS	LEG BC
Temporary (non parking):	
2W Parking	
4W Parking	
Auto Parking	
Permanent:	

OBSTRUCTIONS	LEG DE
Temporary (non parking):	
2W Parking	
4W Parking	
Auto Parking	
Permanent:	

OBSTRUCTIONS	LEG EF
Temporary (non parking):	
2W Parking	
4W Parking	
Auto Parking	
Permanent:	

Types of obstructions

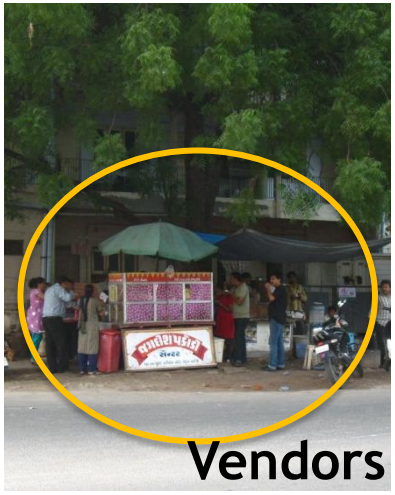

Street furniture


Trees


Open drains

Dustbin and TNEB box


Parked vehicle


Vendors

Temporary

Permanent

Full point survey template

Street Name:		Locaton ID:	Point:
Date:	Cross Streets:	Surveyor:	Contact #:
	Direction:	Start Time:	Stop Time:

Footpath Width:	Footpath Encroachment: □ Hawker □ Vehicle Parking □ Shop Extension □ TNEB Box □ Trees □ Other:	(Road Surface: c □ Asphalt □ Concrete □ Dirt	Road Condition: □ Even □ Uneven □ Dry □ Wet
		□ Space for Cycle Sharing (At least 1.5 m x 5.5 m)	

SRN	PEDESTRIAN SURVEY (ON / OFF FOOTPATH)	CYCLIST / CYCLE PASSENGER SURVEY
1	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
2	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
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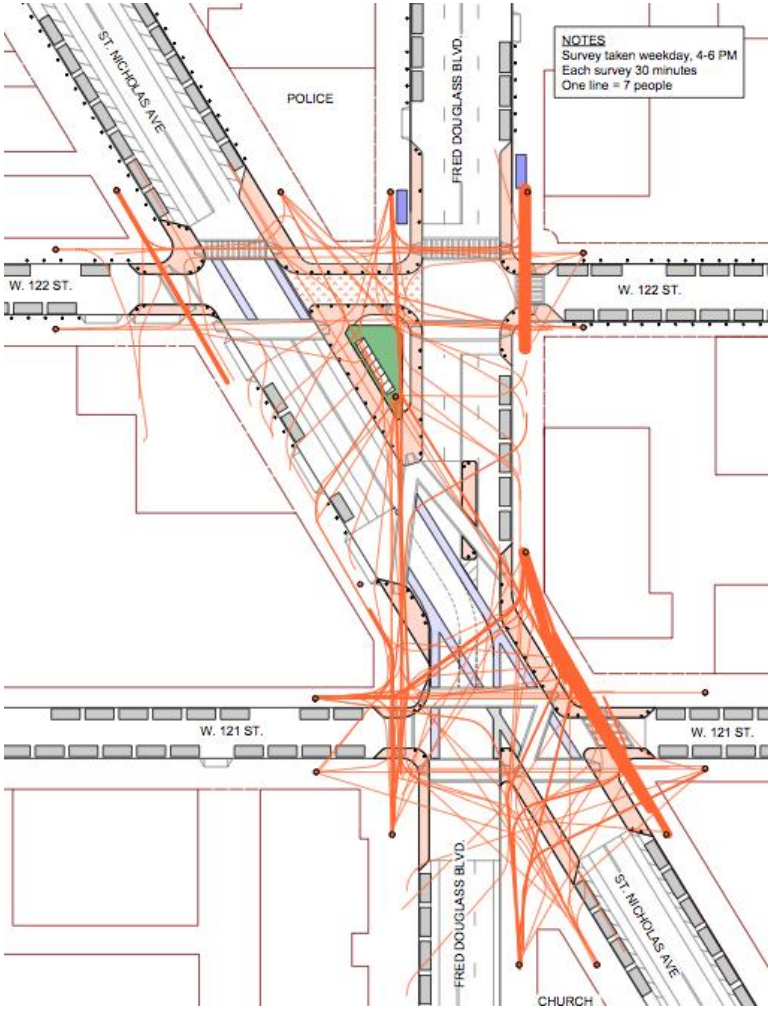
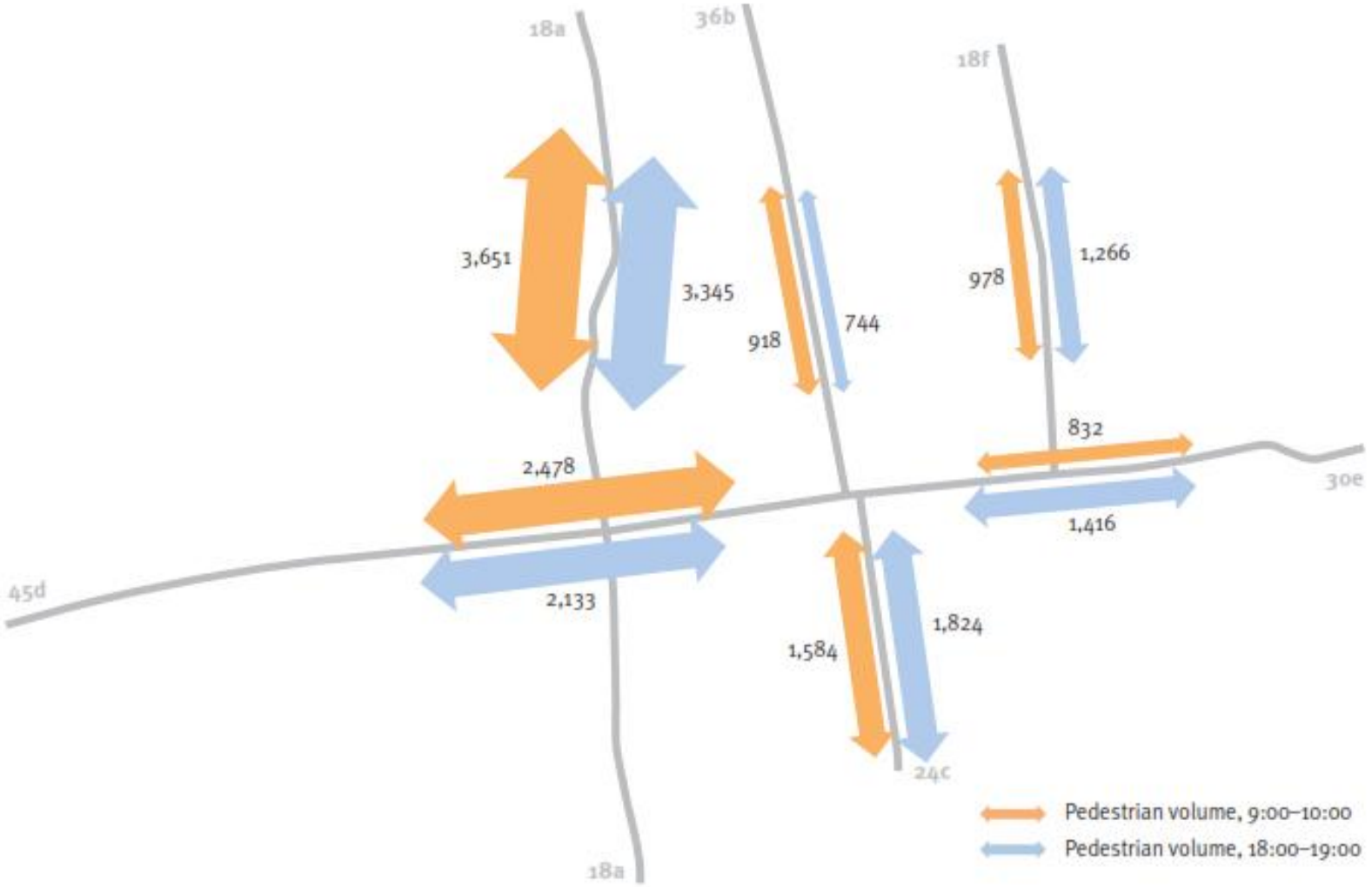
11	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
12	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
13	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
14	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
15	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
16	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS
17	M F N ≤10 18 26 34 46 64 65+ ON OFF	M F N ≤10 18 26 34 46 64 65+ RKS GDS

Step 6: Survey of pedestrian movements

- Surveys should be carried out to assess:
  - NMT user flows at important locations
  - Pedestrian crossing movements at important intersections

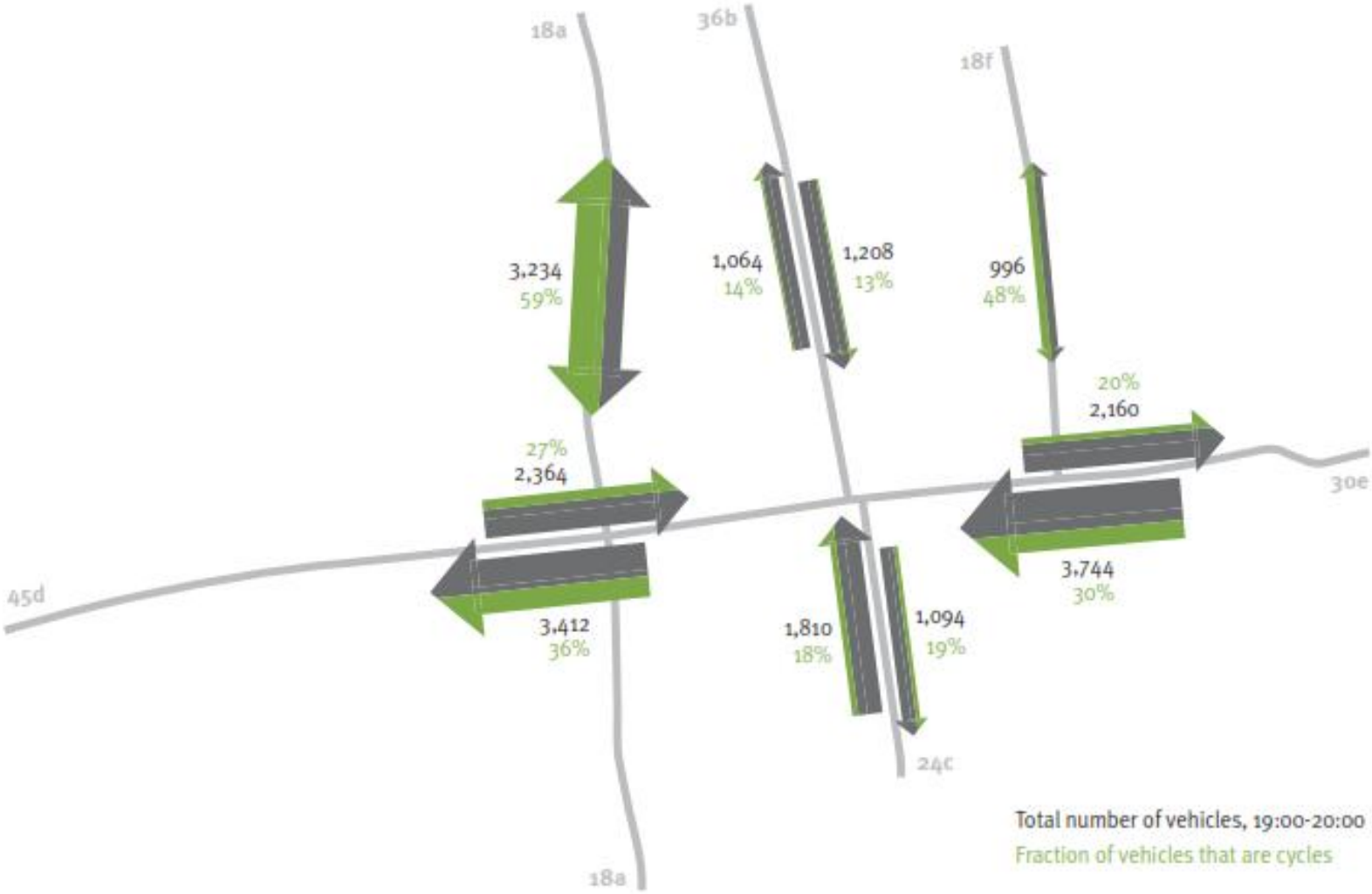


Pedestrian movement



Indicates pedestrian volumes per direction during peak hour.

Cycle movement



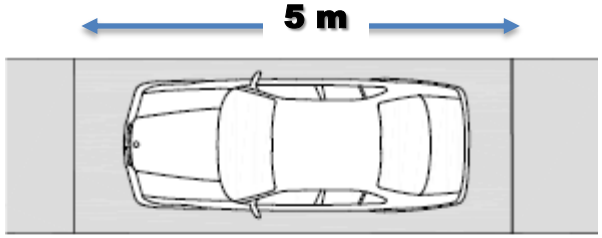
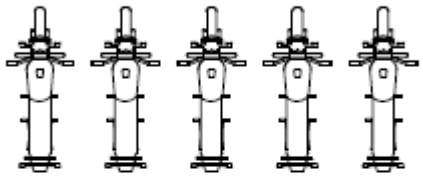
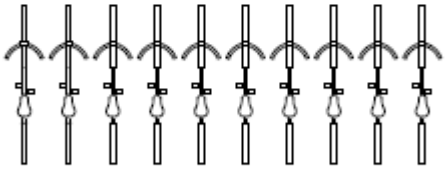
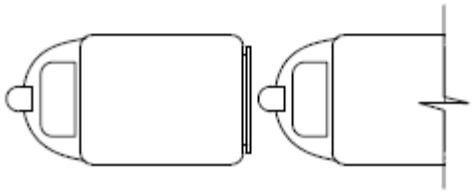
Indicates cycle movement during the busiest hour of the day at all counting locations.

Traffic survey

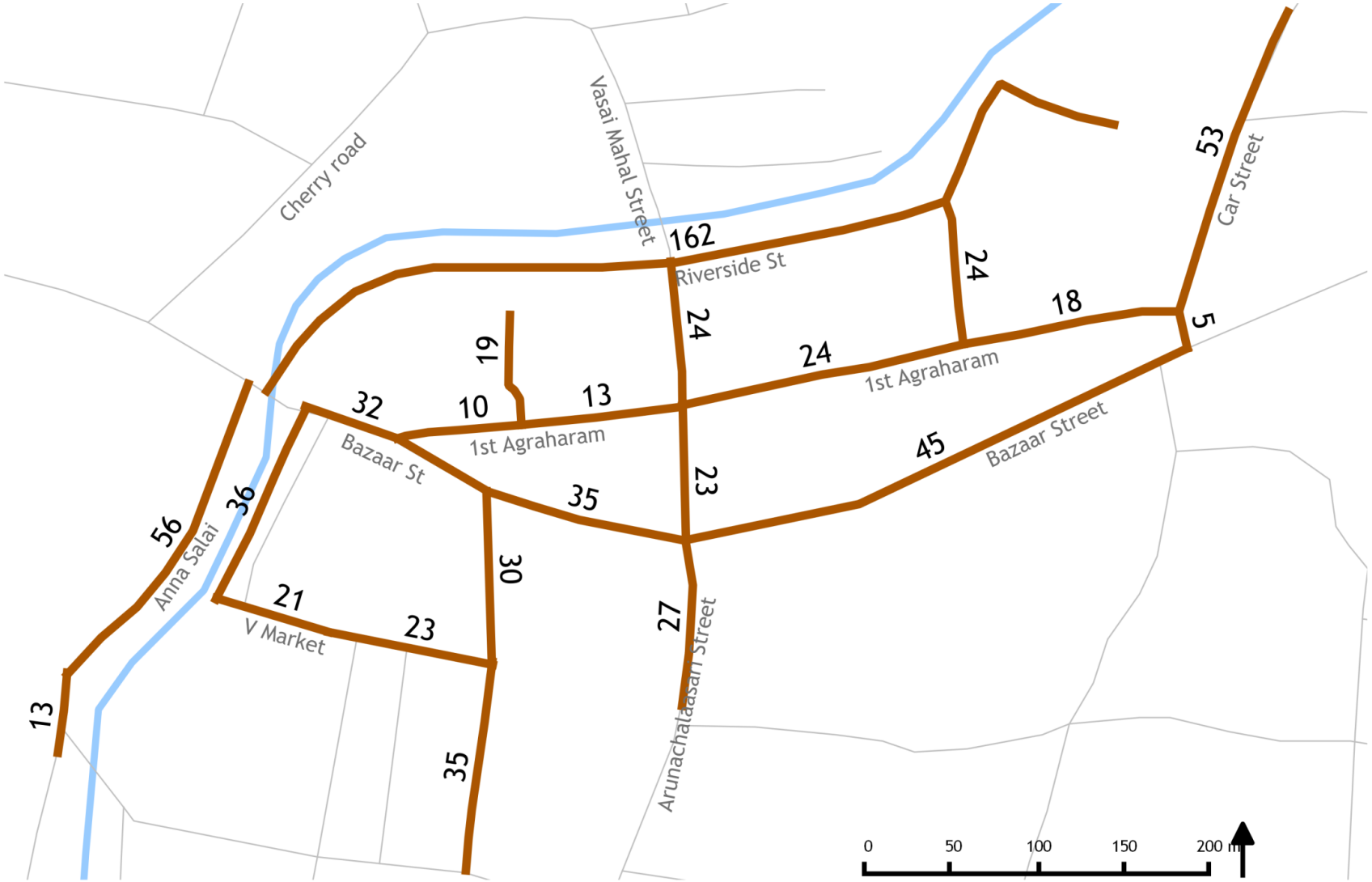
Step 7: Parking survey

- To identify parking patterns and occupancy rates
- Survey should cover
  - Study Area streets + streets within a buffer of 500 m on both sides
  - Both on-street parking + off-street public or semi-public parking
- Parking demand to be assessed and classified by vehicle type
- Parking fee structure

Equivalent car space (ECS)

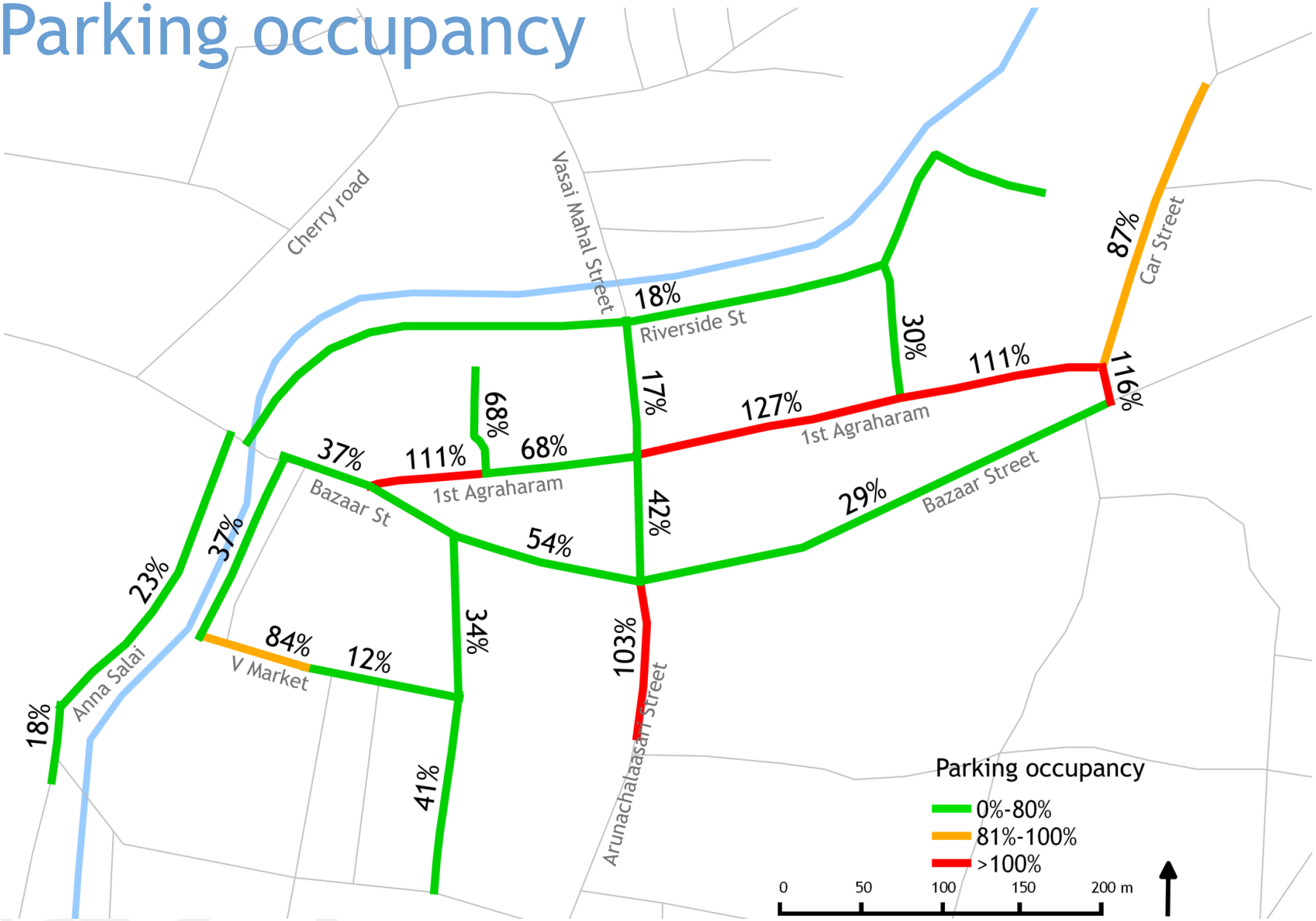
Mode	Number of vehicles
	1 Car
	5 bikes
	10 bicycles
	Nearly 2 auto-rickshaws

Parking capacity



Indicates the number of parking spaces available.

Parking occupancy

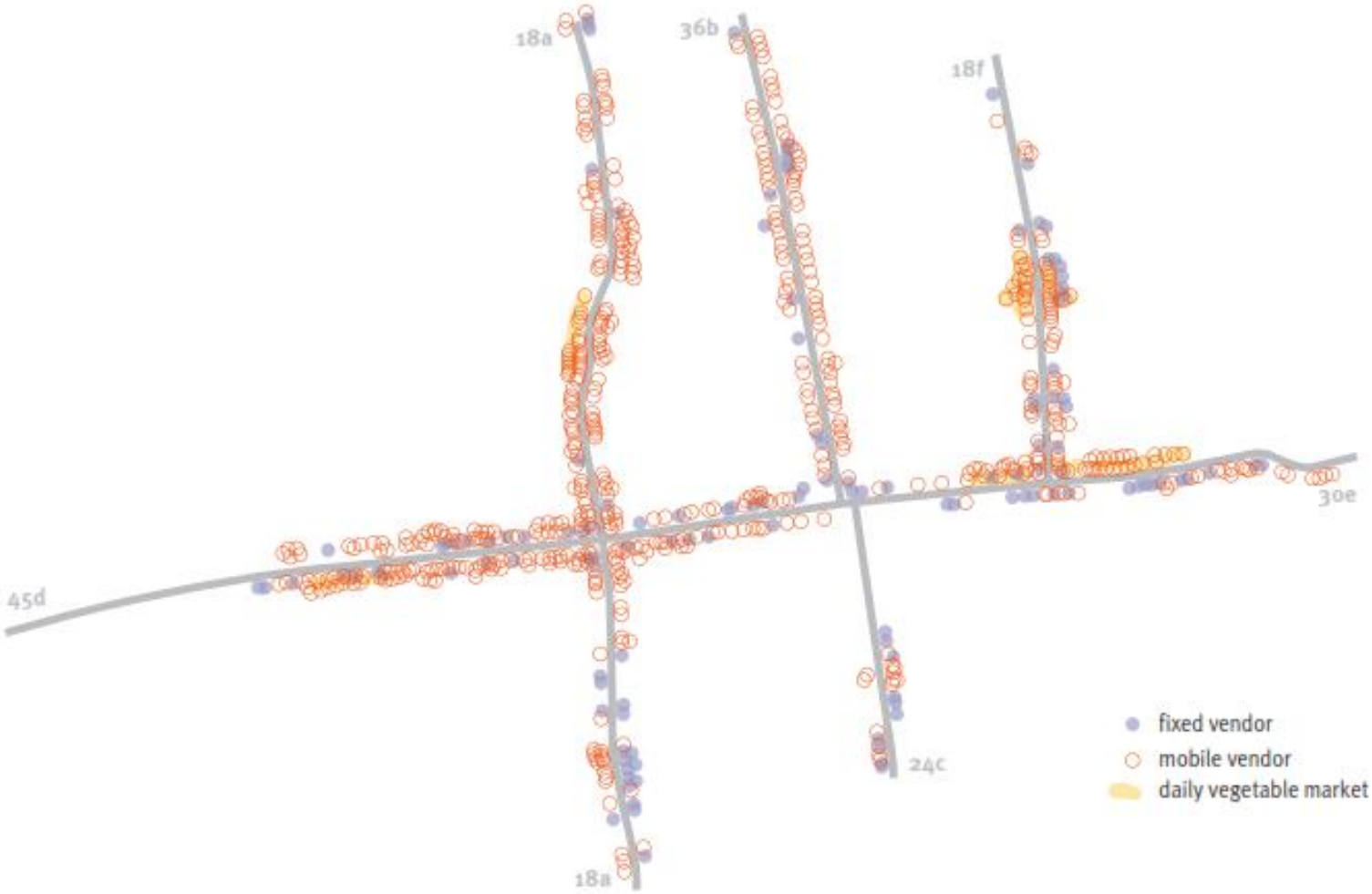


Indicates the number of parking spaces occupied.

Step 8: Survey of street vending and social activities

- Vending survey to include:
  - Location of all the vendors in the Study Area
  - Type of vending and the physical typology of the vending structure
  - Whether the vendor is an obstruction to pedestrian and cycle movement
- Survey of social gathering spaces and other activities found in the public ROW
- The location and characteristics of each vendor and social gathering location should be recorded using GIS

Street vending locations

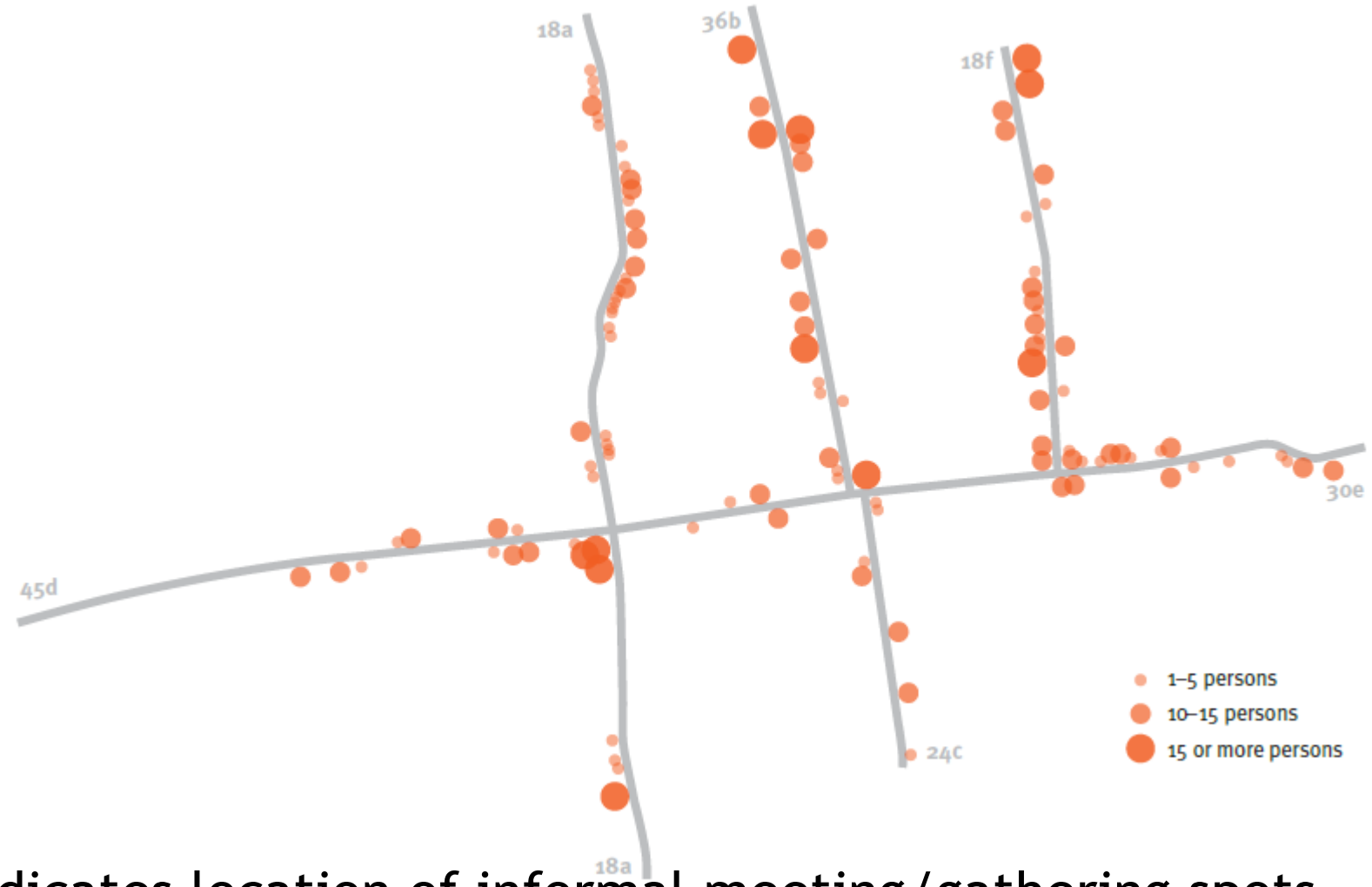


Indicates the type and number of street vendors at different locations.


Mobile street vending


Permanent street vending

Social gathering places



Indicates location of informal meeting/gathering spots

Social gathering spaces

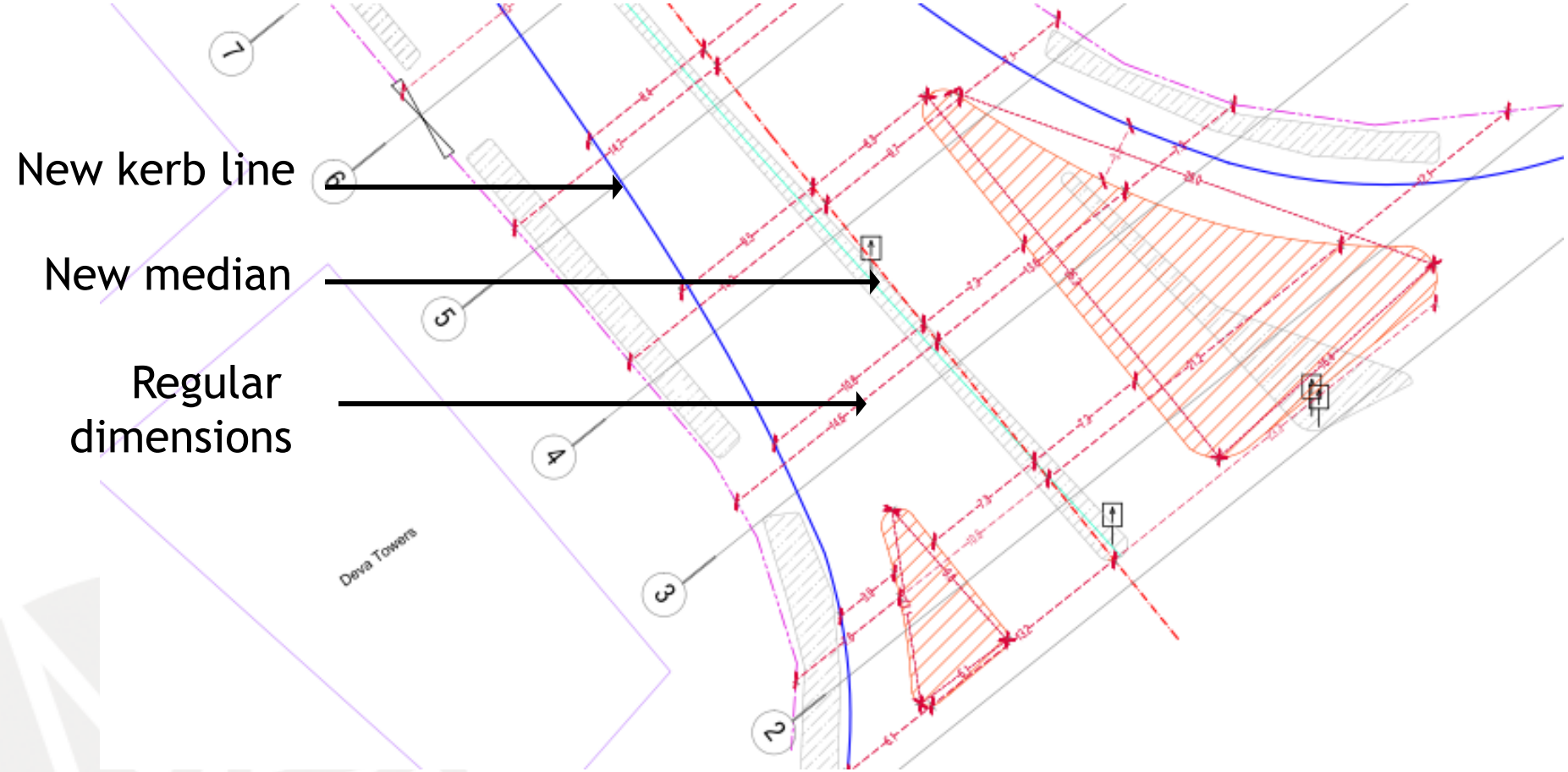
Step 9: Analysis of crash data

- Collect data from the Traffic Police, and other relevant departments :
  - Traffic crashes over the past 3 years
  - Crash location, type, and users involved
- Identify black spots
- Suggest traffic calming, intersection modifications, and other interventions to improve safety for vulnerable street users

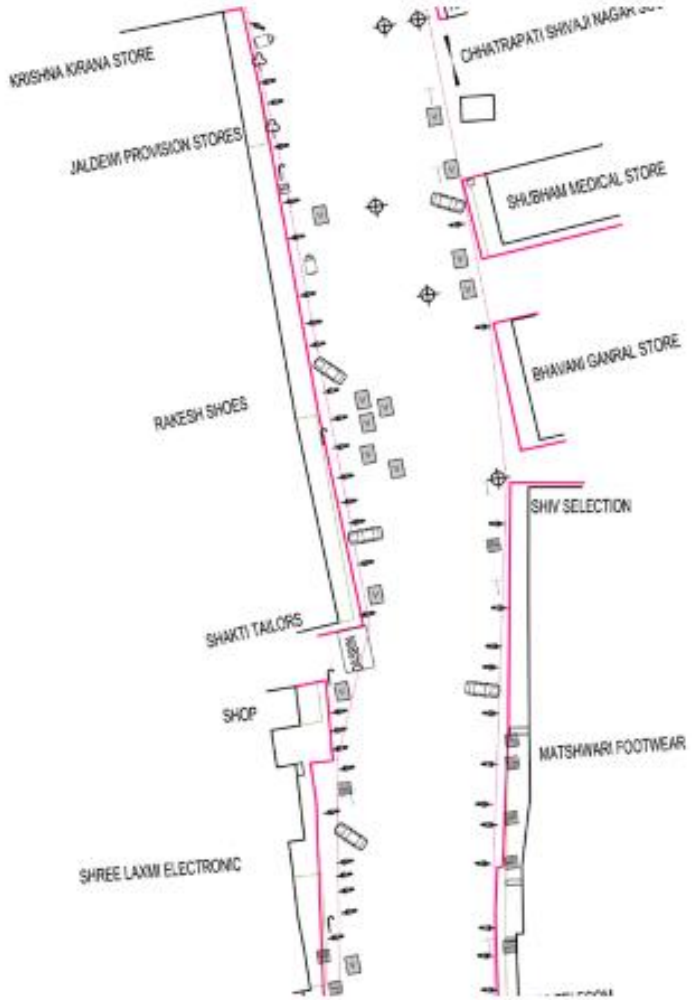
Step 10: Preparation of detailed street designs

- Preparation of a line drawing for contractors to mark on site.
- Preparation of conceptual and detailed street designs w.r.t IRC 103:2012, Guidelines for Pedestrian Facilities, ITDP street design manual
- Review and revision of concept designs
- Detailed construction drawings for the Study Area, to include geometric and vertical profiles and drainage design
- Revise working drawings based on feedback received
- Final working drawings

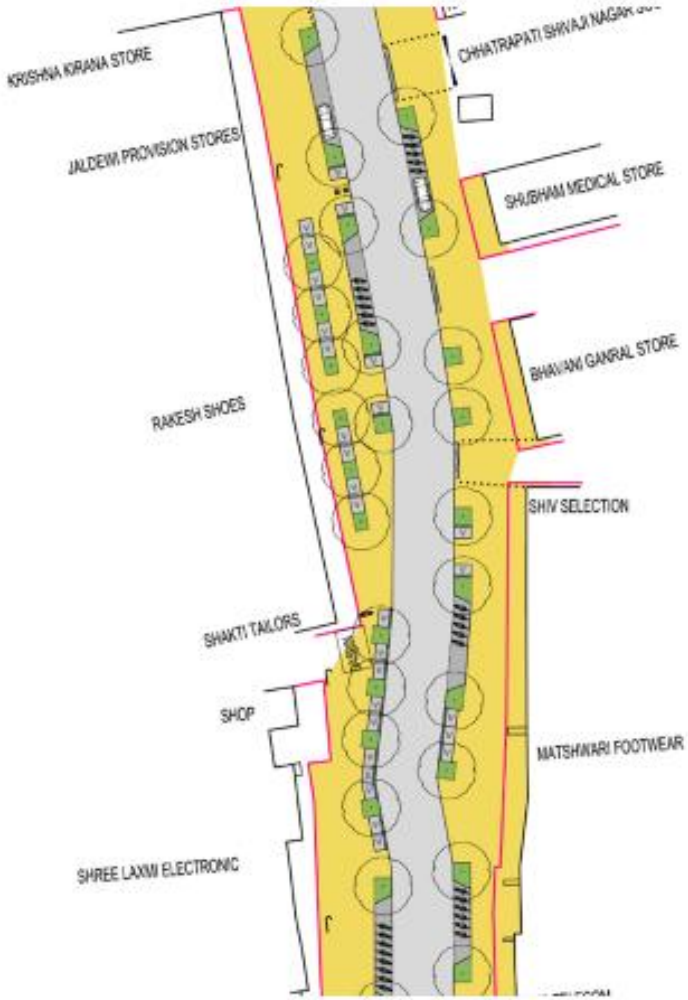
Sample of Line Drawing



Conceptual design

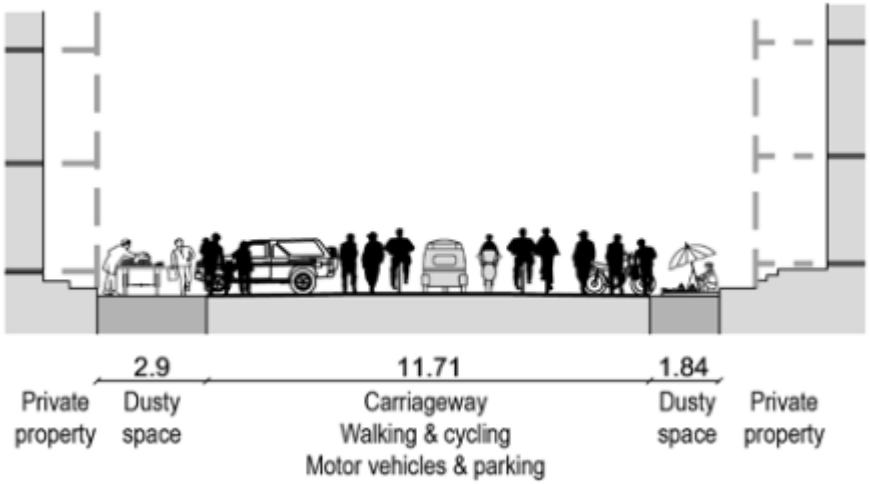


Existing Plan

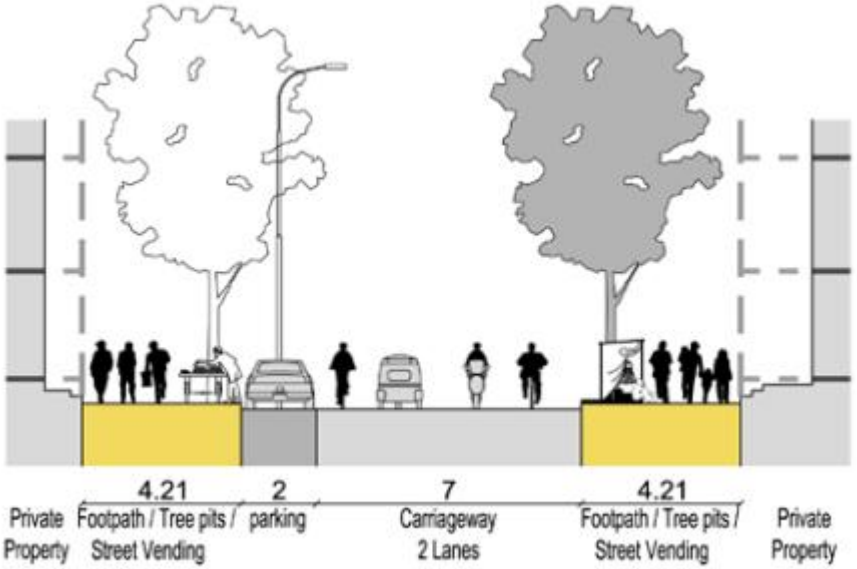


Proposed Plan

Street sections

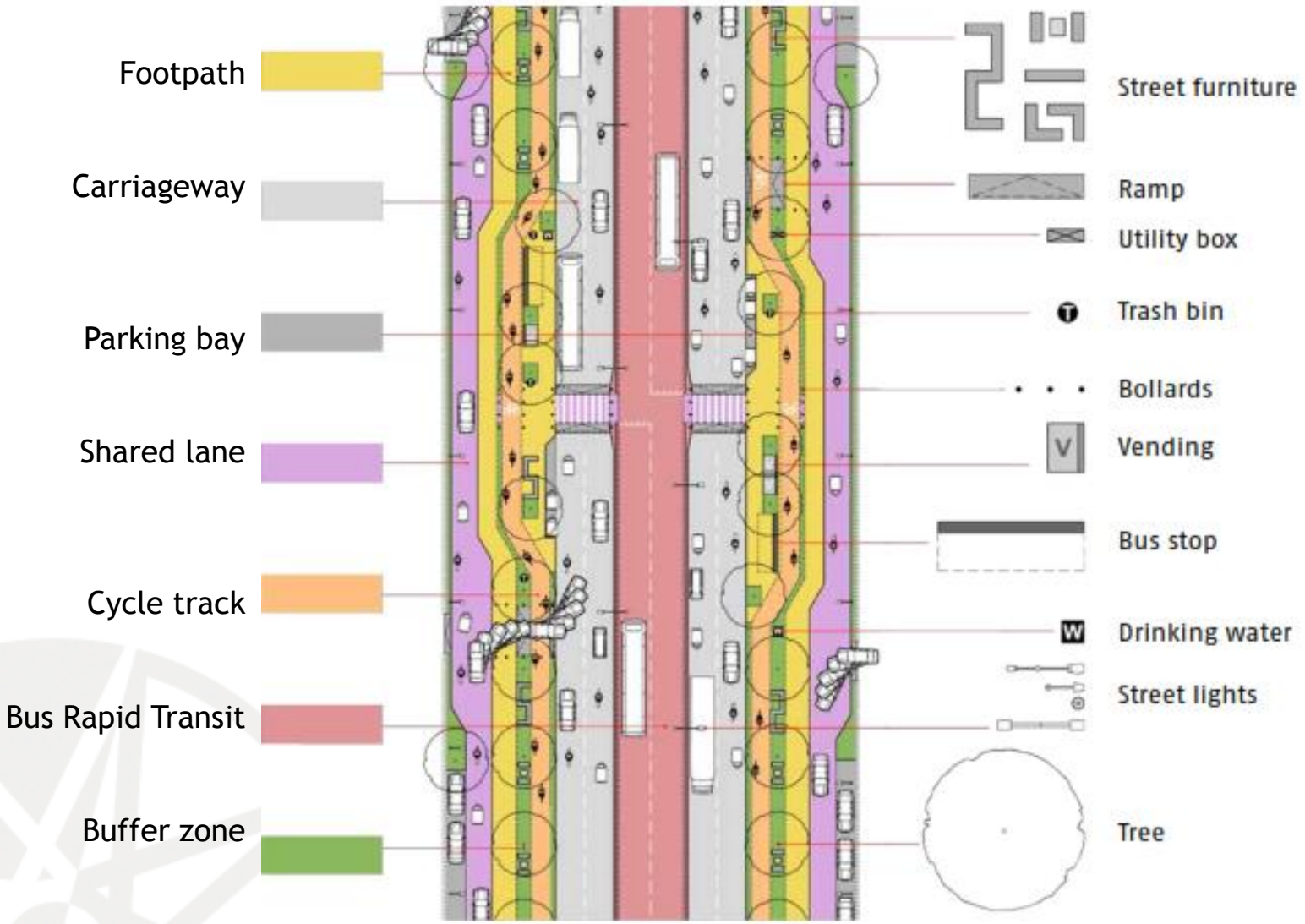


Existing cross section

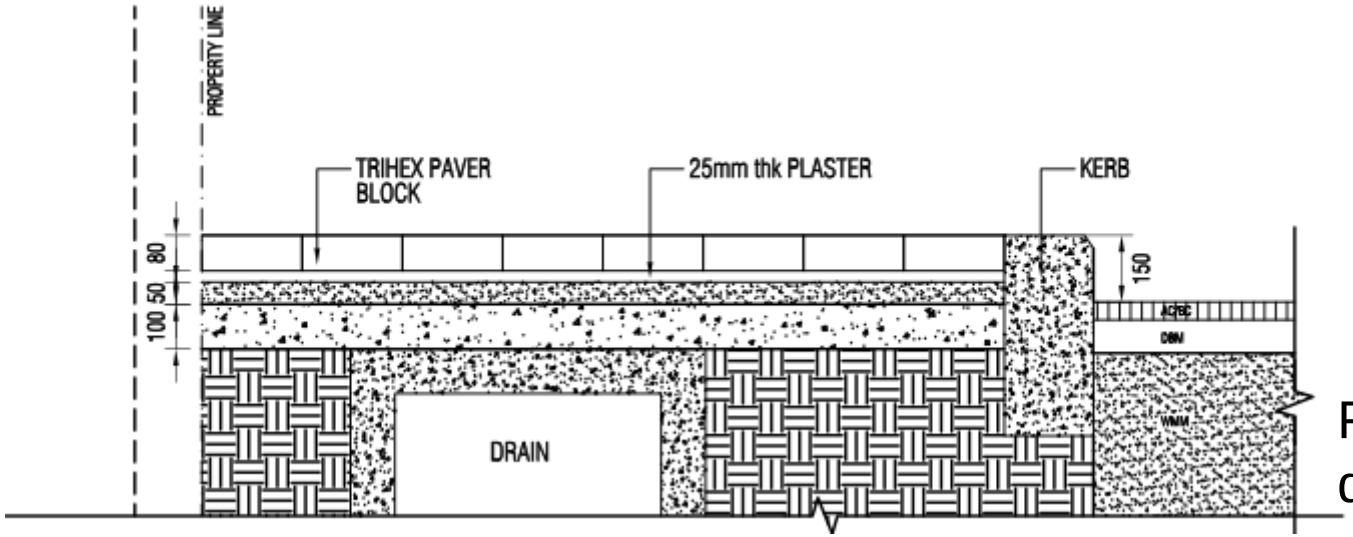


Proposed cross section

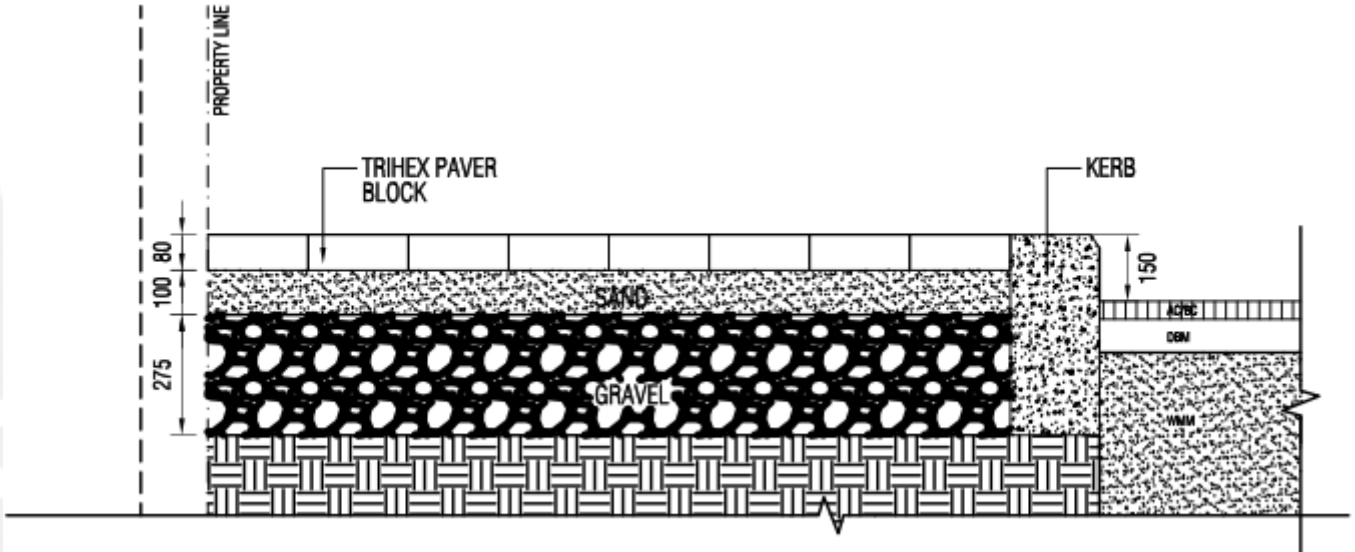
Design detailing



Detailed working drawing sample



Footpath construction details



Deliverables

Output	Description
Inception Report	• Summary of existing transport plans and reports • Proposed surveys with locations and survey forms • Map of Study Area streets
Preliminary Data Analysis	• Data analysis of primary surveys and existing transport plans • Findings of topo, traffic, NMT, and parking surveys
Conceptual Designs	• Design for all street elements in the Study Area • Parking Management Plan
Working Drawings and Plans	• Typical sections along various segments • Plans for horizontal control, demolition, and utility relocation • Storm Water Management • Material specifications and construction details for each element • Bill of quantities • Maintenance Manual

Timeline

Consultant output	Number of days
Inception Report	7
Survey Results	21
Conceptual Designs	30
Consultation with Review Committee	7
Revised Conceptual Designs	15
Draft Working Drawings	15
Final Working Drawings and Plans	21
Total	**116**
Implementation monitoring	
Post implementation	

Post implementation: Before and After photo montage

Review Committee

- City Engineer, from Respective ULBs
- Zonal Officer, from Corporation
- Representative from TNSTC
- Representative from District Collectorate
- Representative from Police (Traffic)
- Representative from Local Planning Authority
- Representative from ITDP

Evaluation of bidders

Evaluation criteria

Requires qualification of Consultant team members:

Specialisation	Requirement	Team members required
Project Lead	The project lead shall have a Masters Degree in Urban Design, Architecture, landscape Architecture or an equivalent degree. S/he shall have at least 5 years of experience in urban design (or equivalent) and is expected to be familiar with NMT user needs, street design principles, street design standards, geometric design of streets, and traffic calming. International experience shall be treated as merit.	1
Architect	Degree in Architecture or equivalent field with at least 3 years of experience.	2
Project Manager	At least 3 years of experience in project management for surveying, design, and construction projects.	1

Scoring criteria

	Possible score
Methodology and experience	
Approach and Methodology of work	40
Experience with similar street design projects	15
Number of projects of similar scale designed to date	15
Number of street design projects executed for government authorities	5
Team	
Project Lead (relevant experience and qualifications in urban design/street design)	10
Project Manager (with relevant experience and qualifications)	5
Architect/Landscape Architect (with relevance experience and qualifications)	7
Awards for public space design or street design	3
Total technical score	**100**

*Total Technical Bid score $(T) \geq 60$ will be considered

Financial proposal

Consultants should submit the required cost per km to fulfil the requirements in the scope of work. Separate rates should be quoted for each of the following ROWs:

- ≤ 20 m
- 21-36 m
- 36-60 m

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Thank you

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