



Nagpur Urban Streets Assessment

Assessing the walking and cycling condition
on the streets for Nagpur

April 2024 - March 2025

Part 2 : Situational Analysis



Prepared for Nagpur Municipal Corporation by  **ITDP**
INDIA

ITDP Team

Siddhartha Godbole, Rutuja Nivate, Suraj Bartakke, Pranjal Kulkarni,
Varsha J

Mentor

Pranjal Kulkarni

Nagpur Municipal Corporation (NMC) team

Led by Dr Abhijeet Chaudhari, IAS (Municipal Commissioner,
NMC),

Naresh Borkar (EE, NH division NMC), Alpana Patne (EE, Projects,
NMC)

with Pranita Umredkar (GM, Environment NSSCDCL) and Harshal
Bopardikar (Senior Urban Designer, NMC UD cell)

Acknowledgements



S T U D I O

We would sincerely like to thank the team of
volunteers associated with Another Earthling Studio

Bhargavee Pathak, Saleha Pathan, Trushita Ogare,
Vimra Gupta & Vishal Khedikar

For more information contact: siddhartha.godbole@itdp.org



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Assessment Principles



1 | Ease of movement

Streets should provide continuous and safe passage irrespective of crossings, junctions, or property entrances.



3 | Universal Accessibility

Streets should be accessible for all, irrespective of any permanent or temporary disability.



2 | Safety

Streets must provide safety for all users by addressing concerns like moving traffic, pedestrian crossings, and night-time security.



4 | Liveability

Streets should provide convenient and comfortable opportunities to rest, pause and play for all, irrespective of age, gender, and ability.

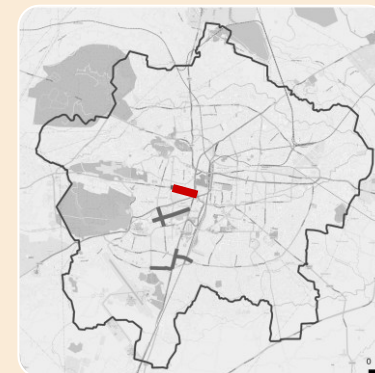
1 Amravati Road

Variety Sq. to
Bhausaheb Gatate Sq.

Amravati Road, once a highway, is now a key arterial street in NMC's jurisdiction, connecting the city to economic centres and institutes. It is heavily used by cyclists and buses, with the Sitabuldi terminal along its route. Recent upgrades added sidewalks and a dedicated cycle track to improve pedestrian and cyclist safety.

Character
Arterial road with commercial
and institutional establishments

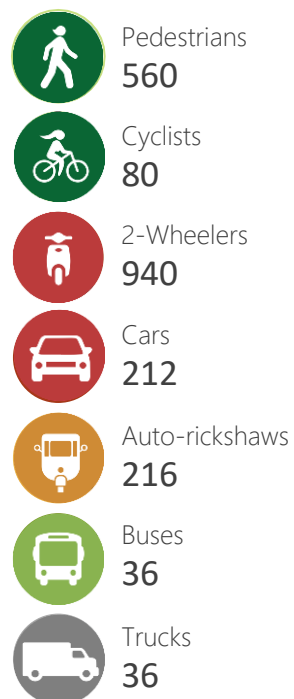
Right-of-Way
30 m
Selected Length for Study
1.4 km



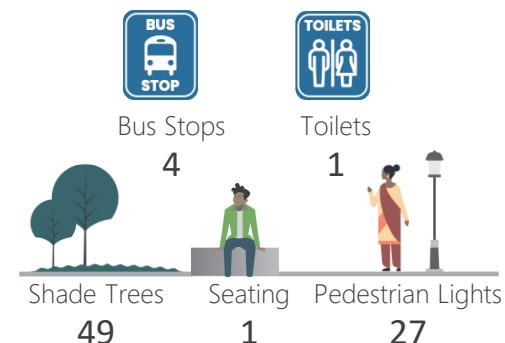
Design Score **3/10** • Observation Score **3.75/10** • Perception Score **5.5/10**



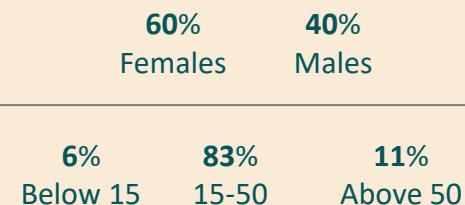
Volume Counts



Amenities



47 respondents
for the perception survey





Shade due to retained trees



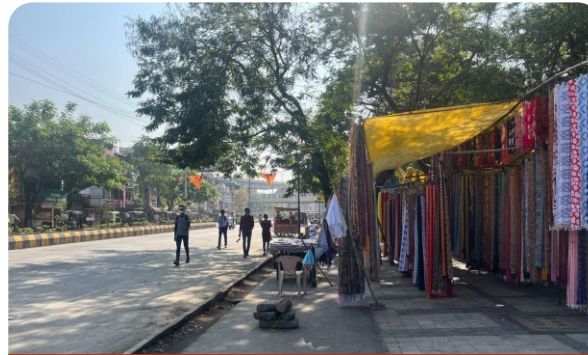
Discontinuous footpaths



Uneven cycling surface



Clear cycling path in some stretches



Vending encroachment

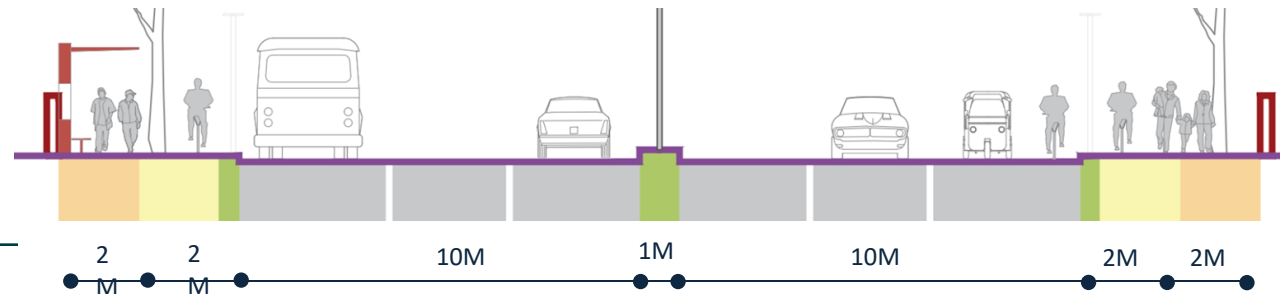


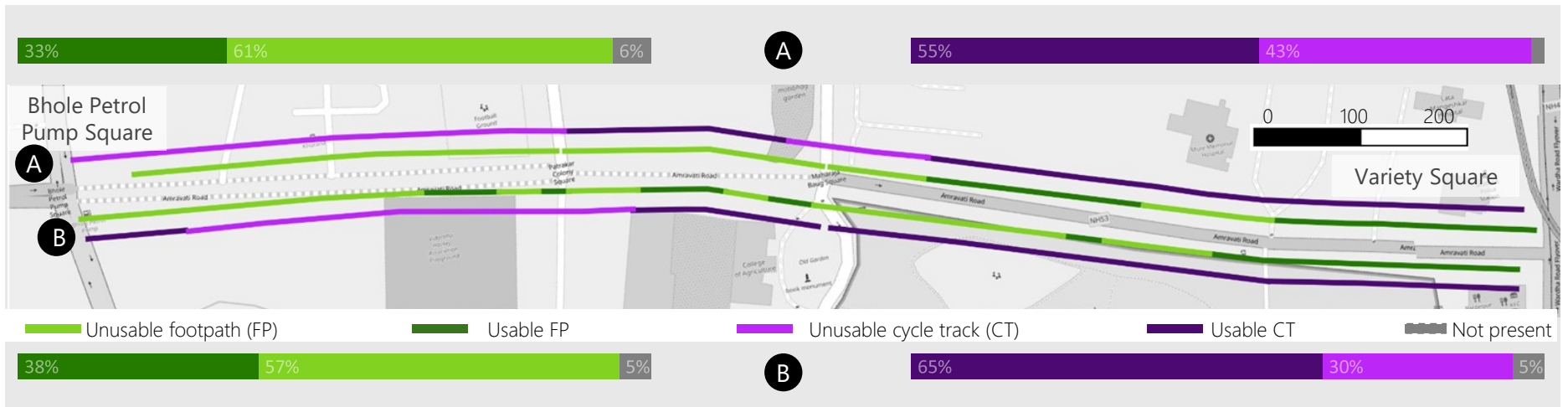
Lack of crossing infrastructure



People have to walk through obstructions as construction material is a hindrance. **Near Eternity Mall, the junction is very large and unsafe to cross.**

- Male, pedestrian (15-50 years)



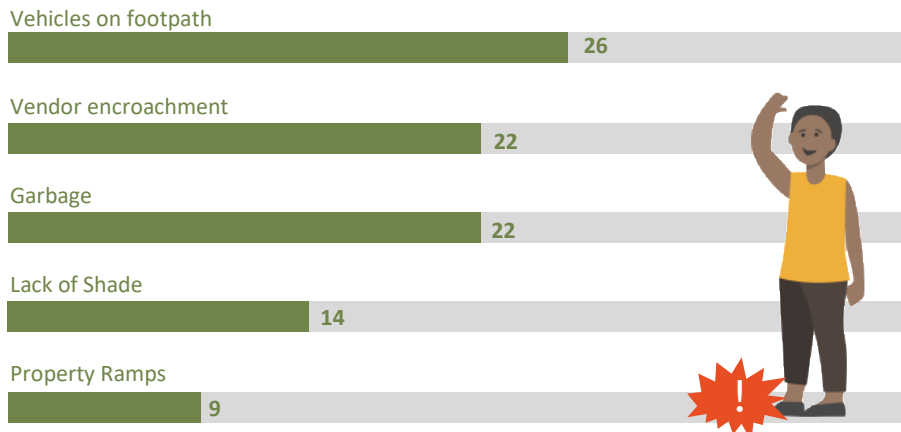


On FP
156
Off FP
508
664

More than **60%** of the pedestrians observed, ***didn't walk on the footpath!***

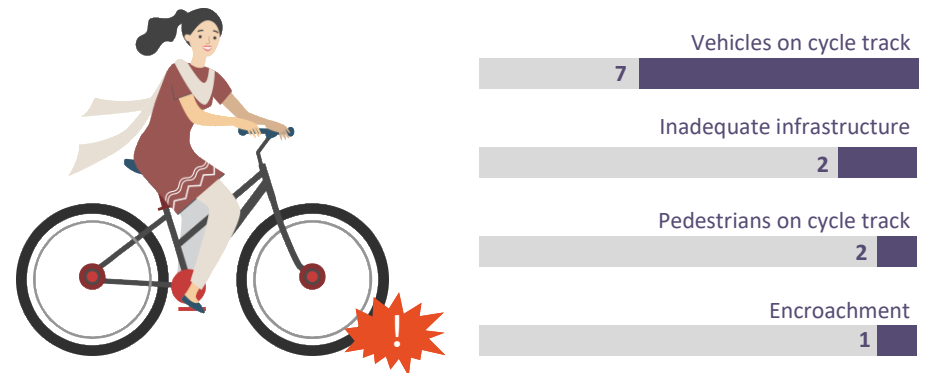
Walking Obstructions

as highlighted by pedestrians
Sample Size: 42



Cycling Obstructions

as highlighted by cyclists
Sample Size: 11



Safety

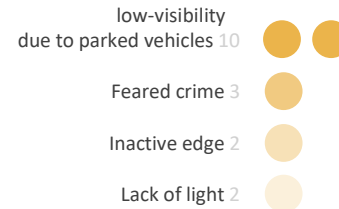
as highlighted by users | 47 people were surveyed | each ● represents 5 responses



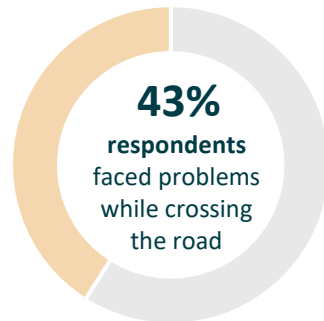
Safety At Night



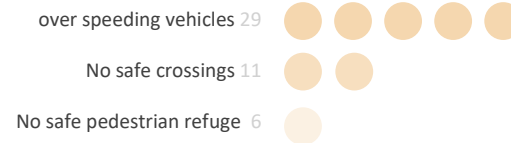
Threats highlighted by respondents



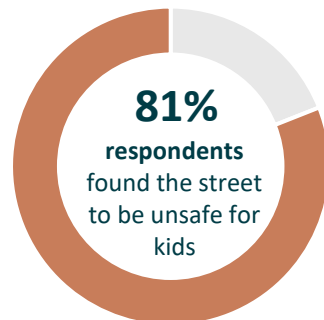
Safety While Crossing



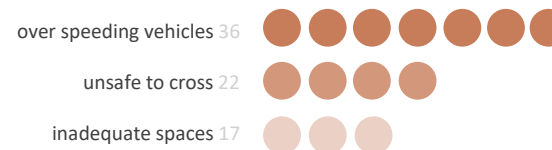
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
(47 people were surveyed)
and from observation

62% of the respondents
felt that **high vehicular
speeds are a critical
hazard**

Highest Recorded Speed

75 kmph

Most recurring speeds observed



48 kmph
in Two-Wheelers



51kmph
in Cars

Key Issues in Amravati Road

Recommendations



Over-speeding: The street has recorded highest vehicular speeds (75 kmph), which is fatal

Provide **traffic calming elements like speed tables** coupled with rumble strips and or texture difference as per IRC.



Poor implementation: Poor selection of material and workmanship has resulted in bad walking surface, and acts as a walking inhibitor.

NMC should adopt a SOR (Schedule of Rates), which includes modern and standardised materials for construction.

A PMC (Project Management Consultant) should be onboarded to ensure good construction quality.



Suboptimal Design: The street lacks design detailing due to which, walking is compromised at stretches with trees and other hindrances.

Provide bulb-outs at such locations to manoeuvre footpath/cycle tracks in case of hindrances, ensuring continuity.

Bulb-outs also help in streamlining parking. Provide tree gratings.



Lack of lighting and seating: The street is very poorly lit, with no infrastructure to rest or pause. People especially women feel unsafe due to lack of light, and don't prefer to use the street at night..

Provide NMT lighting infrastructure, as per IRC 103 2022, to make sure people feel safe at night.

Provide adequate seating (at least one every 50m), to make sure people get rest.



Uncontrolled access: Property entrances and access roads do not have access control, leading to encroachment by vehicles and vendors.

Provide bollards with 400 mm clear in between distance, along with one spacing to ensure safe passage for wheelchair.

2 Central Bazaar Road

Lokmat Sq
to Bajajnagar Sq.

Central Bazaar Road is a sub-arterial, mixed-use street in the southwest part of the city. The street connects Wardha Road (Lokmat Square) to VNIT Institute). The street has a mixed-use and institutional land use, having VNIT at one side. The street lacks basic infrastructure like footpaths and safe crossings, and half of the street cross-section is currently occupied by haphazard and double parking.

Character
Arterial road with commercial
and institutional establishments

Right-of-Way
30 m
Selected Length for Study
2.27 km

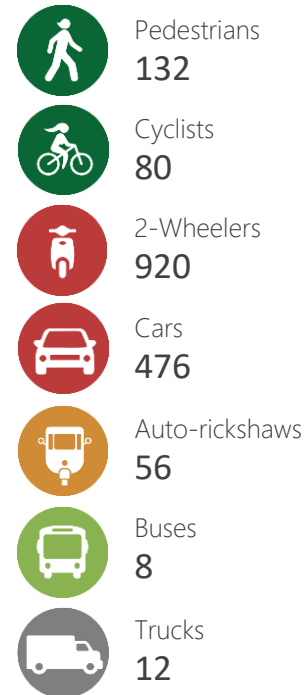


Design Score **1.75/10** • Observation Score **0.5/10** • Perception Score **4.5/10**

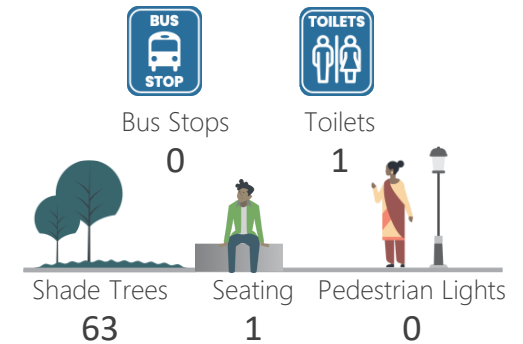


41 respondents for the perception survey

Volume Counts

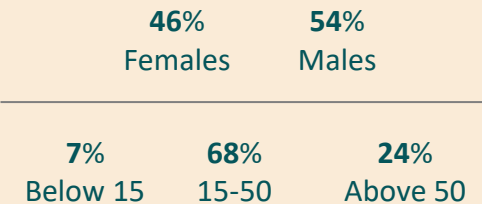


Amenities



41 respondents

For the perception survey





Footpath encroached by parked vehicles



Poor material use & construction quality



Discontinuous footpath at property entrances



Footpath absent in some stretches



Unsafe crossing at junctions

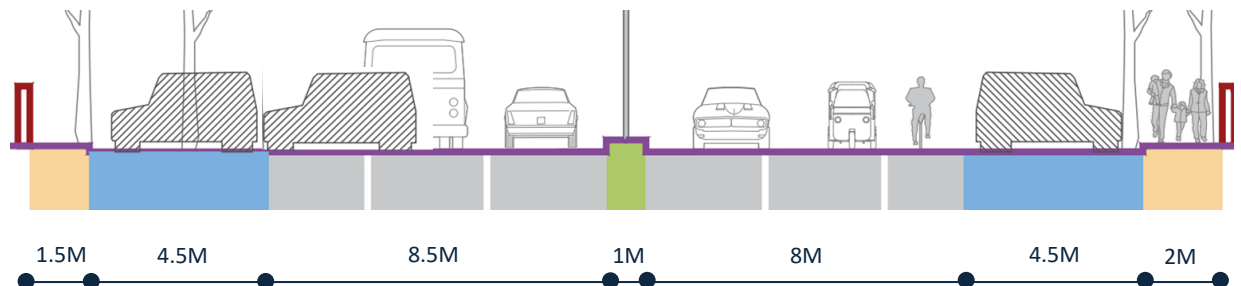


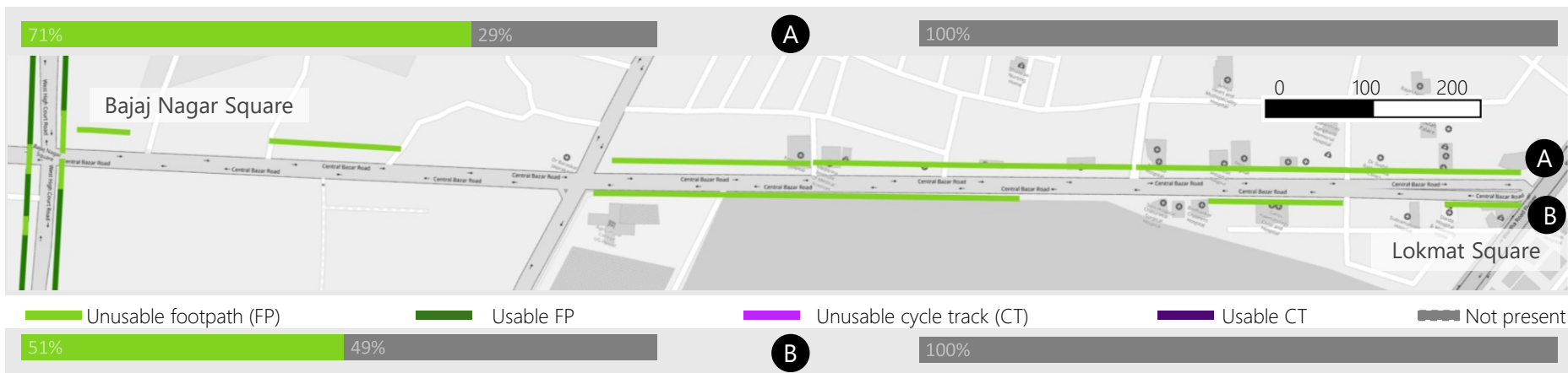
Unused ROW width



Junctions and crossing are the most unsafe locations on the street, especially for the elderly. There is **no clarity where to walk and cross the street**.

- *Female, pedestrian (above 15 years)*



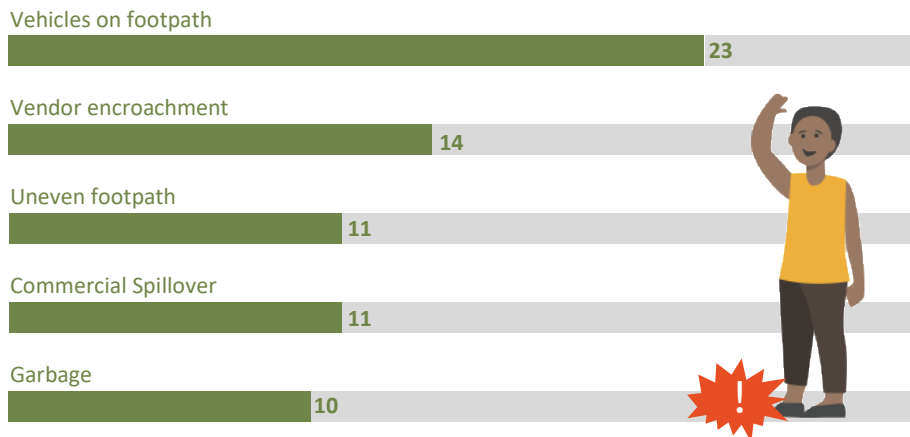


100% of the pedestrians walked on the carriageway!

132

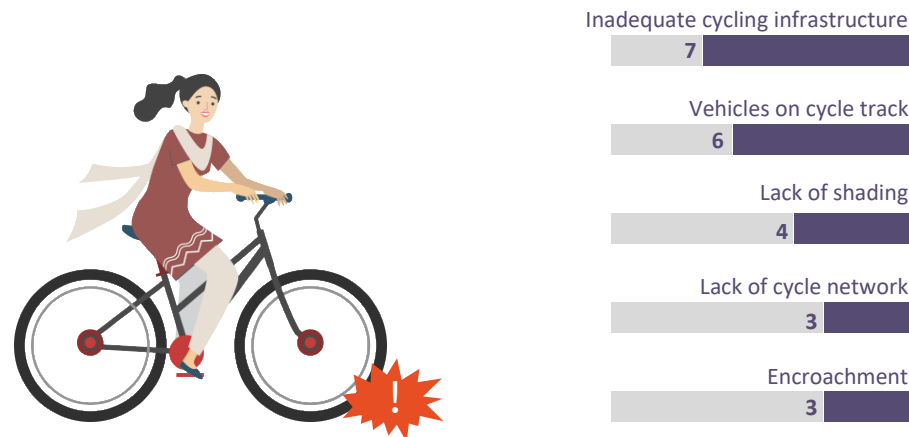
Walking Obstructions

as highlighted by pedestrians
Sample Size: 31



Cycling Obstructions

as highlighted by cyclists
Sample Size: 10

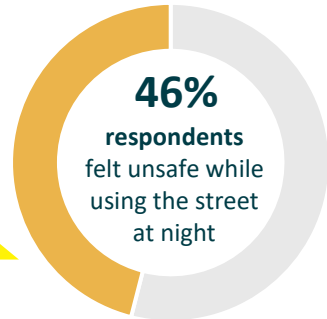


Safety

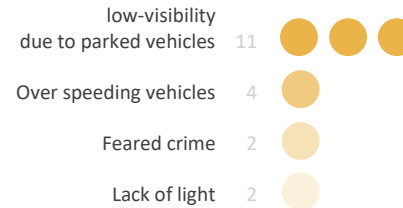
as highlighted by users | 41 people were surveyed | each ● represents 5 responses



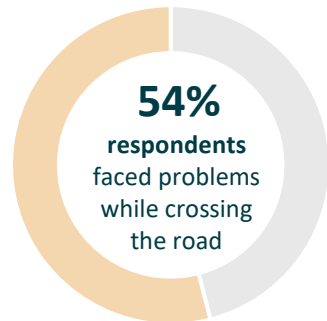
Safety At Night



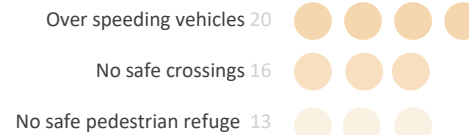
Threats highlighted by respondents



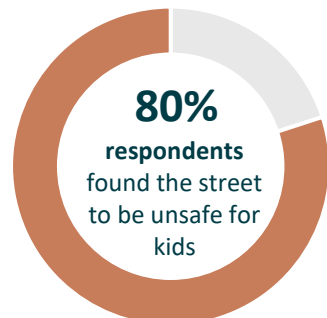
Safety While Crossing



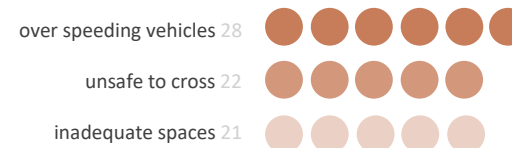
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
and from observation

49% of the respondents
felt that **high vehicular
speeds are a critical
hazard**

Highest Recorded Speed

62 kmph

Most recurring speeds observed



53 kmph
in Two-Wheelers

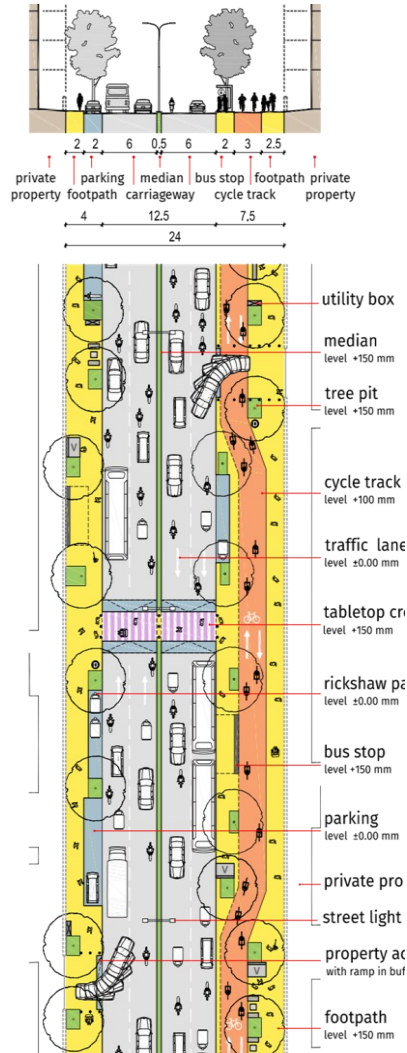


47 kmph
in Cars

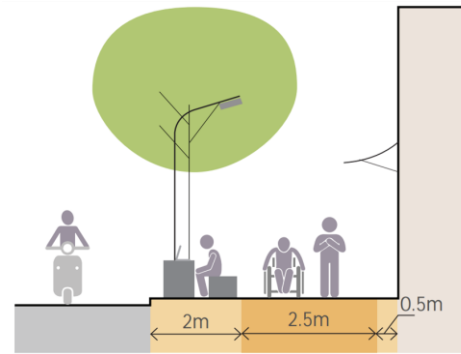
Recommendations for Central Bazaar Road

The Stretch should be **entirely redesigned** by adopting suitable street design template and following latest IRC guidelines. This street is the pilot street selected for the Nagpur Healthy Streets program in 2022, but the redevelopment is at a slow pace.

Following key details should be considered during redesign



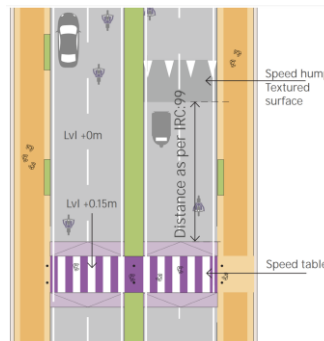
Proposed Street Template



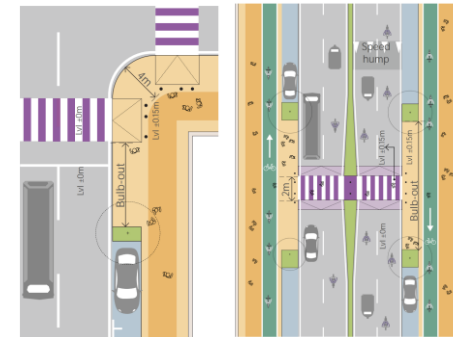
Design adequate pedestrian zone with frontage & Multi Utility Zone as per IRC



Design bulb-outs to manage parking and ensure seamless access



Deploy traffic calming measures to reduce high vehicular speeds.



Ensure accessible and safe crossing infrastructure is provided at mid-block and at junctions

3 Orange City Road

Jaiprakashnagar Sq - Pratapnagar Rd

Orange City Road is a collector street passing through a residential neighbourhood. The street has multiple uses and hosts a "Shaniwari Market" on Saturdays (the high footfall observed is due to the Shaniwari market). The street underwent reconstruction in 2022, to include a footpath and a two-way cycle track. Due to encroachment and poor parking management, most of the street is unusable.

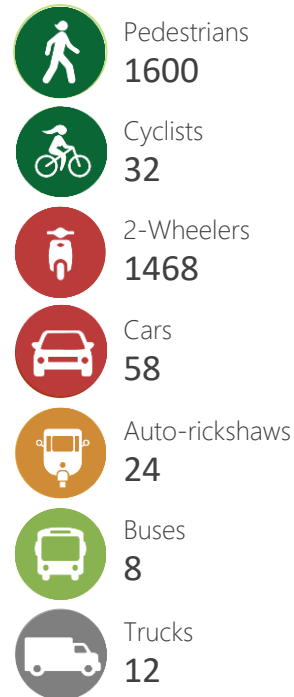
Character
Collector road connecting
neighbourhood
Right-of-Way
24 m
Selected Length for Study
1.28 km



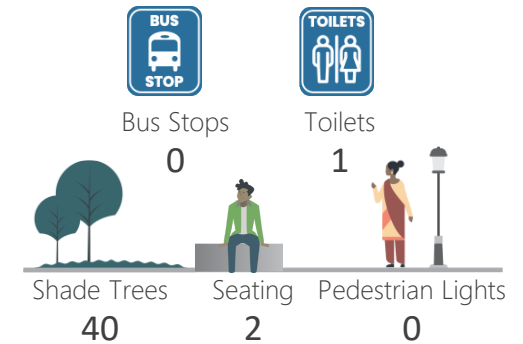
Design Score **4.75/10** • Observation Score **2.5/10** • Perception Score **5.75/10**



Volume Counts

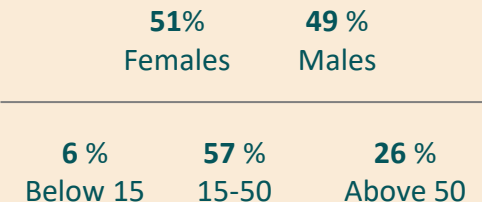


Amenities



49 respondents

For the perception survey





Accessible & safe junctions



Vehicular parking encroachment



Informal and illegal vending



More than 4m reclaimed for NMT



Lack of parking management

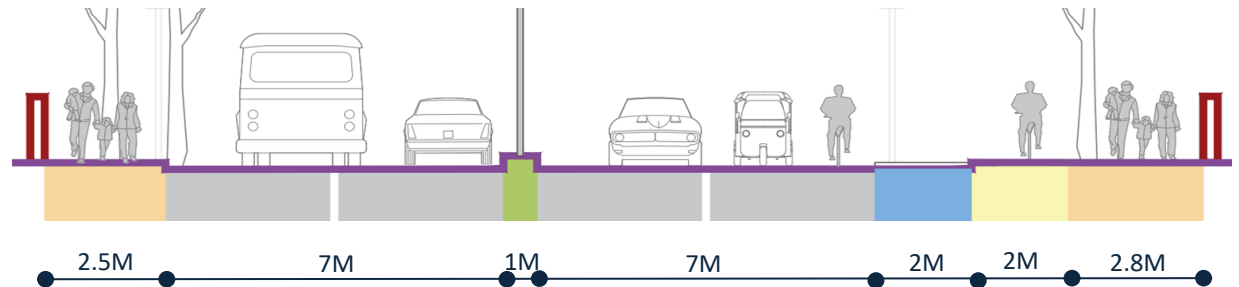


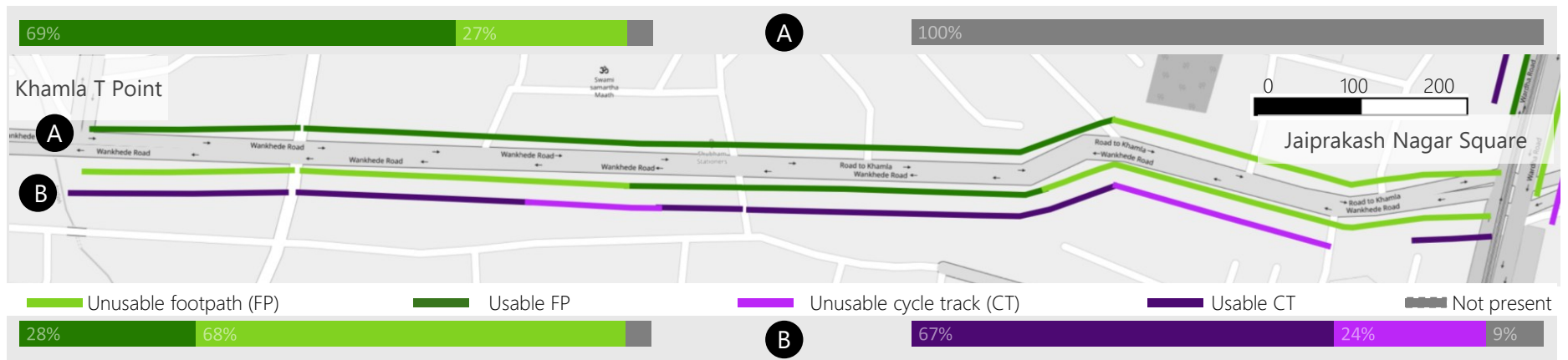
Unsafe crossing



Activities like the **Saturday weekly market** are **more organised now**. But **people cannot walk on the footpath due to encroached parking and vending**.

- *Female, pedestrian (15-50 years)*



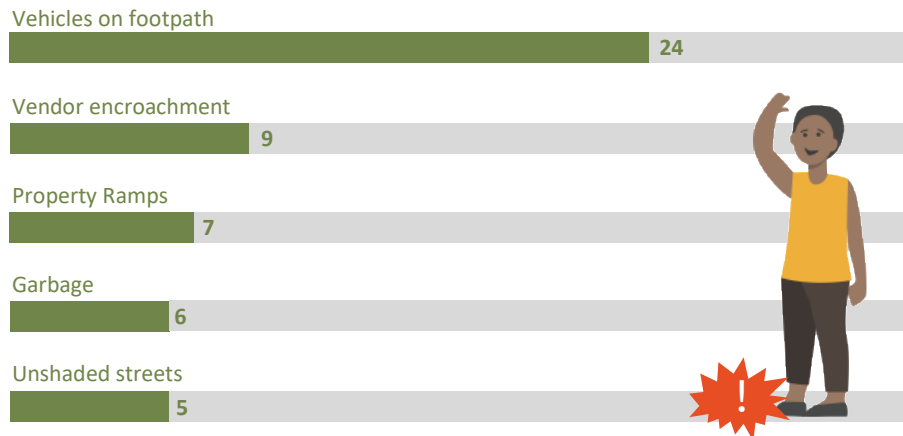


On FP
668
Off FP
472
1140

More than 60% of the pedestrians observed, *didn't walk on the footpath!*

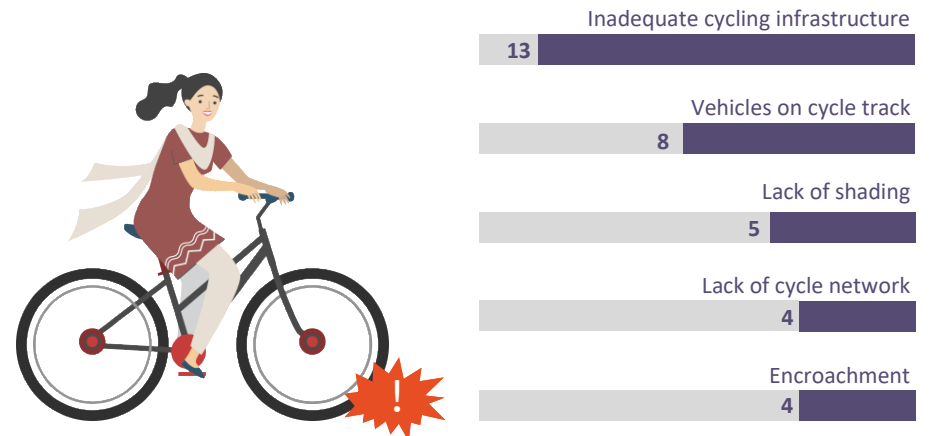
Walking Obstructions

as highlighted by pedestrians
Sample Size: 34



Cycling Obstructions

as highlighted by cyclists
Sample Size: 15



Safety

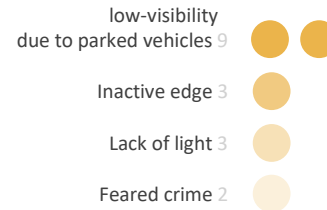
as highlighted by users | 49 people were surveyed | each ● represents 5 responses



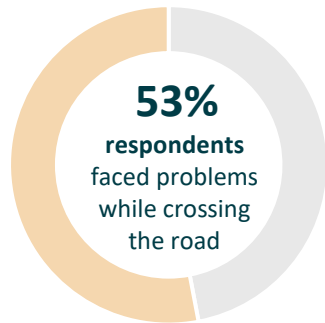
Safety At Night



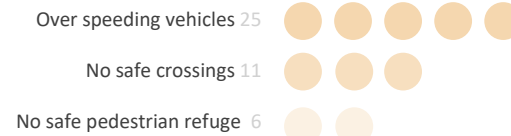
Threats highlighted by respondents



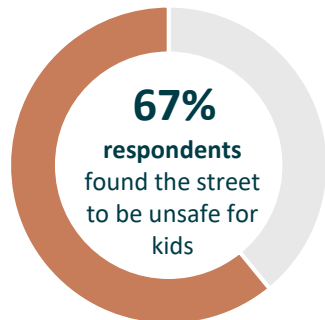
Safety While Crossing



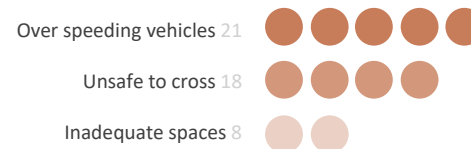
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
and from observation

51% of the respondents
felt that **high vehicular
speeds are a hazard**

Highest Recorded Speed

70 kmph

Most recurring speeds observed



56 kmph
in Two-Wheelers



52 kmph
in Cars

Key Issues on Orange City Road

Recommendations



Location: Opposite Ginger Hotel

Poor implementation: Footpath is missing or of non-standard width at certain places which has resulted to inconsistent walking infrastructure

Minimum footpath width as per IRC should be ensured through the length of the street.

The entire street should be designed at once to prevent such design shortcomings



Location: Near Khamla T point

Over speeding: Many users have reported high vehicular speeds as a major concern, while the observed peak speed was around 70 kmph.

Traffic calming measures such as **speed humps, speed tables, raised crossing** and/or chicanes should be used to reduce vehicular speeds, and create safer streets.



Location: Overall along the stretch

Haphazard Parking: Poor parking management has made footpath unwalkable at most locations. Residents park cars on footpaths and are not fined.

NMC should implement area level parking management measures through design and enforcement to ensure encroachment free NMT zone.

4 Shankarnagar Road

Shankarnagar Sq to
Deendayal Upadhyay Sq

Shankarnagar (West High Court) street is a mixed-use, collector street connecting Ring Road to North Ambazari Road. The street is well-shaded and has active mixed use making it safer for all age groups. The street is located in a prime neighbourhood where property rates are relatively high. The street has a narrow (2-lane carriageway), hence the vehicular speeds are relatively low.

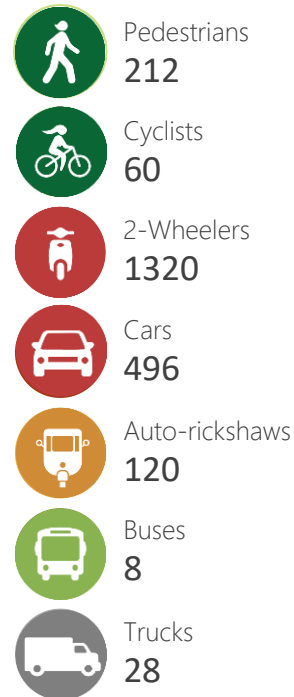
Character
Mixed-use collector street
Right-of-Way
24 m
Selected Length for Study
1.15 km



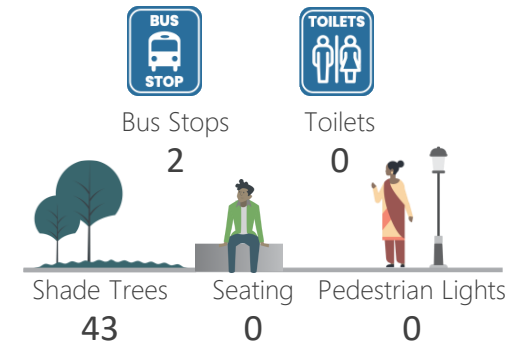
Design Score **4.25/10** • Observation Score **2/10** • Perception Score **8.25/10**



Volume Counts

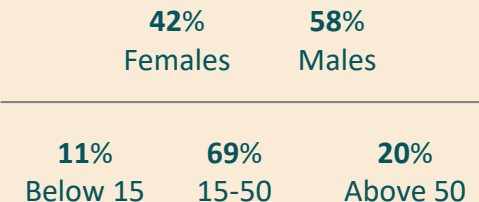


Amenities



45 respondents

For the perception survey





Presence of crossing infrastructure



Discontinuous footpaths



Vending encroachment



Shaded NMT zone



Lack of safe cycling infrastructure

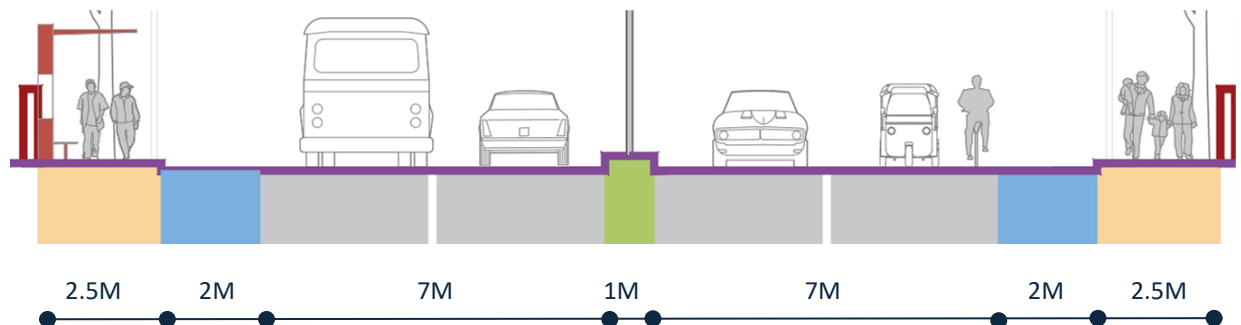


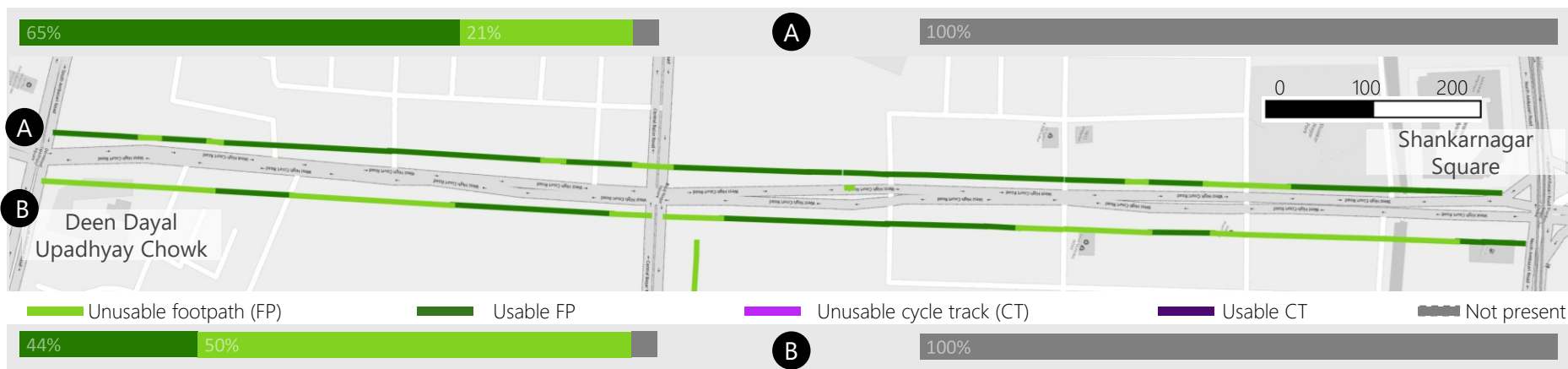
Vehicular encroachment



The street is generally safe to walk due to tree shade and many shops. **Installing benches can add more comfort to the street**, and will help the elderly to rest.

- *Male, pedestrian (above 50 years)*





Around 60% of the pedestrians observed, walked on the footpath!

212

Walking Obstructions

as highlighted by pedestrians
Sample Size: 34

Vehicles on footpath



Vendor encroachment



Garbage



Commercial Spillover



Unshaded streets



Cycling Obstructions

as highlighted by cyclists
Sample Size: 11



Lack of cycle network



Vehicles on cycle track



Encroachment

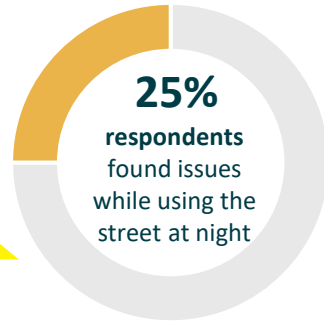


Safety

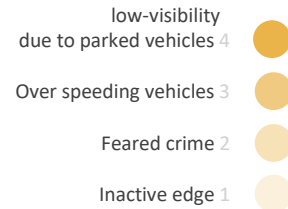
as highlighted by users | 45 people were surveyed | each ● represents 5 responses



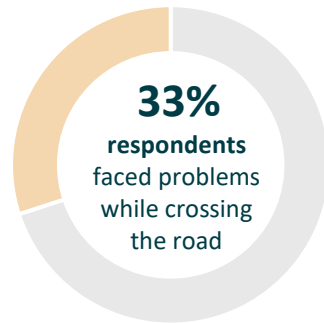
Safety At Night



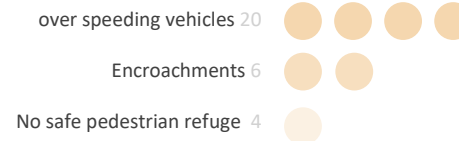
Threats highlighted by respondents



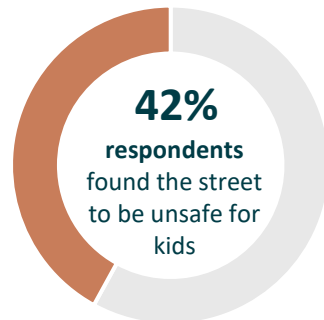
Safety While Crossing



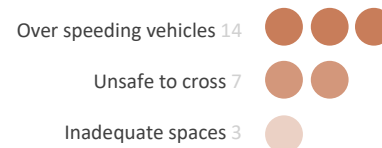
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
and from observation

44% of the respondents
felt that **high vehicular
speeds are a critical
hazard**

Highest Recorded Speed

65 kmph

Most recurring speeds observed



46 kmph
in Two-Wheelers



44 kmph
in Cars

Key Issues on Shankarnagar Road

Recommendations



Location: Near Apple store, Post office

Poor implementation: Poor design and detailing has led to the footpath being non-continuous at several locations. The footpath surface is uneven, which makes most street users walk on the carriageway.

Footpath should be designed as per IRC 103, 2022, to ensure **continuity even on intersections, and small by lanes. Ramps should be provided in case footpath level changes.**



Location: Overall along the stretch

Lack of cycling infrastructure: Many cyclists (around 60 observed per hour), use the streets, yet no safe cycling infrastructure has been provided. Speeding vehicles is unsafe for cyclists.

At least on one-side of the street, a two-way cycle track should be constructed.

Traffic calming measures such as speed humps, speed tables, raised crossings and/or chicanes should be used to reduce vehicular speeds and create safer streets.



Location: Outside Shivaji Garden

Encroachment: Footpath is encroached near Shivaji garden by vendors, which has rendered the footpath useless. People walk on the carriageway on that stretch

Footpath should be designed with a MUZ, to accommodate extra street functions such as vending to ensure the continuity of the walking zone.

5 Ring Road Chhatrapati Sq - Narendranagar Flyover

Ring Road is an important arterial for the city. The street goes through a primary residential neighbourhood. Currently, it has a 6-lane carriageway with almost no NMT infrastructure on both sides. Most of the present NMT infrastructure is either encroached on by vehicles by vendors. Vehicular speeds are also observed to be very high on this street, and users have reported issues with safety and crossing the street.

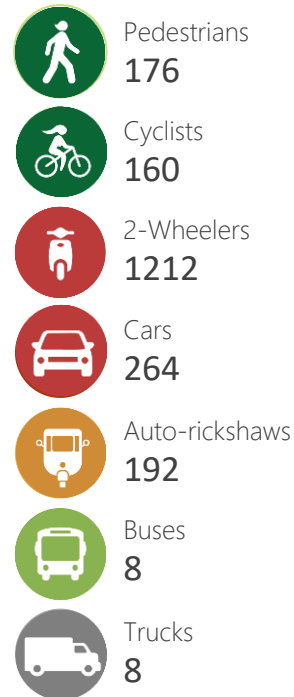
Character
Arterial road with residential
and mixed-use
Right-of-Way
36 m
Selected Length for Study
1.06 km



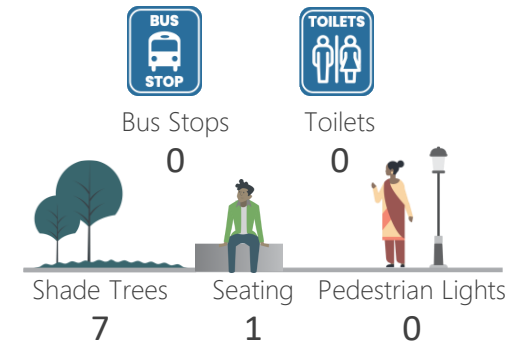
Design Score **1.5/10** • Observation Score **1.25/10** • Perception Score **3.75/10**



Volume Counts

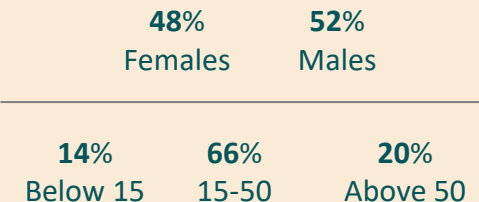


Amenities



50 respondents

For the perception survey

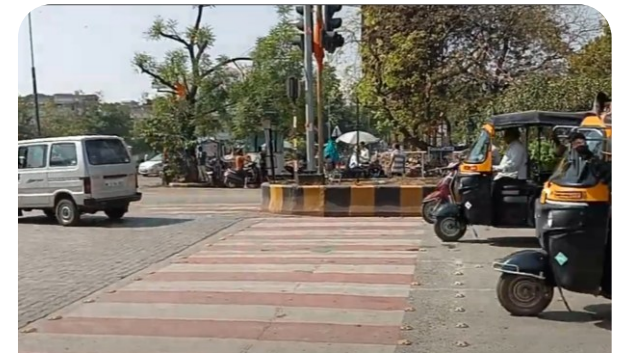




Safe junction design in progress



Lack of continuous footpath



Poor design and construction detailing



Footpath present in certain stretches



Encroached footpath

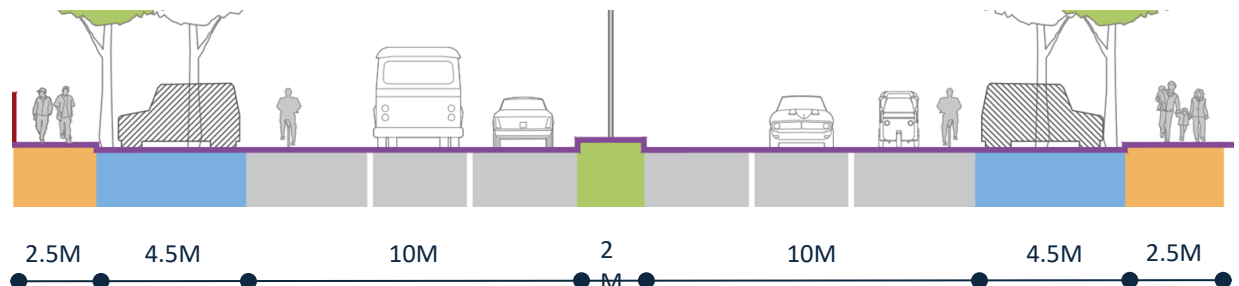


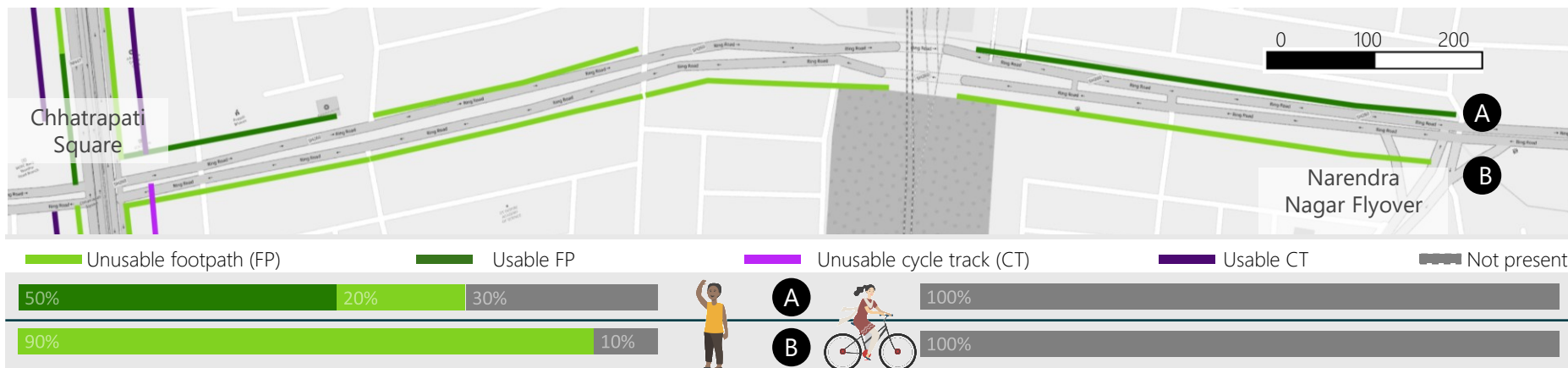
Unsafe crossing



The street doesn't have good footpath, crossings or lighting. **There have been cases of girls being harassed due to poor lighting in the evening or at night.**

- *Male, pedestrian (above 50 years)*





On FP
12
Off FP
164

176

More than 90% of the pedestrians observed, didn't walk on the footpath!

Walking Obstructions

as highlighted by pedestrians
Sample Size: 36

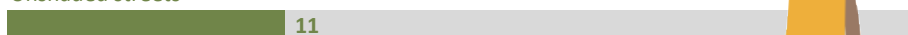
Vehicles on footpath



Vendor encroachment



Unshaded streets



Garbage



Property ramps



Cycling Obstructions

as highlighted by cyclists
Sample Size: 14

Vehicles on cycle track



Encroachment



Inadequate cycling infrastructure



Pedestrians on cycle track



Lack of shading





63%
respondents
felt unsafe while
using the street
at night

Low-visibility due to parked vehicles 13


Lack of light 7

Fear of crime 5

Eve teasing 3

Inactive edge 2

Safety While Crossing

A donut chart with an orange segment representing 62% and a grey segment representing 38%. The text "62% respondents faced problems while crossing the road" is centered in the orange segment.


Category	Percentage
Faced problems while crossing the road	62%
Did not face problems while crossing the road	38%

Over speeding vehicles 35

No safe crossings 16

No safe pedestrian refuge 11

Safety For Kids



82%
respondents
found the street
to be unsafe for
kids

Over speeding vehicles 33 ●●●●●●●

Unsafe to cross 24 ●●●●●

Inadequate spaces 13 ●●●

as highlighted by users
and from observation

70% of the respondents felt that **high vehicular speeds** are a critical hazard

70 kmph

Most recurring speeds observed



49 kmph
in Two-Wheelers

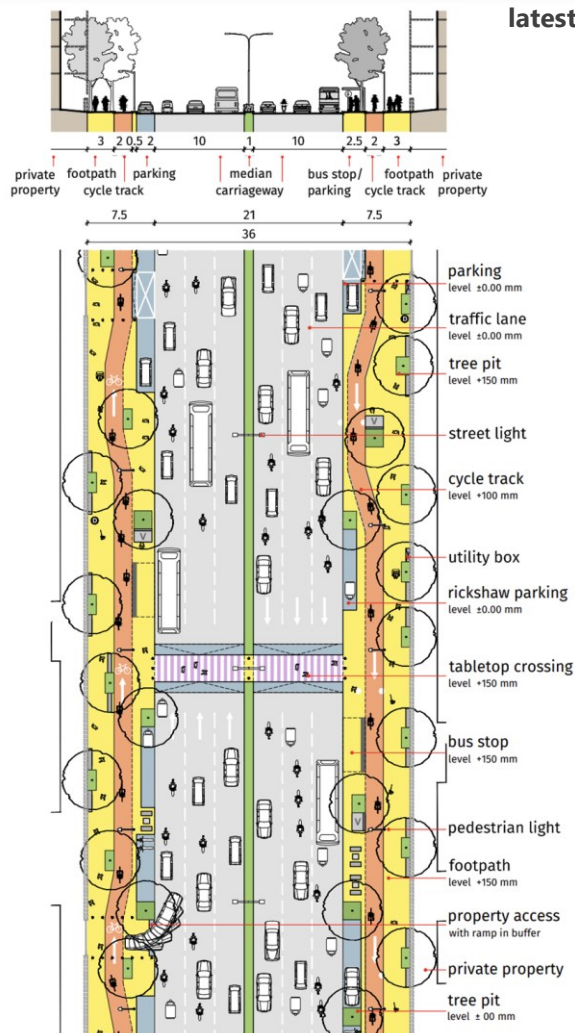


47 kmph
in Cars

Recommendations for Ring Road

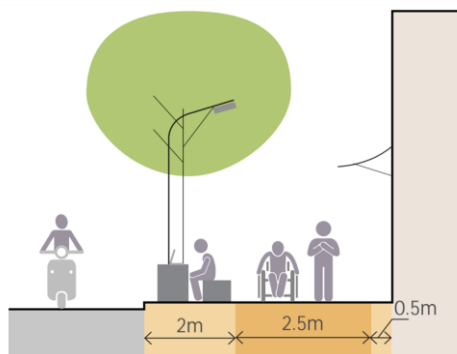
The Street should be entirely redesigned by adopting a suitable street design template and following the latest IRC guidelines.

Following key details should be considered during redesign

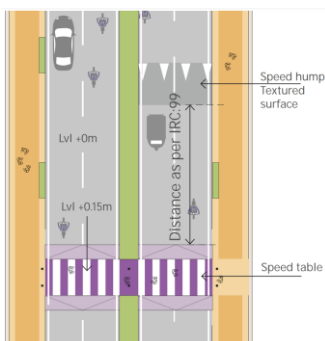


Proposed Street Template

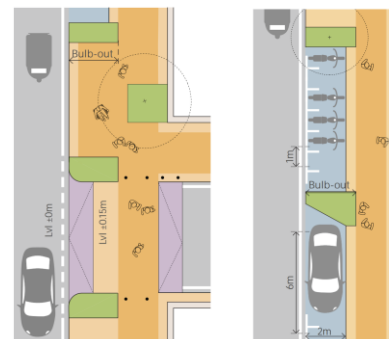
Source: Healthy Streets Design Workbook, ITDP



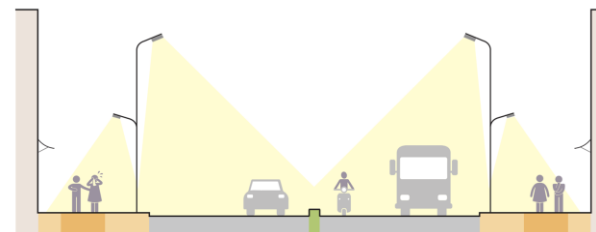
Design adequate pedestrian zone with frontage & MUZ as per IRC



Deploy traffic calming measures to reduce high vehicular speeds.



Design Bulb-outs to manage parking & ensure seamless access



Placement on wide streets

Pedestrian and street lights can be combined in a single pole in the MUZ to avoid clutter, provided there is proper illumination.

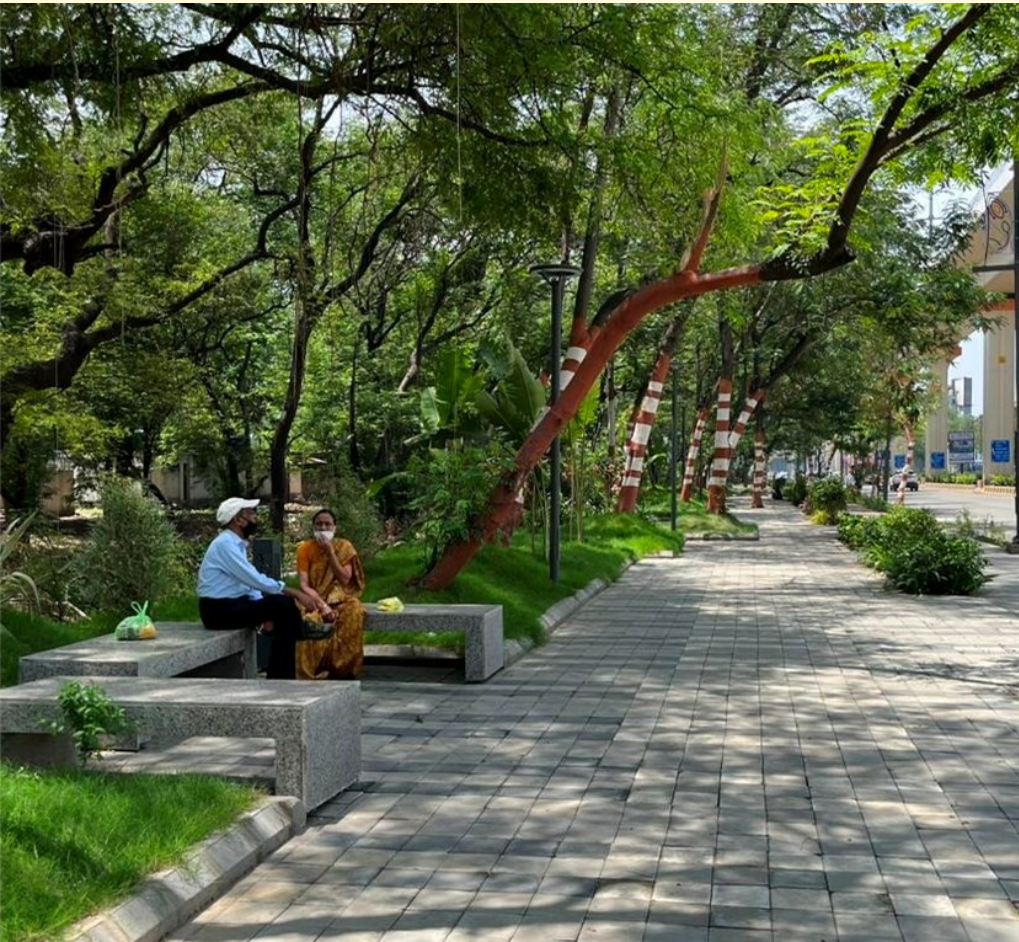
Install dedicated lights for NMT zone along with the carriageway lighting to ensure safety of all user groups

6 Wardha Road

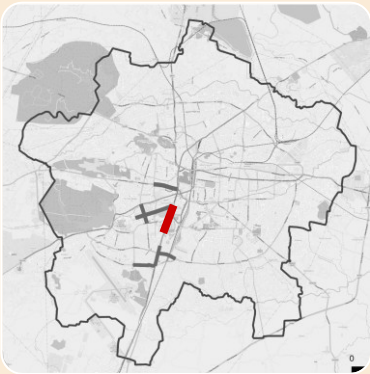
Ajni Sq to
Rahate Colony Sq

Wardha Road was classified as a highway, and is now a major arterial connecting central and southern parts of the city. The street also has a metro line constructed along it. The street runs through mixed-use and institutional land-use. The selected stretch has an in-active government institutional land-use around with two metro stations. The street was recently redesigned to have a continuous footpath and cycle track, on both sides, along with various placemaking elements.

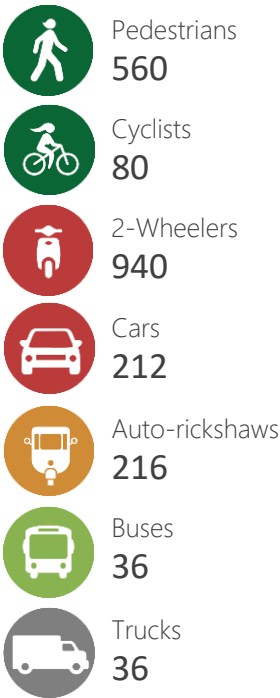
Design Score 8/10 • Observation Score 8/10 • Perception Score 8.75/10



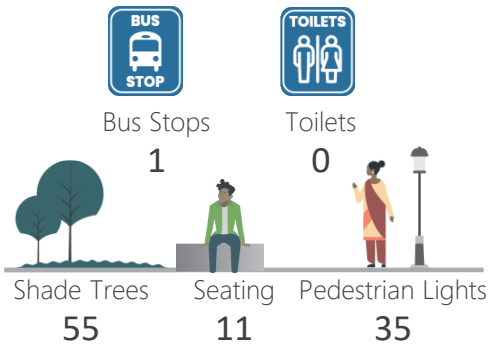
Character
Arterial road with commercial
and institutional establishments
Right-of-Way
43 m
Selected Length for Study
1.3 km



Volume Counts

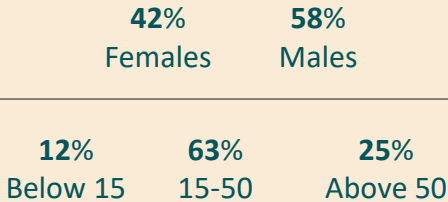


Amenities



41 respondents

For the perception survey





Safe crossing infrastructure at junctions



Shaded NMT zone



Safe access to public transport



Lack of parking management



Lack of safe crossing infrastructure

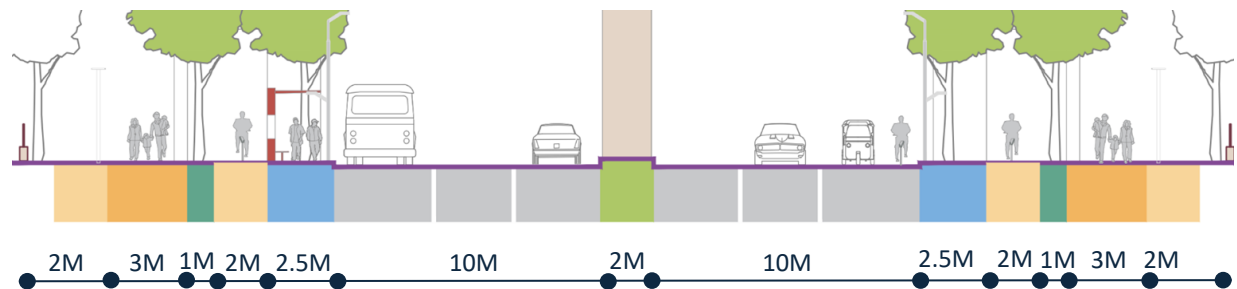


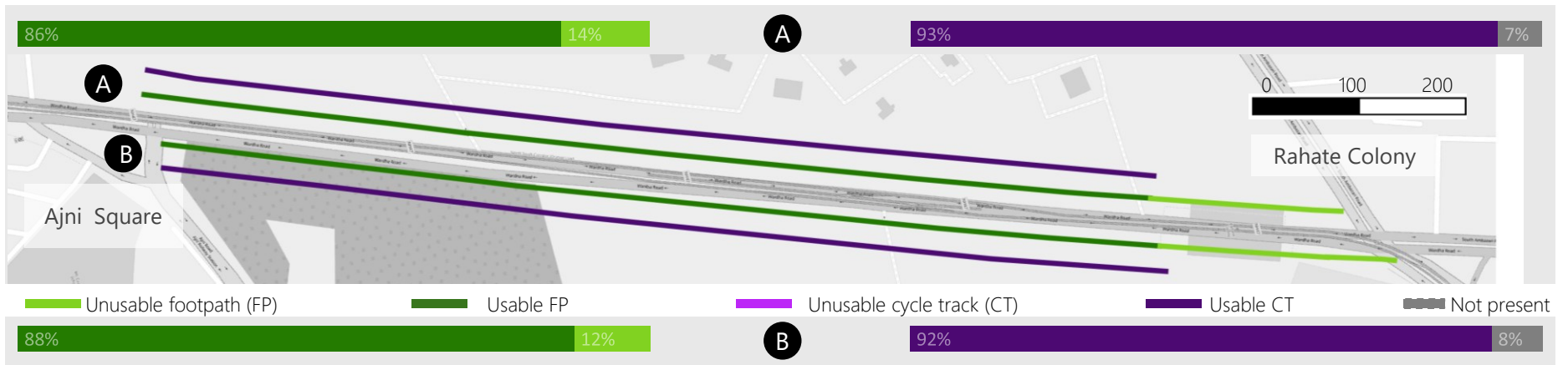
Discontinuous footpath at Metro Stations



I love walking on this street, after redevelopment. I usually come in the evenings and sometimes I bring my grandchildren along when are in town.

- Female, pedestrian (above 50 years)





548

100% of the pedestrians observed, walked on the footpath!

Walking Obstructions
as highlighted by pedestrians
Sample Size: 32

Vehicles on footpath



Vendor encroachment



Uneven footpath surface



Property ramps



Cycling Obstructions
as highlighted by cyclists
Sample Size: 9



Lack of cycling infrastructure



Pedestrians on cycle track



Safety

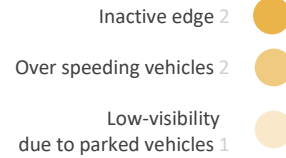
as highlighted by users | 41 people were surveyed | each ● represents 5 responses



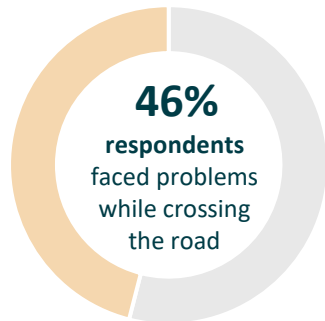
Safety At Night



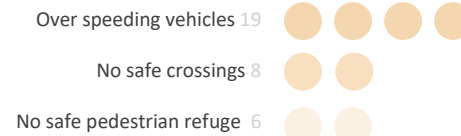
Threats highlighted by respondents



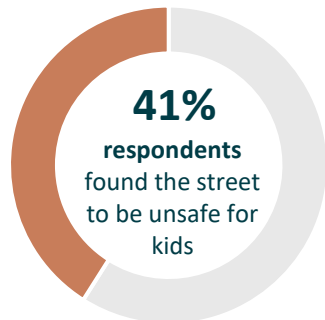
Safety While Crossing



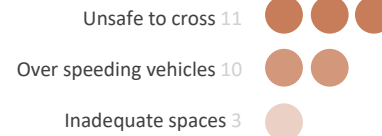
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
and from observation

46% of the respondents
felt that **high vehicular
speeds are a critical
hazard**

Highest Recorded Speed

63 kmph

Most recurring speeds observed



53 kmph
in Two-Wheelers



58 kmph
in Cars

Key Issues in Wardha Road

Recommendations



Location: Rahate Colony Metro Station

Poor integration with Metro: Footpath and Cycle Track continuity not maintained at metro stations. NMT users use the carriageway under the metro stations.

NMC should coordinate with MahaMetro to ensure that there is uniformity in design and materials irrespective of the implementing agency.



Location: Overall along the stretch

Lack of Signages: No signages or paint signs for cyclists to use the cycle track. Cyclists are not aware, and hence cycle tracks are not used.

Signages indicating cycle tracks, crossings, parking and other amenities should be installed for better communication and legibility.



Location: Opposite Jail

Lack of seating: No seating provided at the LHS of Ajni Sq to Rahate Colony Sq. People feel unsafe at night due to inactive edges.

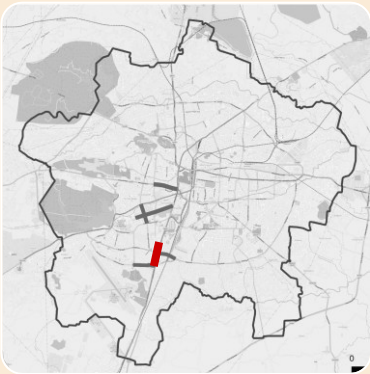
NMT zone should be designed with appropriate lighting around seating. Seatings should be added at an interval of 50m.

7 Wardha Road

Vivekanand Sq to
Jaiprakashnagar Sq

Wardha Road was classified as a highway, and is now a major arterial connecting central and southern parts of the city. The street also has a metro line constructed on it. The street runs through mixed-use and institutional land use. The selected stretch has as active commercial and mixed-use land use along with two metro stations. The street was recently designed to have a footpath and cycle track. Due to various property ramps and encroachments, the footpath is largely unusable, and the cycle track is being used by all pedestrians.

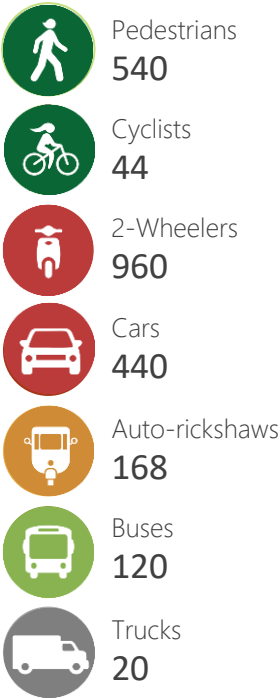
Character
Arterial road with mixed-use
and institutional character
Right-of-Way
36 m
Selected Length for Study
1.2 km



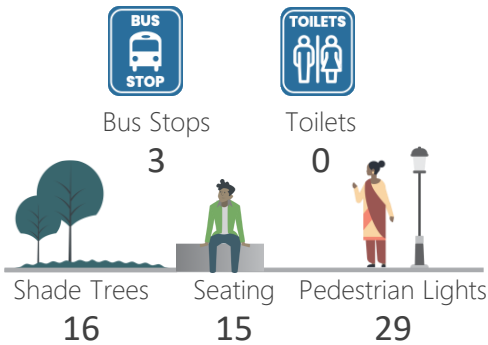
Design Score 6.25/10 • Observation Score 6.25/10 • Perception Score 6.25/10



Volume Counts

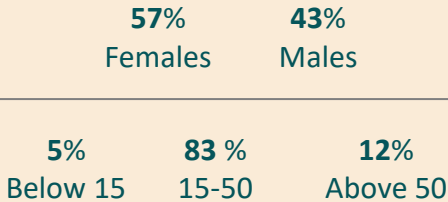


Amenities



58 respondents

For the perception survey





Safe crossing infrastructure at junctions



Shaded NMT zone



Safe access to public transport



Discontinuous footpaths



Vending encroachment

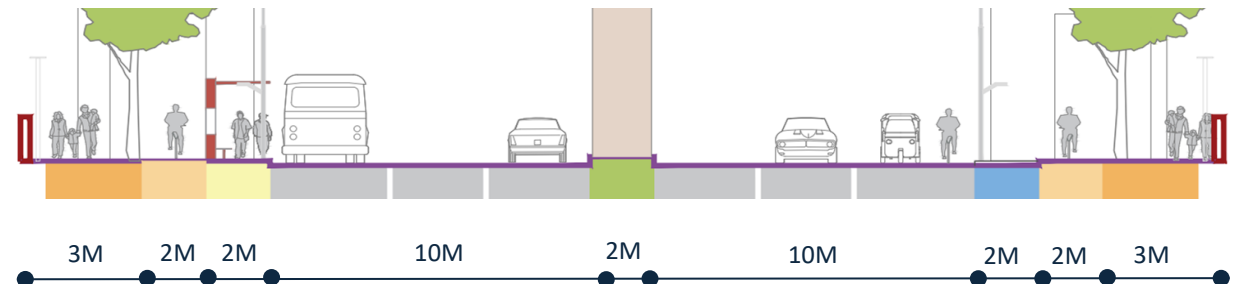


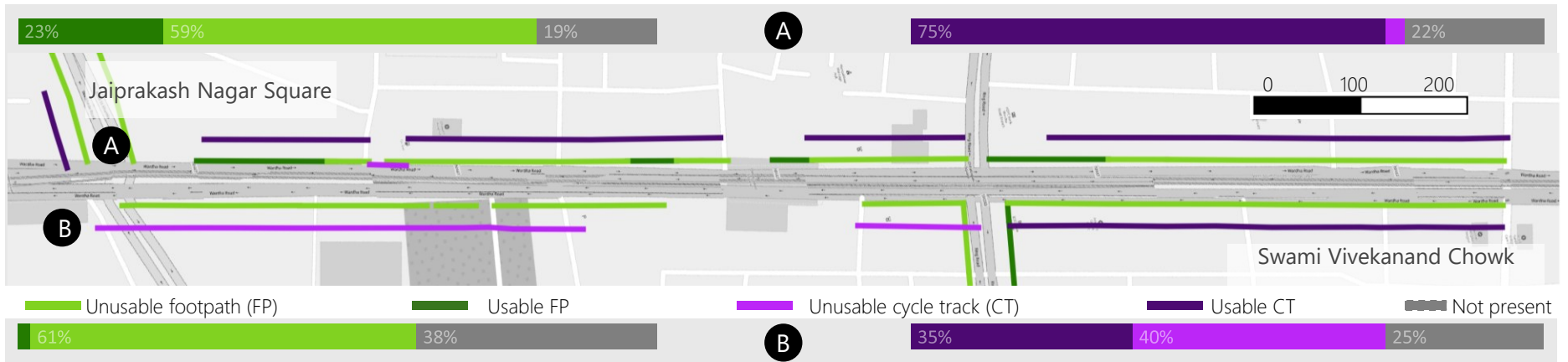
Poor detailing at Metro Stations



I cycle around 5 km to college every day. I love cycling on this road, **but it is difficult to cycle around crossings and junctions.** It is difficult to manoeuvre around encroachments.

- Female, cyclist (15-50 years)

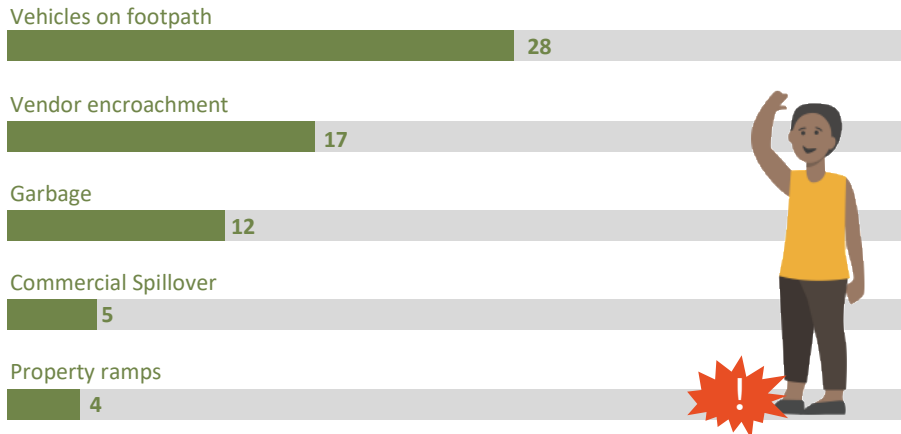




Around 60% of the pedestrians observed, didn't walk on the footpath!

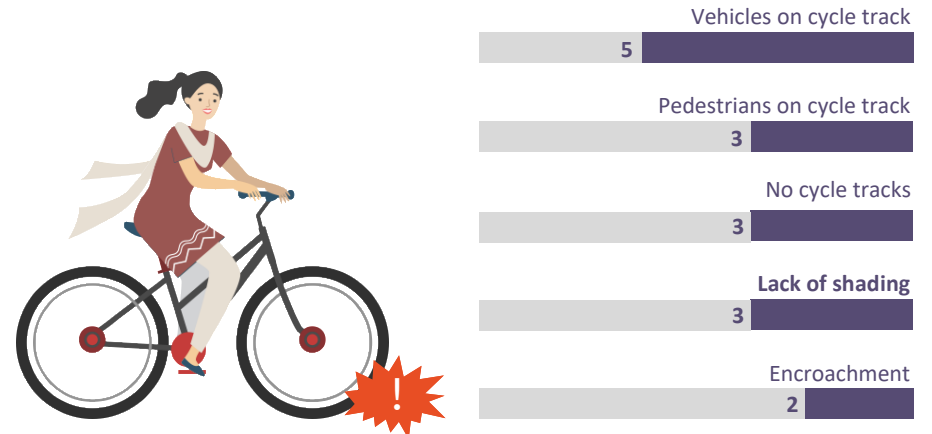
Walking Obstructions

as highlighted by pedestrians
Sample Size: 50



Cycling Obstructions

as highlighted by cyclists
Sample Size: 8



Safety

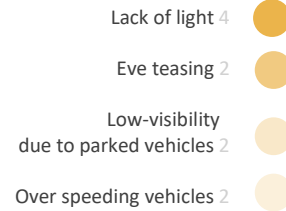
as highlighted by users | 58 people were surveyed | each ● represents 5 responses



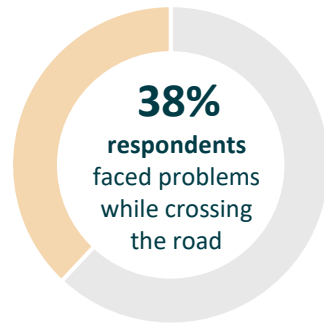
Safety At Night



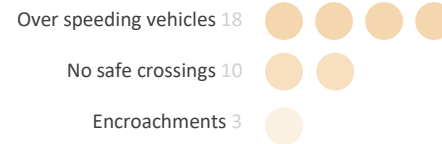
Threats highlighted by respondents



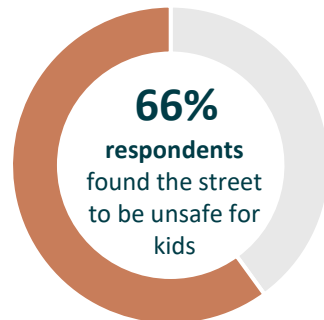
Safety While Crossing



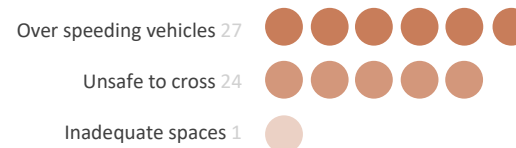
Threats highlighted by respondents



Safety For Kids



Threats highlighted by respondents



Speed

as highlighted by users
and from observation

31% of the respondents
felt that **high vehicular
speeds are a critical
hazard**

Highest Recorded Speed

63 kmph

Most recurring speeds observed



53 kmph
in Two-Wheelers



58 kmph
in Cars

Key Issues in Wardha Road

Recommendations



Poor Design: Property entrance ramps have rendered the footpath useless and have forced pedestrians to walk on cycle track or on the carriageway.

Design bulb-outs and use the same wherever ramps are intrusive to maintain continuity:
In extreme cases merge footpath and cycle track with proper signage, and use residual space for placemaking.



Encroachment: Stretches with commercial edge are encroached by vehicles for parking.

Install parking signage mentioning “Parallel Parking only”
NMC should plan for area level parking plan, and onboard parking management agency to enforce these plans



Lack of contextual Design: No infrastructure designed for high volume of people boarding the bus near Chhatrapati Square. People have to stand and wait on the carriageway.

Bus stops should be located at least 30m from the junction.

Bus stops (with signage) should be installed at the footpath or MUZ edge, where parking is not designed.

