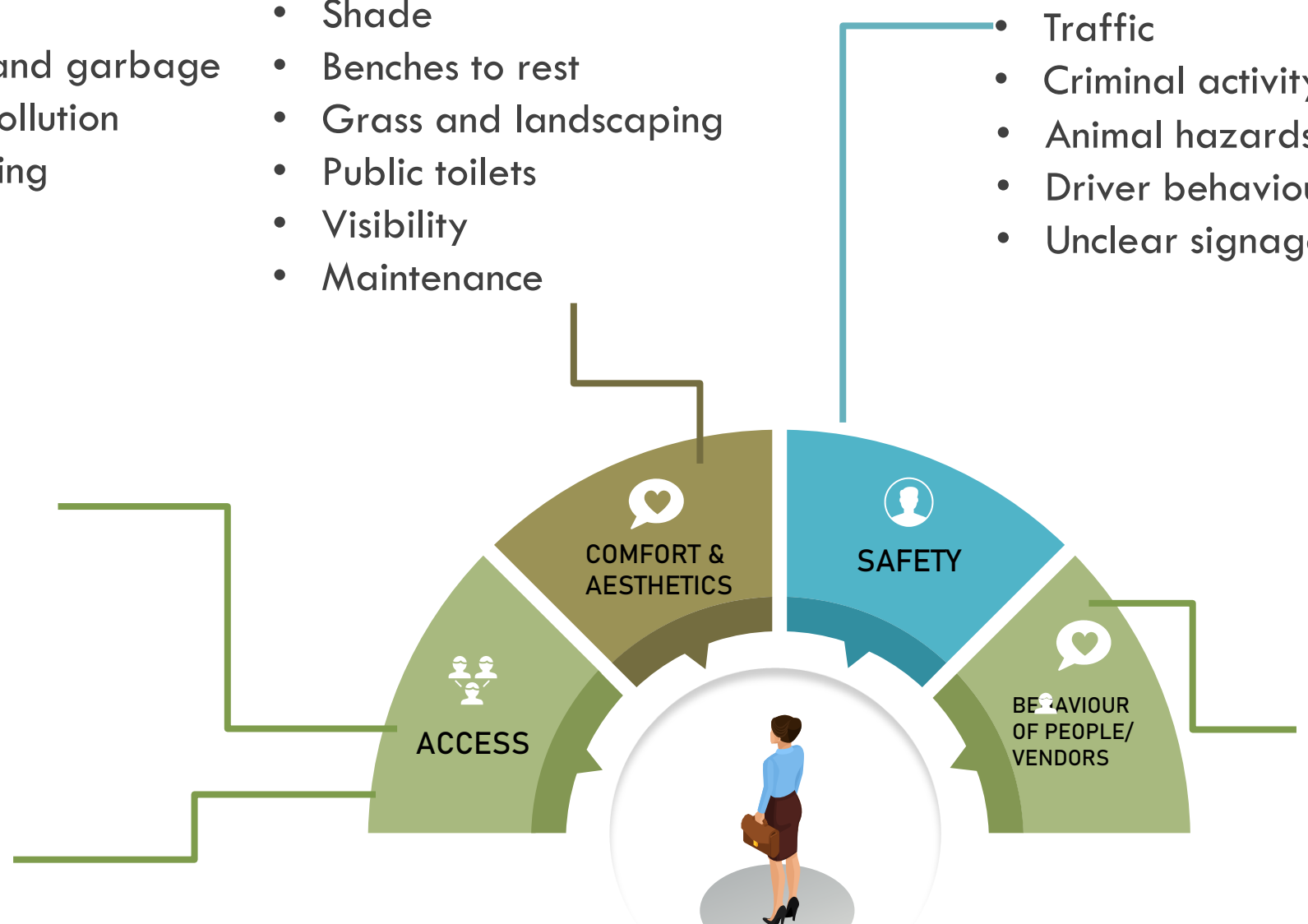
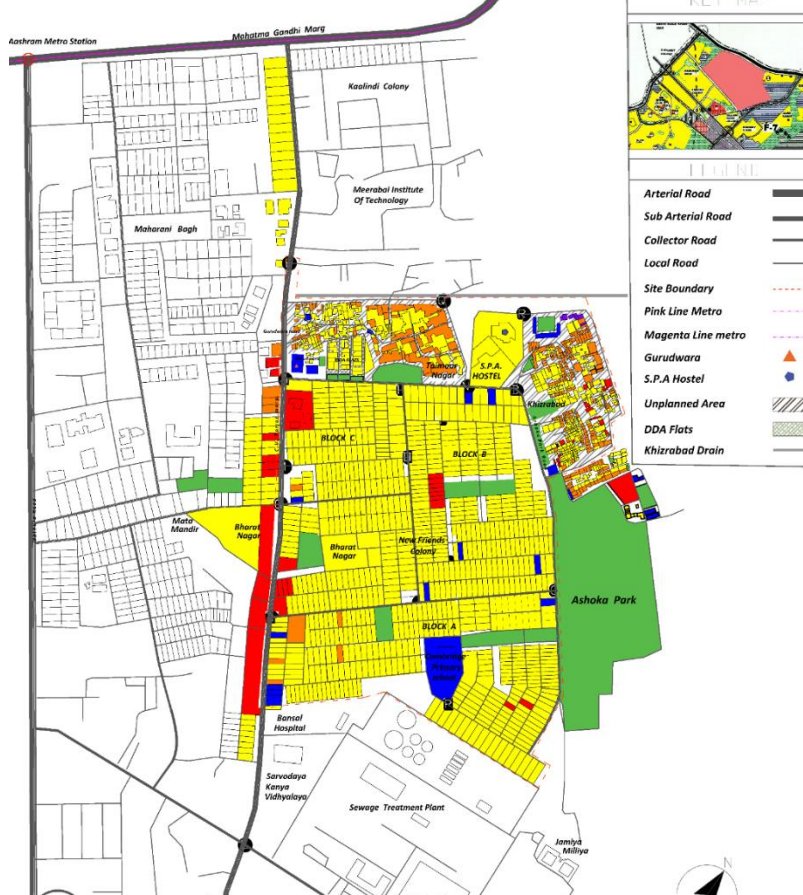
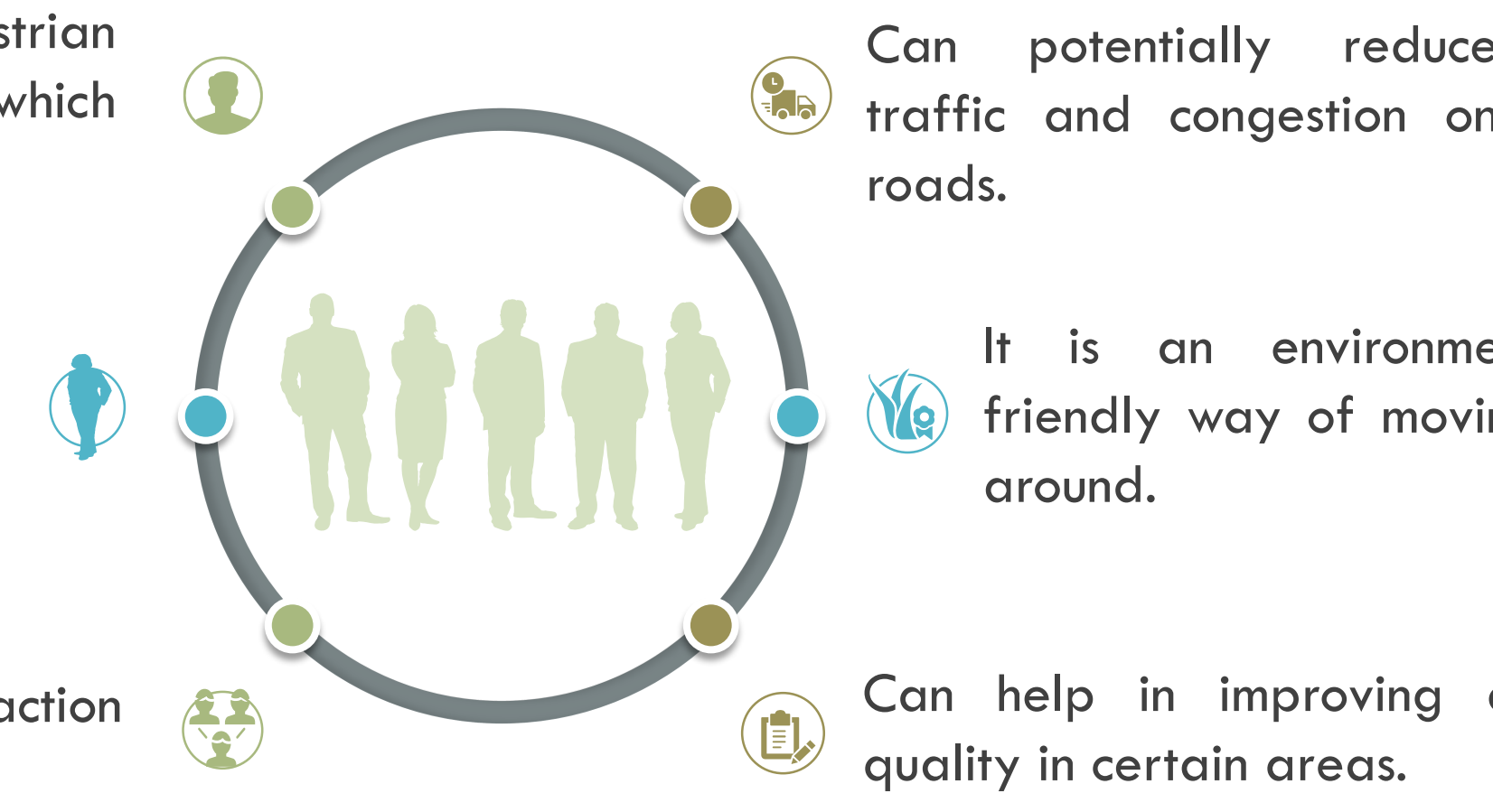
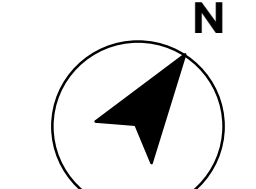


AIMS AND OBJECTIVES	BROAD PROCESS	FACTORS AFFECTING WALKABILITY		KEY MAP																								
• To understand all the factors that affect the walkability of an area in the context of our study area. • To create a “Walkability Index” of our own with context to our study area and measure the walkability of the different streets present within our study area. • To relate the results of our analysis with the results of the other transport surveys conducted this semester. • To ultimately provide proposals for the overall improvement of the area to help and create a more pedestrian-friendly and safe environment.	Identifying aims and objectives Literature study Reco survey of context area Delineation of study area Data collection Data analysis Drawing conclusions Proposals	Walkability is a measure of how friendly an area is to walking, or how walk friendly or pedestrian friendly an area is. Walkability Index is “a tool to gather information about street conditions to assess how supportive it is for walking.” • Usually a checklist is used for assessment. • Involves surveying a pre-planned route. • No litter and garbage • Less air pollution • Landscaping • Shade • Benches to rest • Grass and landscaping • Public toilets • Visibility • Maintenance • Presence of buffers • Traffic • Criminal activity • Animal hazards • Driver behaviour • Unclear signage • suspicious loitering • conflicts b/w pedestrians/vendors/mot orists • littering in presence of dustbins • walking on road in presence of footpath • Evening markets obstructing pedestrian movement • vendors obstructing pedestrian movement • Presence of paths • Crosswalks at intersections • Foot-over-bridges • Accessibility to crosswalks/zebra crossing • Quality of sidewalks/paths. • Access for senior citizens, persons with disabilities. 																										
NEED FOR INCREASIG WALKABILITY	FINAL GROUPING OF PARAMETERS																											
A few reasons to increase walkability in our cities are given below. Creates a pedestrian friendly environment which is safe to be in. Gives people an opportunity to live a healthy lifestyle with exercise opportunities.. Increases social interaction between people. An immediate need for improving the walkability of the overall study area. Pedestrians must be given equal importance to motorists, as at least 25% and sometimes 50% of the people in large cities (population 5 million) in India travel most frequently by foot. 	<table><tr><th colspan="2">ADEQUACY OF INFRASTRUCTURE</th><th colspan="2">QUALITY OF INFRASTRUCTURE</th></tr><tr><td colspan="2">1. Footpath width 2.Kerb height 3.Median height 4.Median width 5.Dead width at bus stops</td><td colspan="2">1. maintenance and condition of footpath 2. continuous footpath 3. drains 4. obstructions: vendors, parking, trees/landscaping, others.</td></tr><tr><th colspan="2">CROSSINGS AND INTERSECTIONS</th><th colspan="2">DRIVER BEHAVIOUR AND SAFETY</th></tr><tr><td colspan="2">1. zebra crossing 2. gaps in median for crossing 3. pedestrian signals: at intersections, for pedestrians only 4. on street parking obstructing pedestrian crossing</td><td colspan="2">1. vehicles stopping for pedestrians: at crossings, for pedestrians, at signals, at stop signs 2. motorists using footpath 3. well lit streets after dark 4. animal hazards</td></tr><tr><th colspan="2">COMFORT, APPEAL, AESTHETICS</th><th colspan="2">BEHAVIOUR OF PEOPLE/VENDORS</th></tr><tr><td colspan="2">1. amenities: benches, dustbins, shelter at bus stop, public toilets 2. cleanliness of overall area 3. landscaping</td><td colspan="2">1. suspicious loitering 2. conflicts b/w pedestrians/vendors/motorists 3. littering in presence of dustbins 4. jaywalking in presence of zebra crossings 5. walking on road in presence of footpath 6. weekly markets obstructing pedestrian movement 7. Evening markets obstructing pedestrian movement 8. vendors obstructing pedestrian movement 9. pedestrian congestion</td></tr></table>				ADEQUACY OF INFRASTRUCTURE		QUALITY OF INFRASTRUCTURE		1. Footpath width 2.Kerb height 3.Median height 4.Median width 5.Dead width at bus stops		1. maintenance and condition of footpath 2. continuous footpath 3. drains 4. obstructions: vendors, parking, trees/landscaping, others.		CROSSINGS AND INTERSECTIONS		DRIVER BEHAVIOUR AND SAFETY		1. zebra crossing 2. gaps in median for crossing 3. pedestrian signals: at intersections, for pedestrians only 4. on street parking obstructing pedestrian crossing		1. vehicles stopping for pedestrians: at crossings, for pedestrians, at signals, at stop signs 2. motorists using footpath 3. well lit streets after dark 4. animal hazards		COMFORT, APPEAL, AESTHETICS		BEHAVIOUR OF PEOPLE/VENDORS		1. amenities: benches, dustbins, shelter at bus stop, public toilets 2. cleanliness of overall area 3. landscaping		1. suspicious loitering 2. conflicts b/w pedestrians/vendors/motorists 3. littering in presence of dustbins 4. jaywalking in presence of zebra crossings 5. walking on road in presence of footpath 6. weekly markets obstructing pedestrian movement 7. Evening markets obstructing pedestrian movement 8. vendors obstructing pedestrian movement 9. pedestrian congestion	
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				GROUP NAME WALKABILITY AUDIT SHEET TITLE: INTRODUCTION TO WALKABILITY SCALE:  GROUP MEMBERS Trisha Samreen Aatish SHEET NO. 1 Bachelor of Physical Planning 3RD SEMESTER School of Planning and Architecture, New Delhi 																								

SCORING METHODOLOGY

Each score card contains factors or parameters that determine the walkability of a street. These factors are scored according to the given scoring system below:

All factors are scored out of 5 in sections:

Quality of street infrastructure

Crossings and intersections

Driver behaviour and safety

Comfort, appeal and aesthetics

All factors are scored out of 3 in sections:

Adequacy of street infrastructure, and

Behaviour of People/vendors

The scores for each factor are then added up to get the TOTAL SCORE of the SECTION.

The total score is then converted to a score out of 10 for ease of understanding.

The scores of all sections are then added (out of 60) and the total overall score is also calculated out of 10.

A group was to conduct the audit on a stretch of a street, in BOTH DIRECTIONS.

ONLY qualitative factors were scored during the audit. Quantitative factors were borrowed from cross section group to conduct the scoring.

IMPORTANT NOTES									
The final scoring will be presented in a table of this given form, where scores for each section for every single street can be seen. The AVERAGE SCORE of the two directions of each street will be used for final scoring.									
	street code	Adequacy of infrastructure	Quality of infrastructure	crossings and intersections	driver behaviour, safety	Comfort appeal aesthetics	behaviour of people	TOTAL out of 60	total out of 10
CV Raman	AF								
	AD								
	DE								
Gurdwara, JD Musafir	AH								
	HB								
	BC								
	DC								
NFC	KL								
	IP								
	HJ								
	MO								
Villages	NQ								
	BR								

Dashes (-) have been given to certain factors that are either not needed in the area, or to sub categories that are not relevant/not applicable. For example, “public toilets” and “shelter at bus stop” is not needed inside NFC, hence the score card for NFC streets for the section “Comfort, appeal and aesthetics” will look like:

	CATEGORY	amenities				cleanliness of overall area	landscaping	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code	benches	public toilets	shelter at bus stop	dustbins					
NFC	KL	x	-	-	a	b	c	x + a +b + c	P	X
	IP	y	-	-	f	e	d	y +f +e + d	Q	
	HJ	z	-	-	g	h	i	z + g +h + l	R	
	MO	a	-	-	j	k	l	a +j + k +l	S	

METHODOLOGY

Adequacy of street infrastructure

Factor		Footpath	Median		kerb height	Dead width at bus stops			
		i. Width	i. height	ii. width	i. height	i. width			
SCORE	1	Absent ,or Extremely inconvenient							
	2	present but does not meet the standard							
	3	Present and meets the standard							

Quality of street infrastructure

Factor		1. walk friendly pavement material	2. maintenance of pavement	3. continuous footpath	4. drains	5. obstructions			
						i. vendors	ii. Parking	iii. Trees	iv. Others
SCORE	1	no pavement	No pavement	no footpath	Fully drains along footpath.	obstructions present on over 80% of footpath stretch			
	2	Pavement material not walk friendly. Uneven, too slippery, too rough, reflects light straining eyes.	Very irregular maintenance, and bad condition of pavement.	Discontinuous footpath. Covers less than 40% of the stretch	Partially drains along over 60% of footpath stretch causing difficulty in walking with ease	obstructions present on 60 - 80% of footpath stretch			
	3	Material used does not cause difficulty in walking.	maintenance irregular.	footpath somewhat discontinuous. Covers only 40 - 50% of the stretch	drains along 40 - 60 % of footpath stretch	obstructions present on 40 - 60% of footpath stretch			
	4	Material used e-les walking. Is even, flat, has enough texture for grip, etc.	Maintained regularly, but does not reflect in condition of pavement	continuous footpath covering 50-80% of the stretch	drains along up to 40 % of footpath stretch	obstructions present on up to 40% of footpath stretch			
	5	Material used is excellent and even enables persons with disabilities to walk/travel with ease.	Maintained regularly, and reflects in condition of pavement	Continuous footpath covering 80% (or above) of the stretch	Fully closed drains.	No obstructions on footpath.			

Crossings and intersections

Factor		1. Zebra crossing	i. Gaps in median for crossing	3. Pedestrian signals		4. time for crossing through pedestrian signal		5. on street parking obstructing pedestrian crossing
				i. at intersections	ii. For pedestrians only	i. at intersections	ii. For pedestrians only	
SCORE	1	No zebra crossing present	Gap not present	not present.	not present	Not present	Not present	vehicles blocking over 80% of street
	2	Zebra crossing is present but not visible or accessible.	Gaps less that 1m wide.	present but not working	present butnot working	have to run to crossin time	have to run to crossin time	vehicles blocking 60-80% of street
	3	Zebra crossing present and is visible but not accessible to pedestrians and pwd easily.	gap less that 1.2 m wide and accessible to pedestrians but not pwd	present and working but not visible/audible	present and working but not visible/audible	Not enough time to cross walking at a comfortable pace	Not enough time to cross walking at a comfortable pace	vehicles blocking 40-60% of street
	4	zebra crossing is present, visible and accessible to pedestrians but not pwd.	Gap 1.2 m wide and accessible to pedestrians but not pwd (no ramps)	present and working and visible but confusing.	present and working and visible but confusing.	enough time for pedestrians to cross comfortably but not pwd	enough time for pedestrians to cross comfortably but not pwd	vehicles blocking up to 40% of street
	5	Zebra crossing present and is visible and accessible to pedestrians and pwd easily.	Gap is at least 1.8 m wide, accessible to pwd, has ramps if a different height than road.	present, working, clear and visible.	present, working, clear and visible.	Enough time for pwd to cross comfortably.	Enough time for pwd to cross comfortably.	No on street parking.

Driver behaviour and safety

Factor		1. vehicles stopping for pedestrians			2. motorists using footpath	3. well lit streets after dark	4. animal hazards
		i. At zebra crossings	ii. For pedestrians	iii. At stop signs			
SCORE	1	Do not stop at all	Do not stop at all	Do not stop at all	20 motorists or more driving on footpath in 15 min slot	no street lights	over 10 unleashed animals are present on the stretch of the street at that time
	2	upto 40% of vehicles observed at that time stop for pedestrians	Up to 40% of vehicles observed at that time stop for pedestrians	upto 40% of vehicles observed at that time stop for pedestrians	up to 15 motorists driving on footpath in 15 min slot	street lights are present but over 60% are not working / discontinuous	5 - 10 unleashes animals are present on the stretch of the street
	3	40-60% of vehicles stop for pedestrians	40-60% of vehicles stop for pedestrians	40-60% of vehicles stop for pedestrians	upto 10 motorists using footpath in 15 minutes	present but 40 -60% are not working/ 40-60% of street is dark	up to 5 unleashed animals are present on the stretch of the street
	4	60 - 80% of vehicles stop for pedestrians	60 - 80% of vehicles stop for pedestrians	60 - 80% of vehicles stop for pedestrians	upto 5 motorists using footpath 15 minutes	less than 40% are not working	1 or 2 unleashed animals are present on the stretch of the street
	5	At least 80% of vehicles stop for pedestrians at a zebra crossing	At least 80% of vehicles stop for pedestrians	At least 80% of vehicles stop for pedestrians	No motorists driving on the footpath	Streets well lit by continuous street lights. Footpath obstructions, and road are clearly visible after dark.	No unleashed animals present on the stretch of the street

Comfort, appeal, aesthetics

Factor		1. amenities				2. cleanliness of the overall area	3. landscaping
		i. benches	ii. Public toilets	iii. Shelter at bus stops	iv. Dustbins		
SCORE	1	No benches present	no public toilets	no shelter at bus stop	No dustbins	Not clean. Bad odour. Visible litter. Not pedestrian friendly. On over 80% of street stretch	No vegetation.
	2	benches present at very irregular intervals, not accessible	public toilets not usable.	Shelter not maintained well. Broken, dirty, etc.	present at irregurlar intervals, but not visible/accessible to people	Not very clean, visible litter on 60 - 80% of stretch street	Vegetation present but no landscaping
	3	benches present at irregular intervals but accessible	public toilets present, but not visible/accessible	Shelter not enough for more than 10 people.	present at irregular intervals, but visible and accessible to people	litter present on 40-60% of street stretch	Landscaping visibly present but not well maintained
	4	benches present at regular intervals, not accessible	Public toilets present at easily accessible places and visible.	Shelter present at bus stopand not maintained well.	Present at regular intervals but not visible/accessible to people	clean, pedestrain friendly, litter present only on upto 40% of street stretch.	Landscaping well maintained
	5	Benches present at regular intervals , easily accessible even to pwd	Pubic toilets present at easily accessible places and accessible to pwd.	Shelter present at bus stop of good quality and maintained well. enables people to sit in shade.	Dustbins present at regular intervals, visible, and accessible	Very clean, no litter, bad odour.	Landscaping making the area beautiful and encouraging pedestrians to walk though that area.

Behaviour of people/vendors

Factor		1. suspicious loitering	2. conflicts b/w pedestrians/vendors/motorists	3. littering in presence of dustbins	4. jaywalking in presence of zebra crossings	5. walking on road in presence of footpath	6. weekly markets obstructing pedestrian movement	7. Evening markets obstructing pedestrian movement	8. pedestrian congestion
SCORE	1	very suspicious behaviour	more than 2 conflicts observed over that stretch of the street at the time of survey	Almost every pedestrian observed littering in the time interval of the survey	Almost nobody using zebra crossing to cross	Almost no pedestrian walking on footpath	Weekly markets held over 50% stretch of the footpath causing conflict/obstruction to pedestrians	evening markets held on/obstructing 50% stretch of the footpath causing conflict/obstruction to pedestrians	extreme pedestrian congestion leading them to walk on roads
	2	neutral	1-2 conflicts observed on thestretch of street at the time of survey	a few people observed littering in the particular time interval	Few people jaywalking in presence of zebra crossing	Few pedestrians walking on the street in the presence of footpath	weekly marets held on less than 50% stretch of the footpath	evening marets held on/obstructing less than 50% stretch of the footpath	pedestrian congestion leading 50 % of them to walk on roads
	3	No suspicious loitering	no conflicts observed at the time of survey	No littering in presence of dustbins observed during the time interval	No jaywalking in presence of zebra crossing	All pedestrians walking on the footpath only	No weekly markets held on footpath	No evening markets held/ on footpath/ obstructing pedestrian movement	Less pedestrian congestion e-bling all pedestrians to walk on footpath

KEY MAP

LEGEND

GROUP NAME

WALKABILITY AUDIT

SHEET TITLE:

METHODOLOGY SHEET

GROUP MEMBERS

Trisha Samreen Aatish

SHEET NO.

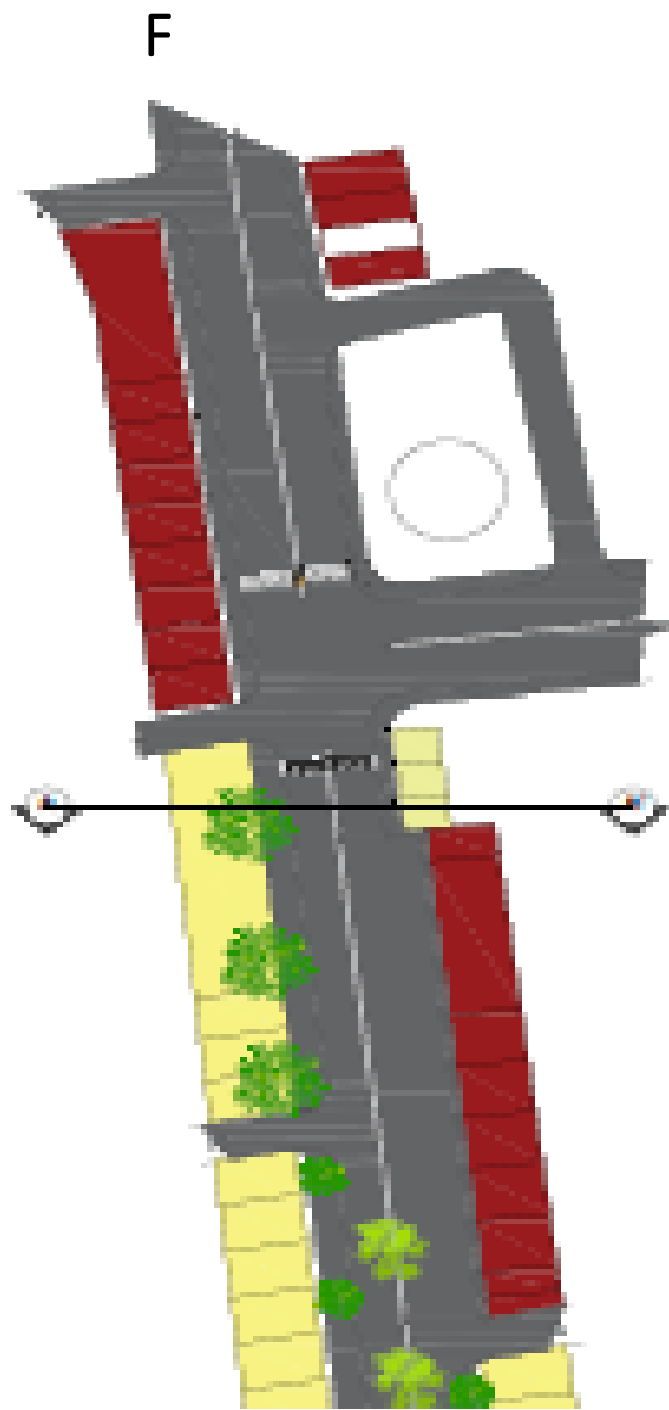
2

Bachelor of Physical Planning

3RD SEMESTER

School of Planning and Architecture, New Delhi

STREET PLAN AND PICTURES



A



Obstruction on footpath



Obstruction on footpath



A

STREET F TO A : IN DETAIL SCORING ON ALL SCORE CARDS

This detailed scoring is done for the street FA, which is a part of CV Raman Marg.

ADEQUACY OF STREET INFRASTRUCTURE (OUT OF 12)

STREET F TO A (CV RAMAN MARG)TOTAL															
directi on	F TO A					A TO F					MEDIAN				DEAD WIDTH
S.NO	Footpat h (P/A)	FPW(m)	SCOR E	KH (cm)	SCOR E	footp ath(P/ A)	FPW(m)	SCOR E	KH (cm)	SCOR E	M(H)	SCOR E	M(W)	SCOR E	Width SCORE
1	P	2.4	3	30	2	P	1.5	2	0	1	0.3	2	1.15	3	-
2	P	3.2	3	0	1	P	2.5	3	30	2	0.3	2	1.15	3	-
3	P	2	3	0	1	P	2.5	3	30	2	0.3	2	1.15	3	-
4	P	3	3	0	1	P	2.5	3	30	2	0.3	2	1.15	3	-
5	P	3.4	3	0	1	P	2.7	3	30	2	0.3	2	1.15	3	-
6	P	2	3	15	3	P	2	3	30	2	0.3	2	1.15	3	-
7	P	3	3	30	2	P	2	3	30	2	0.3	2	1.15	3	-
8	P	2	3	30	2	P	3.3	3	30	2	0.3	2	1.15	3	-
9	P	2	3	30	2	P	2	3	30	2	0.3	2	1.15	3	-
		TOTAL	27		TOTAL	15		TOTAL	26		TOTAL	17		TOTAL	27

SCORE (AF) OUT
OF 10 = 8.1



Footpath width adequate



Median height

ADEQUACY OF STREET INFRASTRUCTURE (OUT OF 35)

S. NO	CATEGORY	SUB CATEGORY	SCORE	
			A TO F	F TO A
1	maintenance and condition of pavement	-	4	3
2	continuous footpath	-	5	4
3	drains		5	4
4	obstructions	vendors	3	3
		parking	4	3
		trees/landscaping	5	5
		others	4	3
TOTAL			30	25

F to A	A to F
SCORE out of 35 = 30	SCORE out of 10 = 25
SCORE out of 10 =8.6	SCORE out of 10 = 7.14

SCORE (AF) OUT OF 10 = 7.8



Obstruction on footpath



Obstruction on footpath



CROSSINGS AND INTERSECTIONS (OUT OF 30)

S. NO	CATEGORY	SUB CATEGORY	SCORE	
			A TO F	F TO A
1	zebra crossing	-	2	2
2	medians on wide roads	median height	3	3
		gaps in median for crossing	2	2
3	pedestrian signals	at intersections for pedestrians only	3	3
		for pedestrians only	1	1
4	on street parking obstructing pedestrian crossing	-	3	3
TOTAL			14	14

F to A	A to F
SCORE out of 30 = 14	SCORE out of 10 = 14
SCORE out of 10 =4.6	SCORE out of 10 =4.6

SCORE (AF) OUT OF 10 = 4.6



On street parking



Median on road with appropriate height

Pictures showing median height on the stretch. Showing on street parking which s obstructing pedestrian movement across a road.

DRIVER BEHAVIOUR AND SAFETY (OUT OF 30)

S. NO	CATEGORY	SUB CATEGORY	SCORE	
			A TO F	F TO A
1	vehicles stopping for pedestrians	at zebra crossings	4	4
		For pedestrians at stop signs	1	1
			1	1
2	motorists using footpath	-	5	5
3	well lit streets after dark	-	5	5
4	animal hazards	-	5	5
TOTAL			21	21

F to A	A to F
SCORE out of 30 = 21	SCORE out of 30 = 21
SCORE out of 10 =7	SCORE out of 10 =7

SCORE (AF) OUT OF 10 = 7

COMFORT, APPEAL AND AESTHETICS (OUT OF 30)

S. NO	CATEGORY	SUB CATEGORY	SCORE	
			A TO F	F TO A
1	amenities	benches	1	1
		public toilets	1	1
		shelter at bus stop	2	2
		dustbins	1	1
2	cleanliness of overall area	-	4	3
3	landscaping	-	3	3
TOTAL			12	11



Pictures showing the dirty area on the stretch. The picture below shows the type of landscaping present.

F to A	A to F
SCORE out of 30 = 12	SCORE out of 30 = 11
SCORE out of 10 =4	SCORE out of 10 =3.6

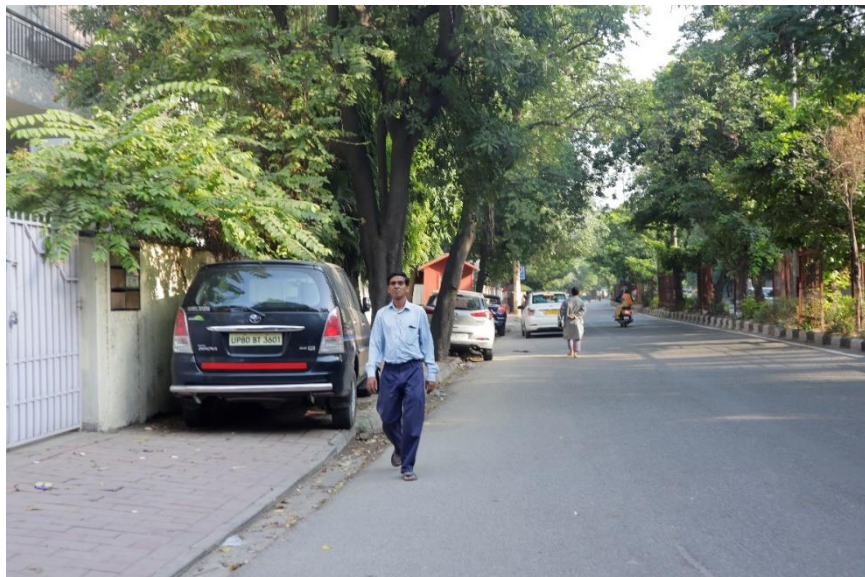
SCORE (AF) OUT OF 10 = 3.8

BEHAVIOUR OF PEOPLE/VENDORS (OUT OF 27)

S. NO	CATEGORY	SCORE	
		A TO F	F TO A
1	suspicious loitering	3	3
2	conflicts b/w pedestrians/vendors/motorists	3	3
3	littering in presence of dustbins	2	2
4	jaywalking in presence of zebra crossings	2	2
5	walking on road in presence of footpath	1	1
6	weekly markets obstructing pedestrian movement	3	3
7	evening markets obstructing pedestrian movement	3	3
8	Vendors obstructing pedestrian movement	3	3
9	Pedestrian congestion	3	3
TOTAL		23	23

F to A	A to F
SCORE out of 27 =8.5	SCORE out of 27 =8.5
SCORE out of 10 =8.5	SCORE out of 10 =8.5

TOTAL SCORE OUT OF 10 = 8.5



Picture shows a man walking on the carriageway in presence of a footpath.

KEY MAP



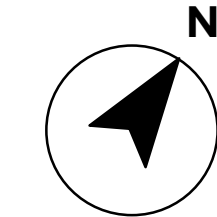
LEGEND

GROUP NAME
WALKABILITY AUDIT

SHEET TITLE:
DETAILED STUDY OF STRETCH
AF

GROUP MEMBERS

Trisha
Samreen
Aatish



SHEET NO.

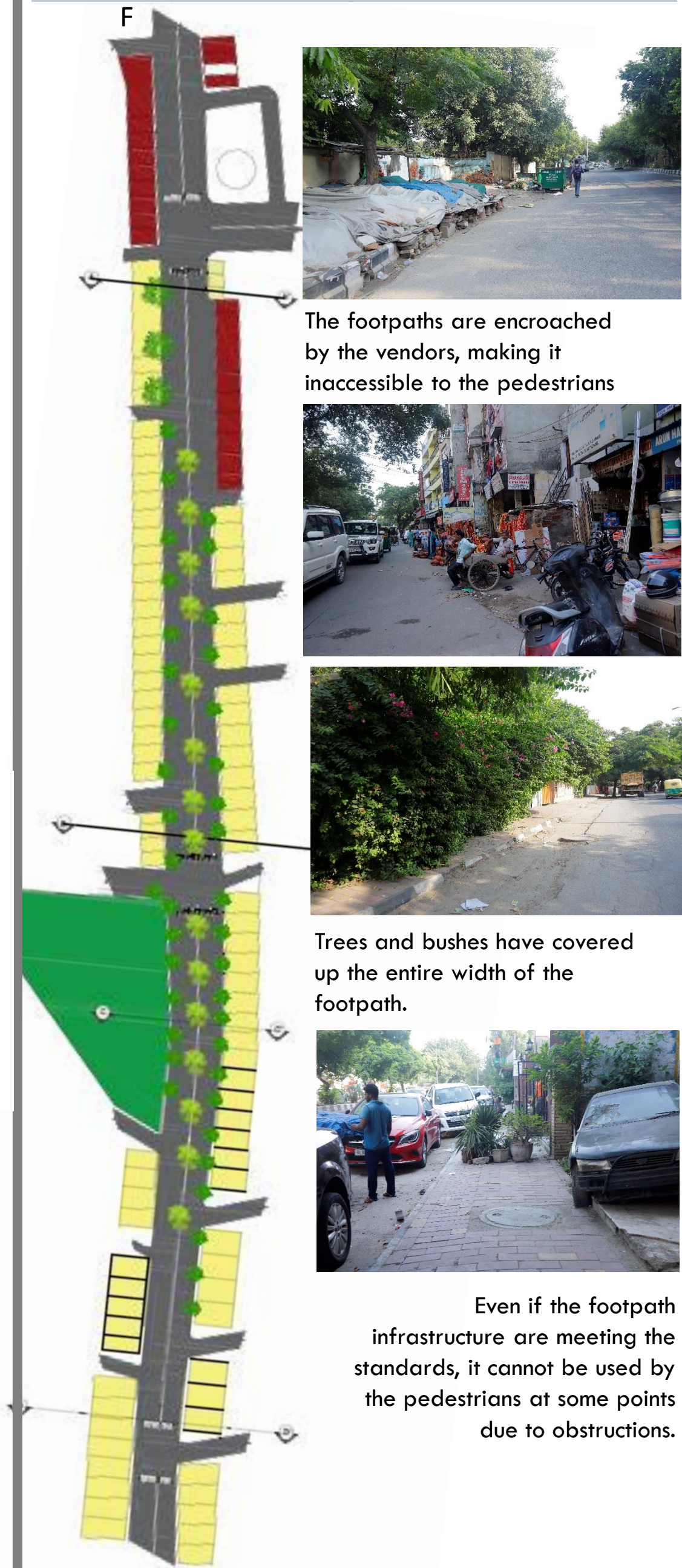
3

Bachelor of Physical Planning
3RD SEMESTER

School of Planning
and Architecture,
New Delhi



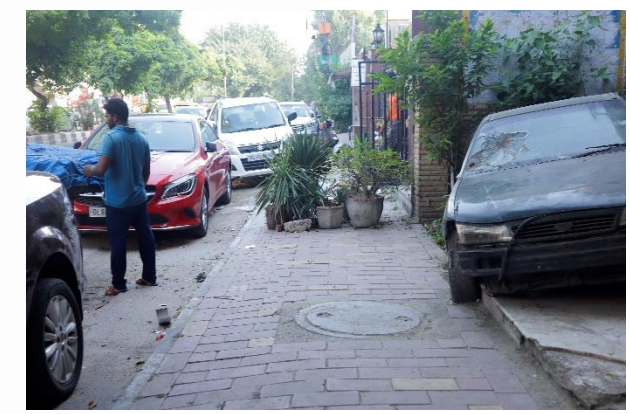
STREET PLAN AND PICTURES



The footpaths are encroached by the vendors, making it inaccessible to the pedestrians



Trees and bushes have covered up the entire width of the footpath.



Even if the footpath infrastructure are meeting the standards, it cannot be used by the pedestrians at some points due to obstructions.



Obstructions on footpaths



CV RAMAN MARG : IN DETAIL SCORING ON ALL SCORE CARDS

ADEQUACY OF STREET INFRASTRUCTURE

	CATEGORY	footpath width	kerb height	Median width	Median height	Dead width at bus stop	total score out of 15	Score out of 10	Avg total score
	street code								
CV Raman	AF	3	2.5	3	2	-	10	8.6	8.3
	AD	2.6	1.7	3	2	-	9.3	7.7	
	DE	3	2.5	2.4	2	3	13	8.6	

*AF and AD are scored out of 12

- The above table shows the scoring for “adequacy of infrastructure” section for CV Raman Marg.
- The average total is 8.3 out of 10 which is a good score. This means that the standards are being followed on the stretches of streets of CV Raman to a large extent.

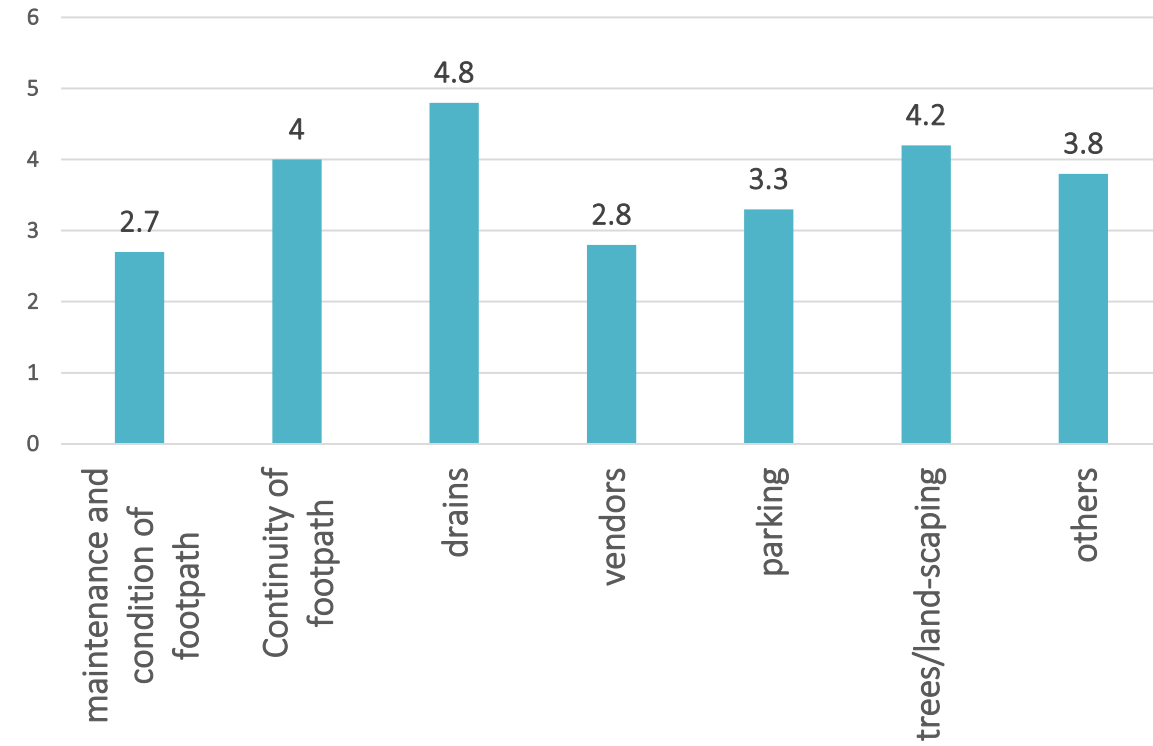
QUALITY OF STREET INFRASTRUCTURE

	CATEGORY	maintenance and condition of footpath	Continuity of footpath	drains	obstructions				TOTAL score out of 35	Score out of 10	Avg total score
	street code				vendors	parking	trees/landscaping	others			
CV Raman	AF	3.5	4.5	4.5	3	3.5	5	3.5	28	8	7.4
	AD	2	3.5	5	2.5	2	3.5	3.5	22	6.3	
	DE	2.5	4	5	3	4.5	4	4.5	28	7.9	

*Each sub category is scored out of 5

- The above table shows the scoring for “quality of infrastructure” section for CV Raman Marg.
- The street has highest score of 4.8 for “drains” which means it has almost NO OPEN DRAINS.

- Lowest score 2 for “maintenance of footpath”.
- Based on scores, the maintenance of footpath and obstructions due to vendors are the most problematic in the area.
- Score of 2.8 for vendors means that 40 – 60% of footpath is covered with vendors making footpath inaccessible to pedestrians.

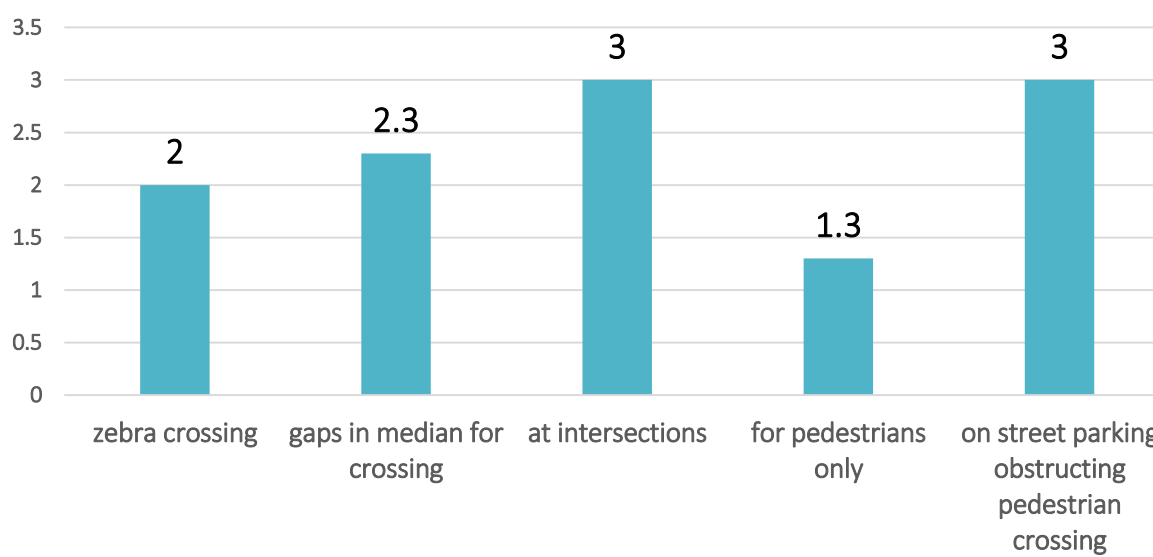


CROSSINGS AND INTERSECTIONS

	CATEGORY	zebra crossing	gaps in median for crossing	pedestrian signals		on street parking obstructing pedestrian crossing	Total Score (Out Of 25)	Score out of 10	Avg total score
	street code			at intersections	for pedestrians only				
CV Raman	AF	2	2	3	1	3	11	4.4	4.7
	AD	2	3	2	1	3	11	4.4	
	DE	2	2	4	2	3	13	5.2	

*Each sub category is scored out of 5

- The above table shows the scoring for “crossings and intersections”.
- The street has highest score of 3 for “on street parking” and presence of “pedestrian signals at intersections”.
- This means 40% of street is covered with parked vehicles making crossing for pedestrians difficult. The pedestrian signals though present are either not properly visible, audible, or are not working properly.



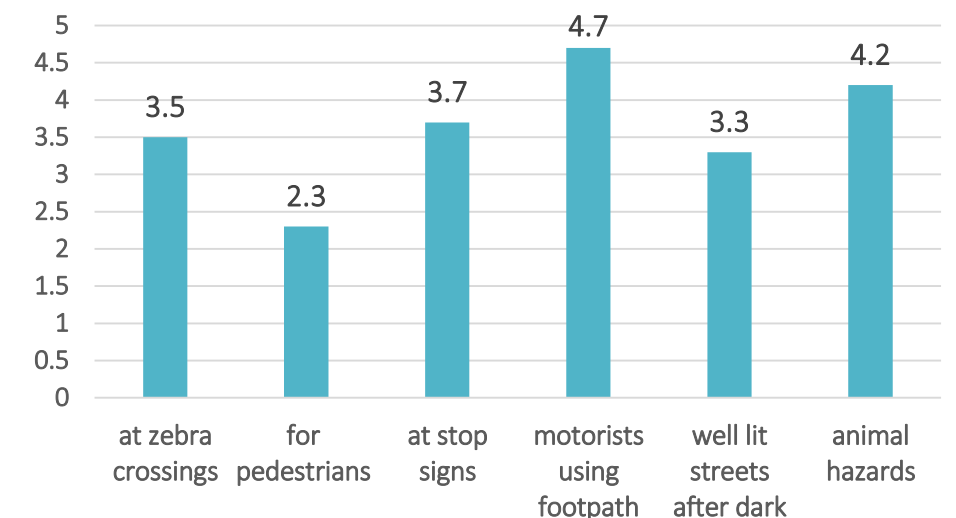
- Lowest score 1.3 is for presence of “pedestrian signals for pedestrians only”. This means that mid block crossing are not present on cv Raman Marg at regular intervals.

DRIVER BEHAVIOUR AND SAFETY

	CATEGORY	vehicles stopping for pedestrians			motorists using footpath	well lit streets after dark	animal hazards	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code	at zebra crossings	for pedestrians	at stop signs						
CV Raman	AF	4	1	1	5	3	5	19.5	6.5	7.4
	AD	3.5	1	5	4	3	3.5	20	6.7	
	DE	3	5	5	5	4	4	26	8.7	

*Each sub category is scored out of 5

- The above table shows the scoring for “driver behaviour and safety”.
- The highest score is 4.7 for “motorists using footpath” which means almost no motorist is driving on the footpath on CV Raman Marg.
- Lowest score is 2.3 for “vehicles stopping for pedestrians”. This shows that the general attitude of motorists towards pedestrians is poor.
- Average of the total section for the street is 7.4 which is an average score and indicates the need for improvement in the area.

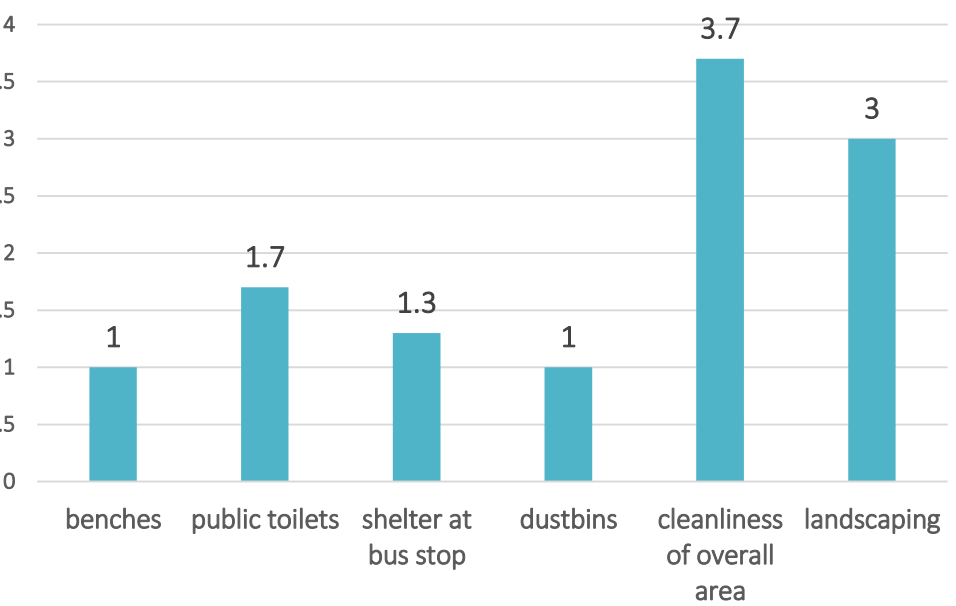


COMFORT, APPEAL AND AESTHETICS

	CATEGORY	amenities				cleanliness of overall area	landscaping	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code	benches	public toilets	shelter at bus stop	dustbins					
CV Raman	AF	1	1	2	1	3.5	3	11.5	3.8	3.73
	AD	1	1.5	1	1	3.5	3	11	3.7	
	DE	1	1	1	1	4	3	11	3.7	

*Each sub category is scored out of 5

- The above table shows the scoring for “comfort, appeal and aesthetics” section for CV Raman Marg.
- The street has lowest scores for amenities.
- There are NO BENCHES, ONLY ONE PUBLIC TOILET, SHELTER AT ONE BUS STOP, AND NO DUSTBINS on the whole stretch of CV Raman Marg.
- These amenities are needs for pedestrians' comfort, which are absent, making the walking experience much less comfortable.

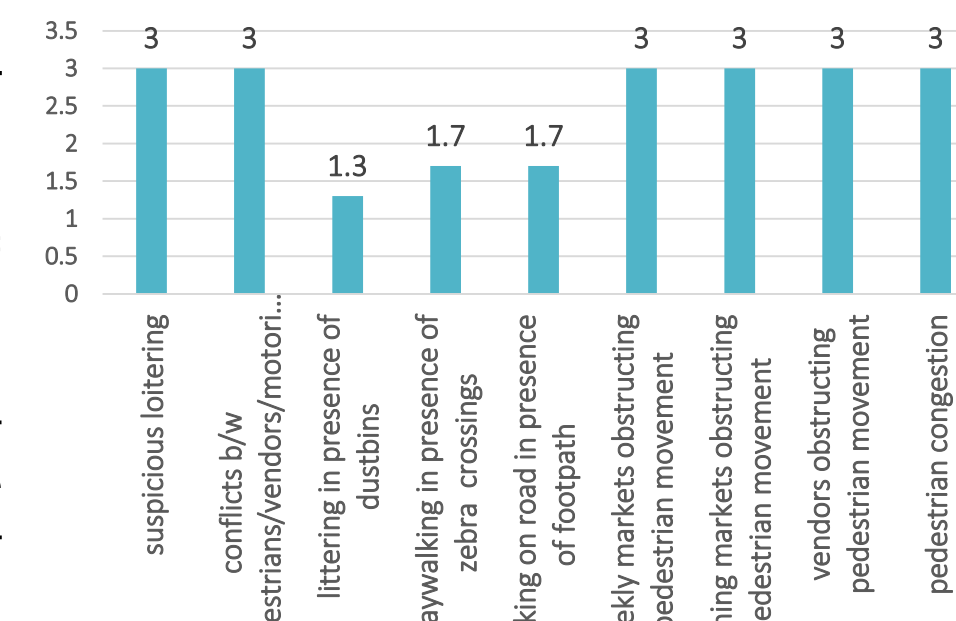


BEHAVIOUR OF PEOPLE/VENDORS

	CATEGORY	suspicious loitering	conflicts b/w pedestrians/vendors/motorists	littering	jaywalking in presence of zebra crossings	walking on road in presence of footpath	weekly markets obstructing pedestrian movement	Evening markets obstructing pedestrian movement	vendors obstructing pedestrian movement	pedestrian congestion	total score (out of 27)	Score Out Of 10	Avg total score
	street code												
CV Raman	AF	3	3	2	2	1	3	3	3	3	23	8.5	8.4
	AD	3	3	1	1	2	3	3	3	3	22	8.1	
	DE	3	3	1	2	2	3	3	3	3	23	8.5	

*Each sub category is scored out of 3

- The above table shows the scoring for “behaviour of people/vendors” section for CV Raman Marg.
- The street has highest score of 3 for most parameters.
- Lowest are 1.3 and 1.7 for “littering” and “jaywalking” and “walking on road in presence of footpath”. This means people are not following rules, and using facilities provided for them.
- Jaywalking, walking on road is more convenient for people due to quality of infrastructure provided and other factors like motorist behaviour.



KEY MAP



LEGEND

GROUP NAME
WALKABILITY AUDIT

SHEET TITLE:
STUDY OF CV RAMAN MARG

GROUP MEMBERS

Trisha
Samreen
Aatish

SHEET NO.

4

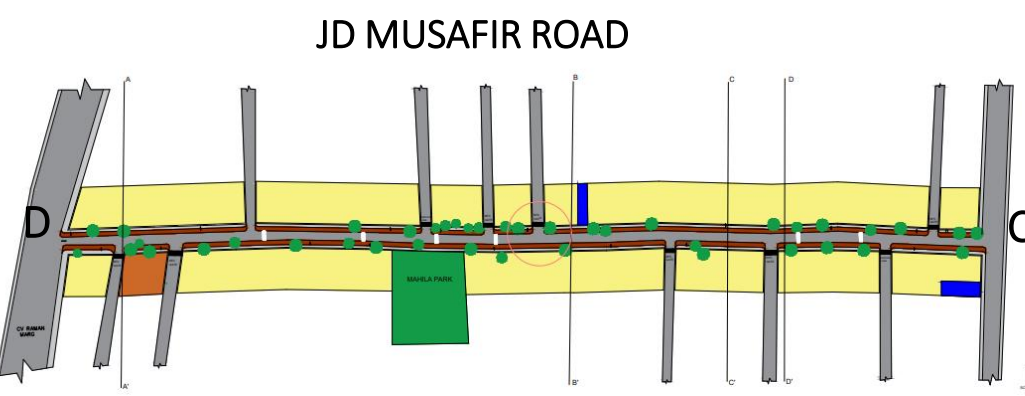
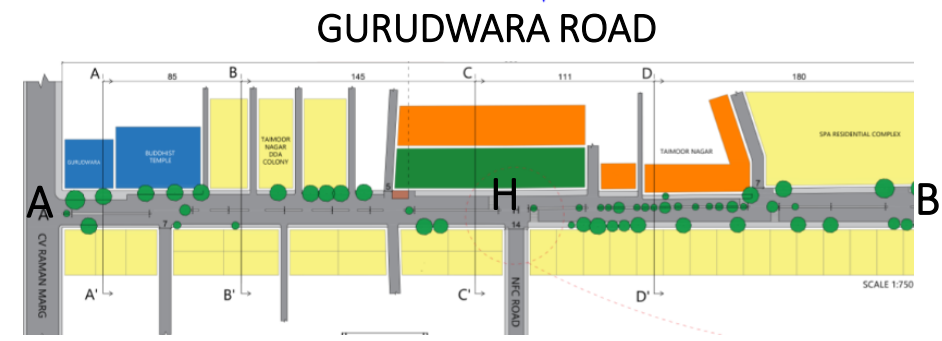
Bachelor of Physical Planning
3RD SEMESTER

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New Delhi

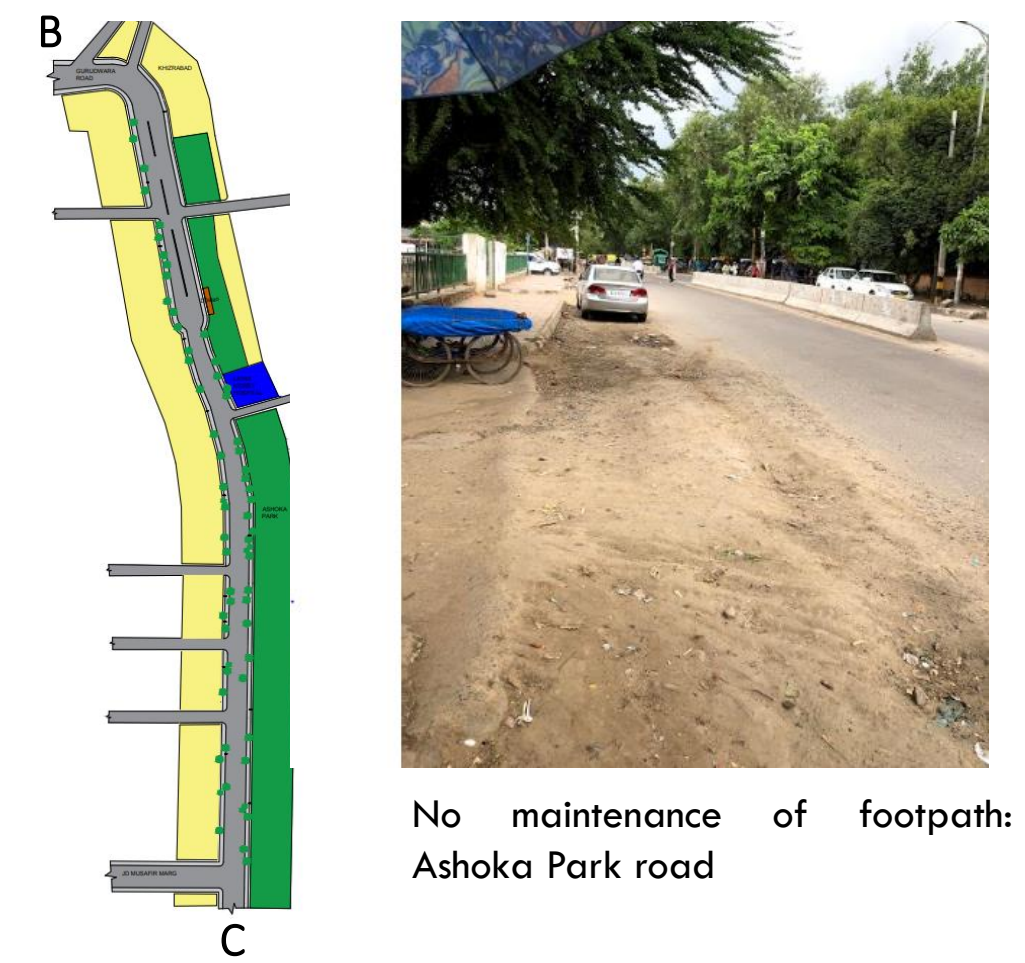


TRANSPORT IMPROVEMENT PLAN AND SUSTAINABLE MOBILITY, TAIMOOR NAGAR & NEW FRIENDS COLONY

STREET PLAN AND PICTURES



ASHOKA PARK ROAD



Obstructions on footpath: Ashoka Park road



Obstructions on footpath and on street parking



Low maintenance of footpath

GURDWARA ROAD, ASHOKA PARK ROAD, JD MUSAFIR MARG (COLLECTOR) : IN DETAIL SCORING ON ALL SCORE CARDS

ADEQUACY OF STREET INFRASTRUCTURE

COLLECTOR ROADS	CATEGORY	footpath width	kerb height	Median width	Median height	Dead width at bus stop	total score out of 12	Score out of 10	Avg total score
	street code								
COLLECTOR ROADS	AH	2.65	2.65	2	2	-	7.3	6.1	6.125
	HB	3	3	1.3	1.3	-	8.6	7.1	
	BC	2.65	2.6	1.07	1.07	-	7.39	6.1	
	DC	2.5	2.5	0.75	0.5	-	6.25	5.2	

*Each sub category is scored out of 3

- The average total is 6.1 out of 10 which is a score below average. This means that the standards are not being followed on the stretches of streets of Gurdwara road, JD Musafir Marg, and Ashoka Park Road to a great extent.

QUALITY OF STREET INFRASTRUCTURE

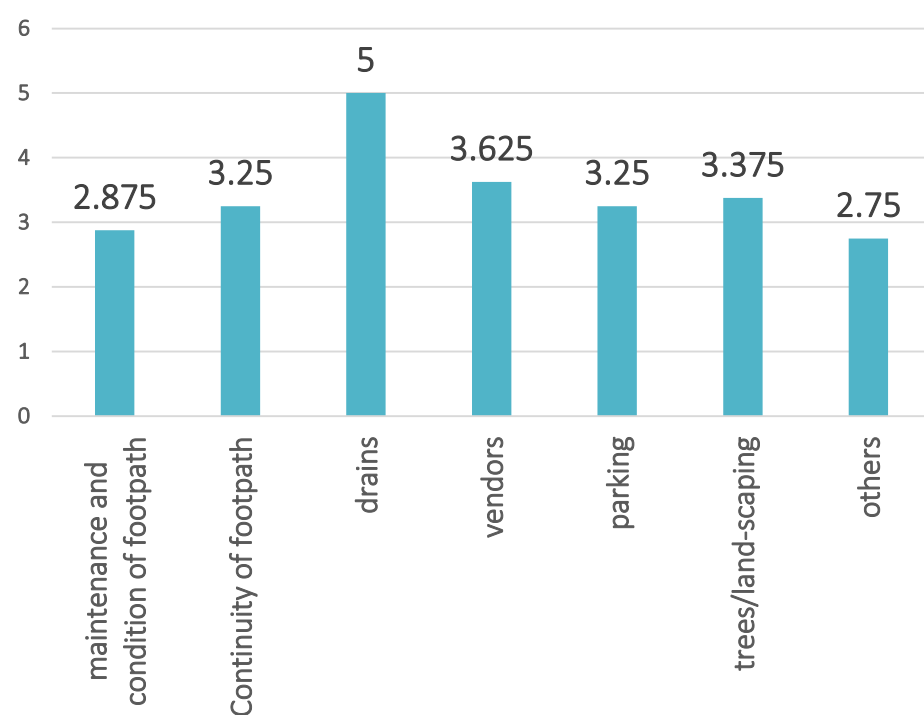
COLLECTOR ROADS	CATEGORY	maintenance and condition of footpath	Continuity of footpath	drains	obstructions				TOTAL score out of 35	Score out of 10	Avg total score
	street code				vendors	parking	trees/land-scaping	others			
COLLECTOR ROADS	AH	2.5	4.5	5	3.5	2.5	4	2.5	24.5	7	6.9
	HB	2	3	5	2.5	2.5	3.5	2.5	21	6	
	BC	3.5	3.5	5	3.5	4	4	2	25.5	7.3	
	DC	3.5	2	5	5	4	2	4	25.5	7.3	

*Each sub category is scored out of 5

- The above table shows the scoring for Gurdwara road, and JD Musafir Marg.
- The street has highest score of 5 for “drains” which means it has NO OPEN DRAINS.

- Lowest score 2.75 for “other obstructions” on footpath.
- Based on scores, the maintenance of footpath and obstructions due to vendors are the most problematic in the area.

- Score of 2.5 for other obstructions means that 40 – 60% of footpath is covered with vendors making footpath inaccessible to pedestrians.



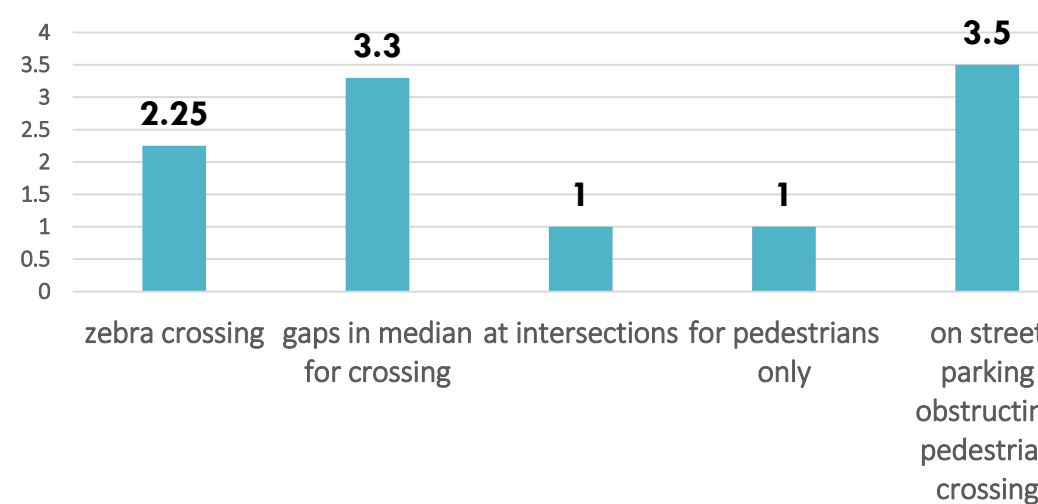
CROSSINGS AND INTERSECTIONS

COLLECTOR ROADS	CATEGORY	zebra crossing	gaps in median for crossing	pedestrian signals		on street parking obstructing pedestrian crossing	Total Score (Out Of 25)	Score out of 10	Avg total score
	street code			at intersections	for pedestrians only				
COLLECTOR ROADS	AH	3	3	1	1	3	11	4.4	4.275
	HB	3	2	1	1	3	10	4	
	BC	2	5	1	1	4	13	5.2	
	DC	1	-	1	1	4	7	3.5	

*Each sub category is scored out of 5

- The above table shows the scoring for “crossings and intersections” section for CV Raman Marg.
- The street has highest score of 3.5 out of 5 for “on street parking”. This means that 40% of street is has on street parking obstructing vehicular movement, and making it difficult for pedestrian to cross from the footpaths.

- The lowest scores are 1 for presence of WORKING pedestrian signals. Even though they are present, they are either not VISIBLE, AUDIBLE, or are NOT WORKING.

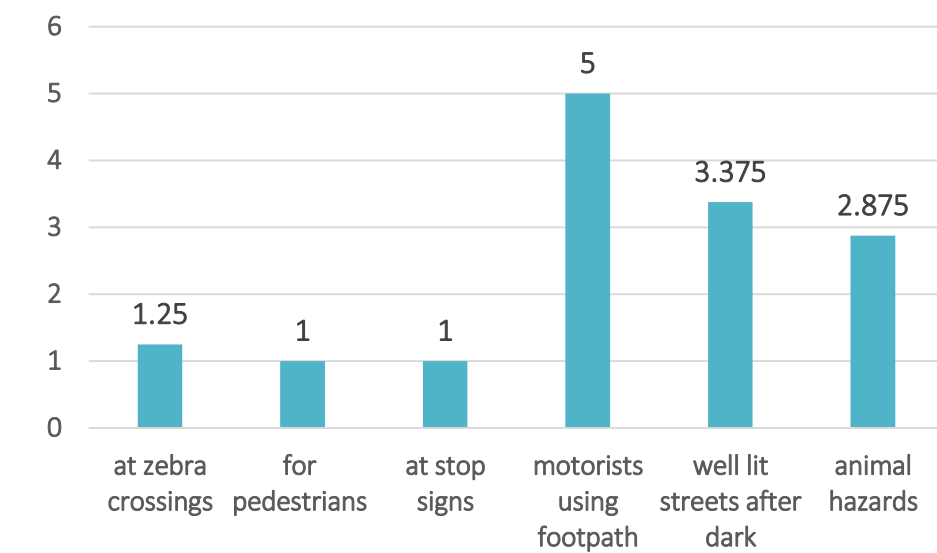


DRIVER BEHAVIOUR AND SAFETY

COLLECTOR ROADS	CATEGORY	vehicles stopping for pedestrians at zebra crossings	for pedestrians at stop signs	motorists using footpath	well lit streets after dark	animal hazards	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code								
COLLECTOR ROADS	AH	1	1	1	5	2.5	12.5	4.2	4.85
	HB	1	1	1	5	3	14	4.7	
	BC	1	1	1	5	2.5	13.5	4.5	
	DC	2	1	1	5	4	18	6	

- The highest score is 5 for “motorists using footpath” which means no motorist is driving on the footpath on gurdwara road, Ashoka park road, and JD Musafir marg.

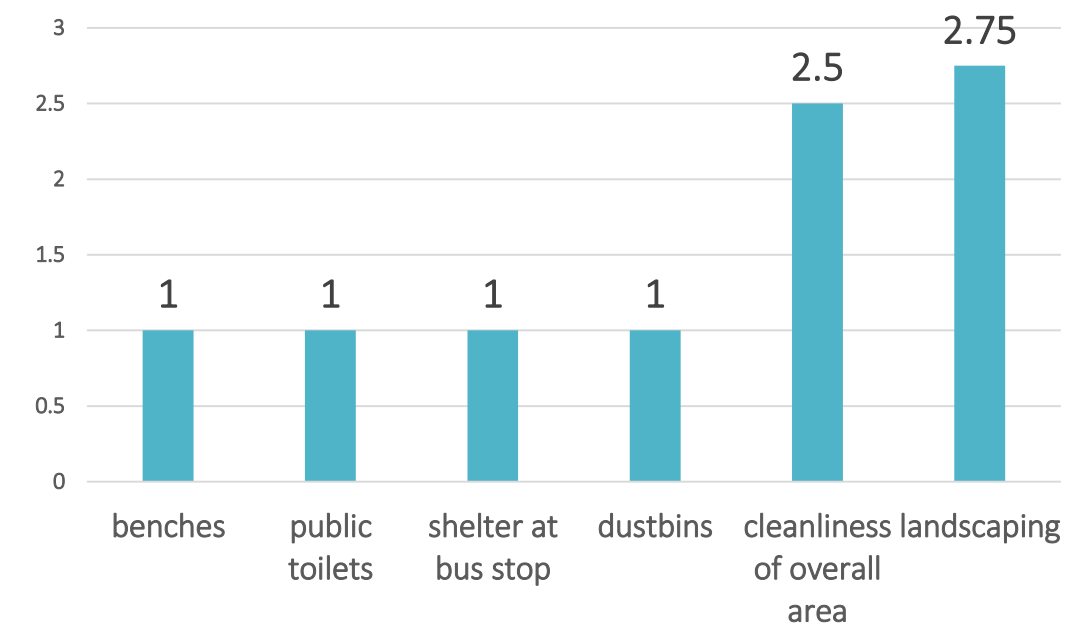
- Lowest score is 1 for “vehicles stopping for pedestrians”. This shows that the attitude of motorists towards pedestrians is poor.
- Average of the total section for the street is 4.85 which is a very poor score and indicates the need for spreading awareness to motorists about pedestrian requirements for increasing walkability.



COMFORT, APPEAL AND AESTHETICS

COLLECTOR ROADS	CATEGORY	amenities				cleanliness of overall area	landscaping	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code	benches	public toilets	shelter at bus stop	dustbins					
COLLECTOR ROADS	AH	1	1	1	1	1.5	2	7.5	2.5	3.1
	HB	1	1	1	1	2.5	3	9.5	3.2	
	BC	1	1	1	1	2	3	9	3	
	DC	1	1	1	1	4	3	11	3.7	

- The street has lowest scores for amenities.
- There are NO BENCHES, ONLY ONE PUBLIC TOILET, SHELTER AT ONE BUS STOP, AND NO DUSTBINS on the whole stretch.
- These amenities are needs for pedestrians’ comfort, which are absent, making the walking experience much less comfortable.
- Landscaping with highest score also needs to be improved as the score is only 2.75 out of 5.

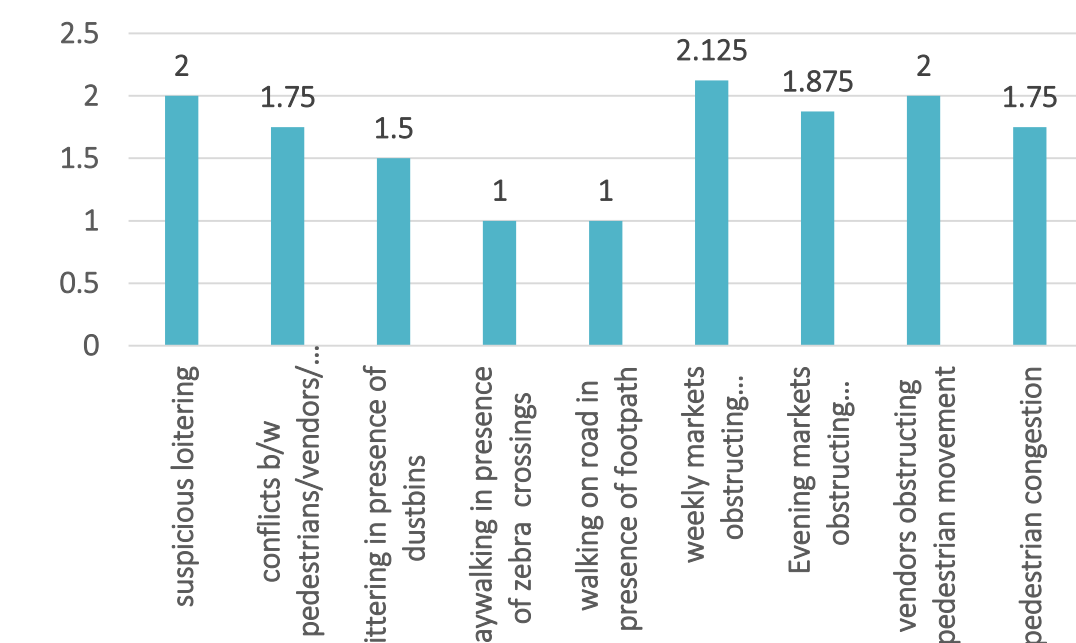


BEHAVIOUR OF PEOPLE/VENDORS

COLLECTOR ROADS	CATEGORY	suspicious loitering	conflicts b/w pedestrians/vendors/motorists	littering in presence of dustbins	jaywalking in presence of zebra crossings	walking on road in presence of footpath	weekly markets obstructing pedestrian movement	Evening markets obstructing pedestrian movement	vendors obstructing pedestrian movement	pedestrian congestion	total score (out of 27)	Score Out Of 10	Avg total score
	street code												
COLLECTOR ROADS	AH	2	3	2	1	1	2.5	2.5	3	2	19	7	5.55
	HB	2	1	1	1	1	1.5	1	1	1	10.5	3.9	
	BC	2	1	1	1	1	1.5	1	1	1	10.5	3.9	
	DC	2	2	2	1	1	3	3	3	3	20	7.4	

- The street has highest score of 2.125 for “weekly markets”. This is a poor score, meaning pedestrian movement is heavily obstructed.

- Lowest are 1 for “jaywalking” and “walking on road in presence of footpath”. This means people are not following rules, and using facilities provided for them.
- Jaywalking, walking on road is more convenient for people due to quality of infrastructure provided and other factors like motorist behaviour.
- Average section score is 5.5 which is poor.



KEY MAP



LEGEND

GROUP NAME WALKABILITY AUDIT

SHEET TITLE: STUDY OF COLLECTOR ROADS

GROUP MEMBERS

Trisha
Samreen
Aatish

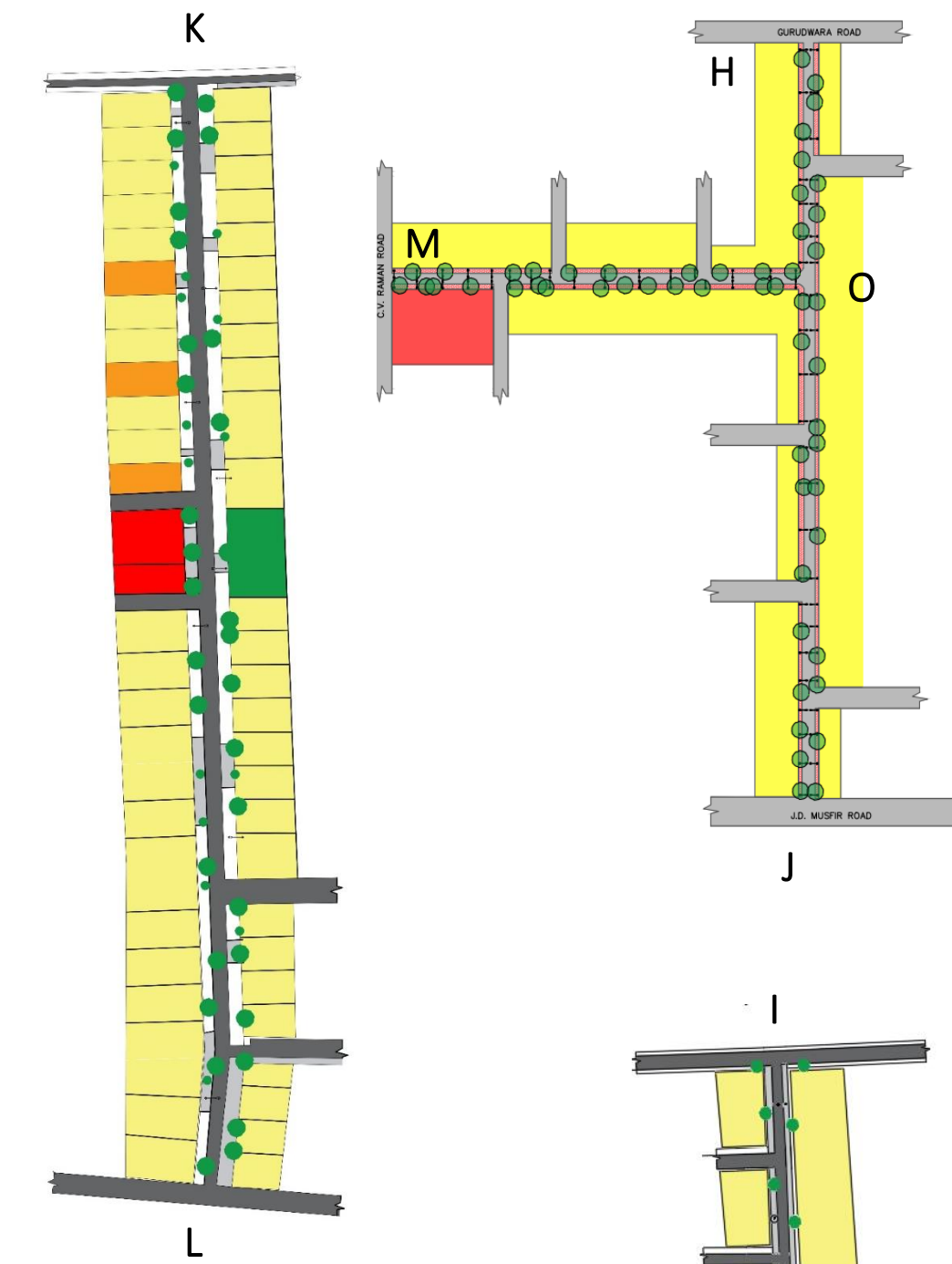
Bachelor of Physical Planning 3RD SEMESTER

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New Delhi



TRANSPORT IMPROVEMENT PLAN AND SUSTAINABLE MOBILITY, TAIMOOR NAGAR & NEW FRIENDS COLONY

STREET PLAN AND PICTURES



Footpaths standards being met



Parking on footpath



NFC INTERNAL STREETS : IN DETAIL SCORING ON ALL SCORE CARDS

ADEQUACY OF STREET INFRASTRUCTURE

CATEGORY	footpath width	kerb height	Median width	Median height	Dead width at bus stop	total score out of 6	Score out of 10	Avg total score
street code								
NFC	KL	2.5	2.5	-	-	5	8.3	9.15
	IP	2.5	2.5	-	-	5	8.3	
	HJ	3	3	-	-	6	10	
	MO	3	3	-	-	6	10	

*Parameters which were not required for particular streets have not been taken into consideration for scoring

*Each sub category is scored out of 3.

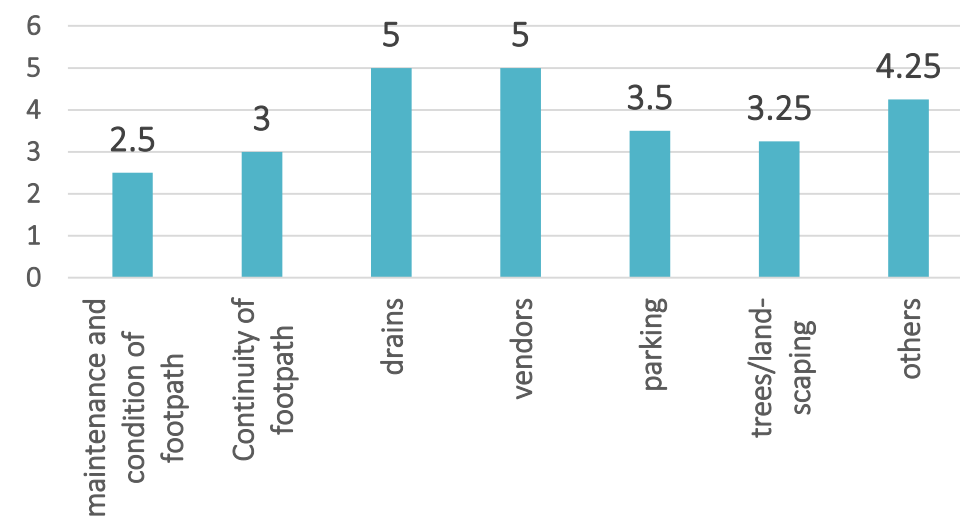
- The average total is 9.15 out of 10 which is a good score. This means that the standards are being followed on the stretches of streets of NFC to a large extent.

QUALITY OF STREET INFRASTRUCTURE

	CATEGORY	maintenance and condition of footpath	Continui ty of footpath	drains	obstructions				TOTAL score out of 35	Score out of 10	Avg total score
	street code				vendors	parking	trees/land- scaping	others			
NFC	KL	3	3	5	5	4	3.5	4.5	28	8	7.55
	IP	3	3	5	5	4	3.5	4.5	28	8	
	HJ	2	3	5	5	3	3	4	25	7.1	
	MO	2	3	5	5	3	3	4	25	7.1	

* Each sub category is scored out of 5.

- The sub category Drains have been scored the highest, which means the area had fully closed drains.
- The street had no vendors obstructing the footpath and the street, making it pedestrian friendly. Although landscaping and trees have caused somewhat obstructions on the street.
- An average score of 3 in the continuity of footpath section indicates that the footpath was discontinuous and covers only 40-50% of the stretch.



CROSSINGS AND INTERSECTIONS

	CATEGORY	zebra crossing	gaps in median for crossing	pedestrian signals		on street parking	Total Score (Out Of 20)	Score out of 10	Avg total score
	street code			at intersections	for pedestrians only	obstructing pedestrian crossing			
NFC	KL	1	-	-	-	4	5	5	4.5
	IP	1	-	-	-	4	5	5	
	HJ	2	-	-	-	2	4	4	
	MO	2	-	-	-	2	4	4	

*Parameters which were not required for particular streets have not been taken into consideration for scoring

* Each sub category is scored out of 5.

- An average total score of 4.5 out of 10 has been given to the Crossings and Intersections
- An average score of 1.5 out of 5 has been given to the sub category zebra crossing which indicates that there were no or not visible zebra crossing present at the intersections making the street unsafe for the people on foot.
- On street parking caused by the residents were obstructing pedestrian crossings.



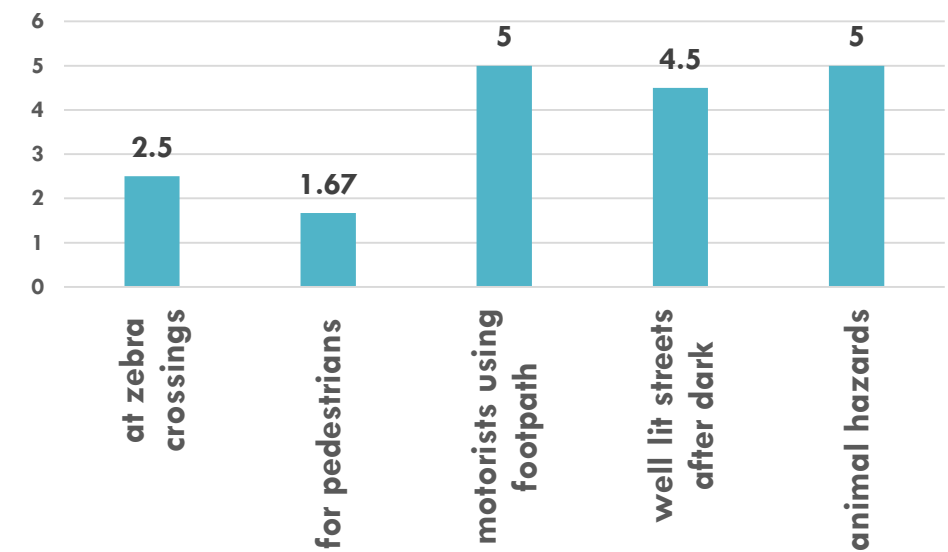
DRIVER BEHAVIOUR AND SAFETY

	CATEGORY	vehicles stopping for pedestrians			motorists using footpath	well lit streets after dark	animal hazards	Total Score (Out Of 30	Score out of 10	Avg total score
	street code	at zebra crossings	for pedestrians	at stop signs						
NFC	KL	1	1	-	5	5	5	17	6.8	7.3
	IP	1	1	-	5	5	5	17	6.8	
	HJ	4	3	-	5	4	5	21	8.4	
	MO	4	-	-	5	4	5	18	7.2	

*Parameters which were not required for particular streets have not been taken into consideration for scoring

* Each sub category is scored out of 5.

- The above scores are for the category Driver behaviour and safety
- The sub category, Vehicles stopping for pedestrians has been scored very low
- A score of 5 out of 5 has been given to the motorists using footpaths which means that NO MOTORIST is using footpaths, making it safe for pedestrians.
- No animal hazards are also observed in the given stretch of the street. No unleashed animals are present on the street. .



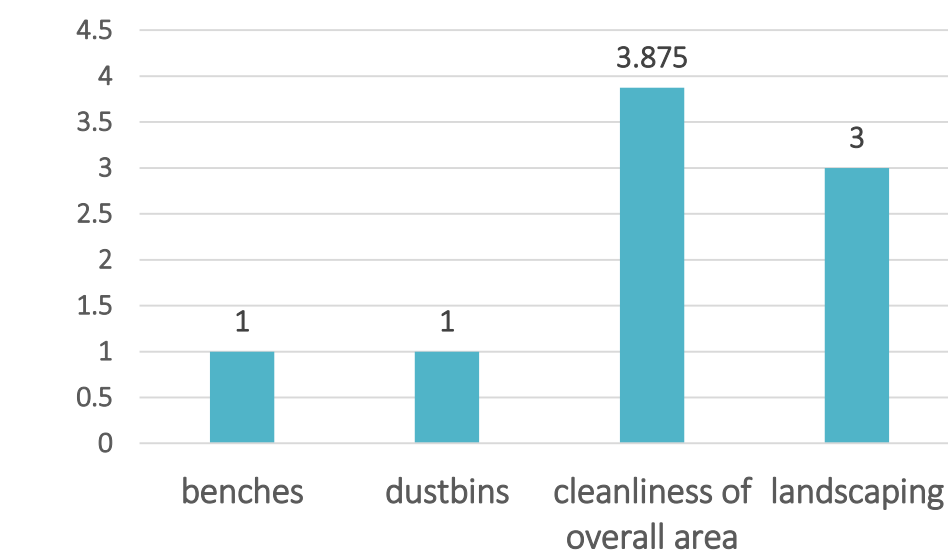
COMFORT, APPEAL AND AESTHETICS

	CATEGORY	amenities				cleanliness of overall area	landscaping	Total Score (Out Of 30)	Score out of 10	Avg total score
	street code	benches	public toilets	shelter at bus stop	dustbins					
NFC	KL	1	-	-	1	4	3	9	4.5	4.45
	IP	1	-	-	1	3.5	3	8.5	4.3	
	HJ	1	-	-	1	4	3	9	4.5	
	MO	1	-	-	1	4	3	9	4.5	

*Parameters which were not required for particular streets have not been taken into consideration for scoring

* Each sub category is scored out of 5.

- The above scores are for the category Comfort, appeal and aesthetics.
- Cleanliness of the overall area has been scored the highest, which is 3.8 out of 5.
- The AMENITIES section has been rated the lowest, meaning that there were no benches or dustbins present in the given stretch.
- The total average score of this section is 4.45 out of 10 which is considered to be poor and need for improvement is required.



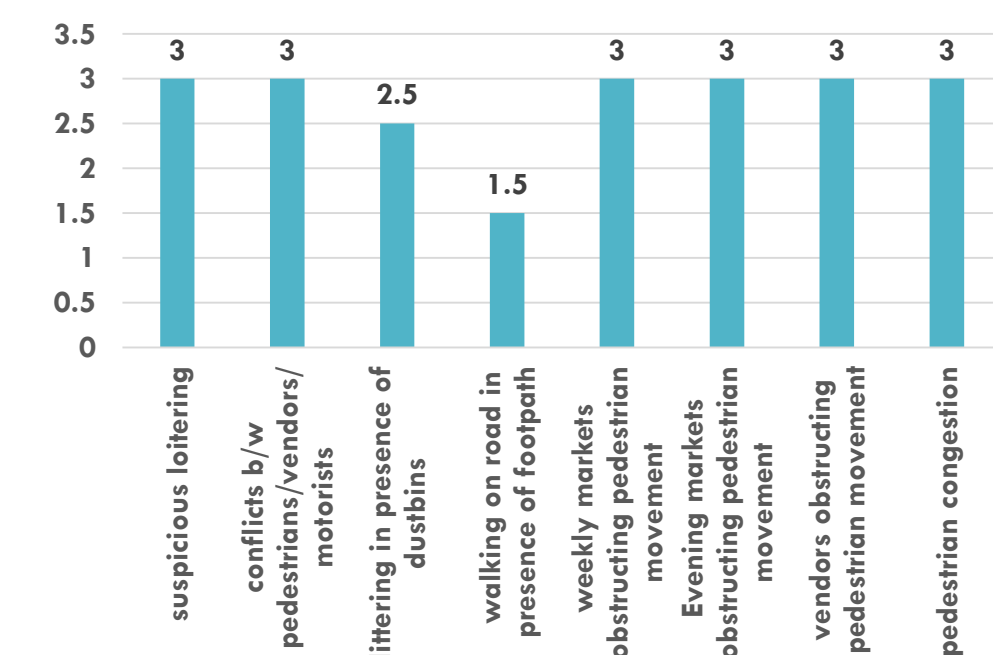
BEHAVIOUR OF PEOPLE/VENDORS

CATEGORY	suspicious loitering	conflicts b/w pedestrians/vendors/motorists	littering in presence of dustbins	jaywalking in presence of zebra crossings	walking on road in presence of footpath	weekly markets obstructing pedestrian movement	Evening markets obstructing pedestrian movement	vendors obstructing pedestrian movement	pedestrian congestion	total score (out of 24)	Score Out Of 10	Avg total score
street code												
NFC	KL	3	3	3	-	2	3	3	3	23	9.5	9.1
	IP	3	3	3	-	2	3	3	3	23	9.5	
	HJ	3	3	2	-	1	3	3	3	21	8.7	
	MO	3	3	2	-	1	3	3	3	21	8.7	

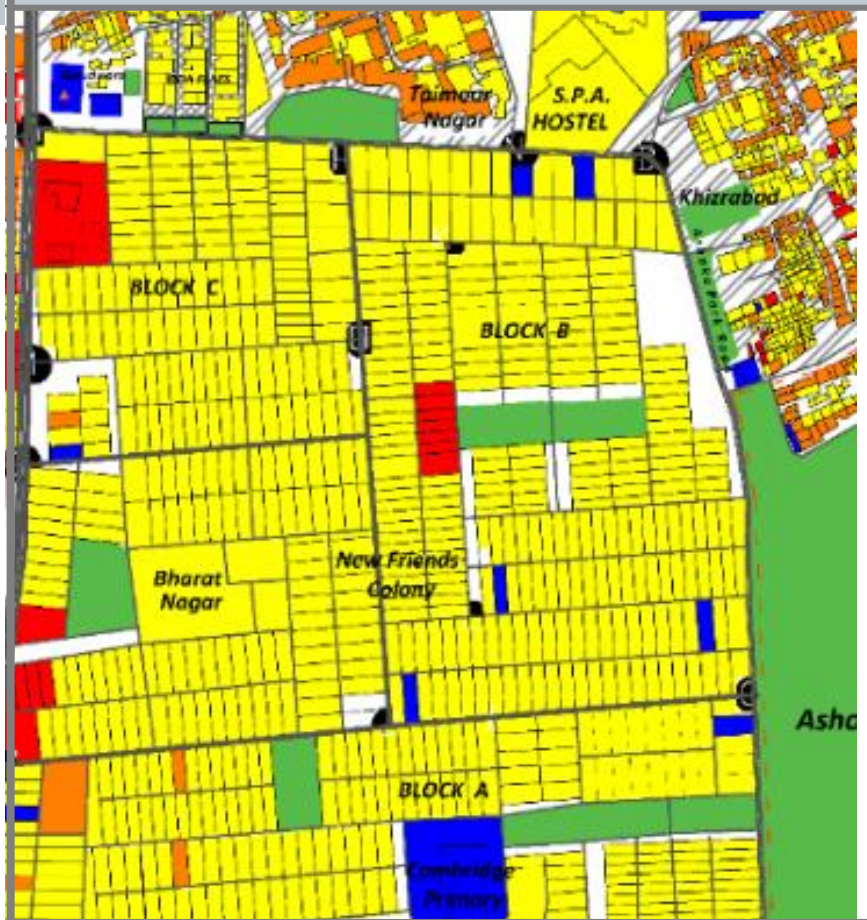
*Parameters which were not required for particular streets have not been taken into consideration for scoring

* Each sub category is scored out of 3.

- This section is scored the highest of all the sections. A score of 9.1 out of 10 has been given.
- Since it was a residential colony, the internal streets had no evening/weekly markets or vendors, the pedestrian movement was not obstructed.
- Due to the discontinuity of the footpath, pedestrians tend to walk on street.
- Regular maintenance of the footpaths required.



KEY MAP



LEGEND

GROUP NAME WALKABILITY AUDIT

SHEET TITLE: STUDY OF NFC STREETS

GROUP MEMBERS

Trisha
Samreen
Aatish

SHEET NO.

6

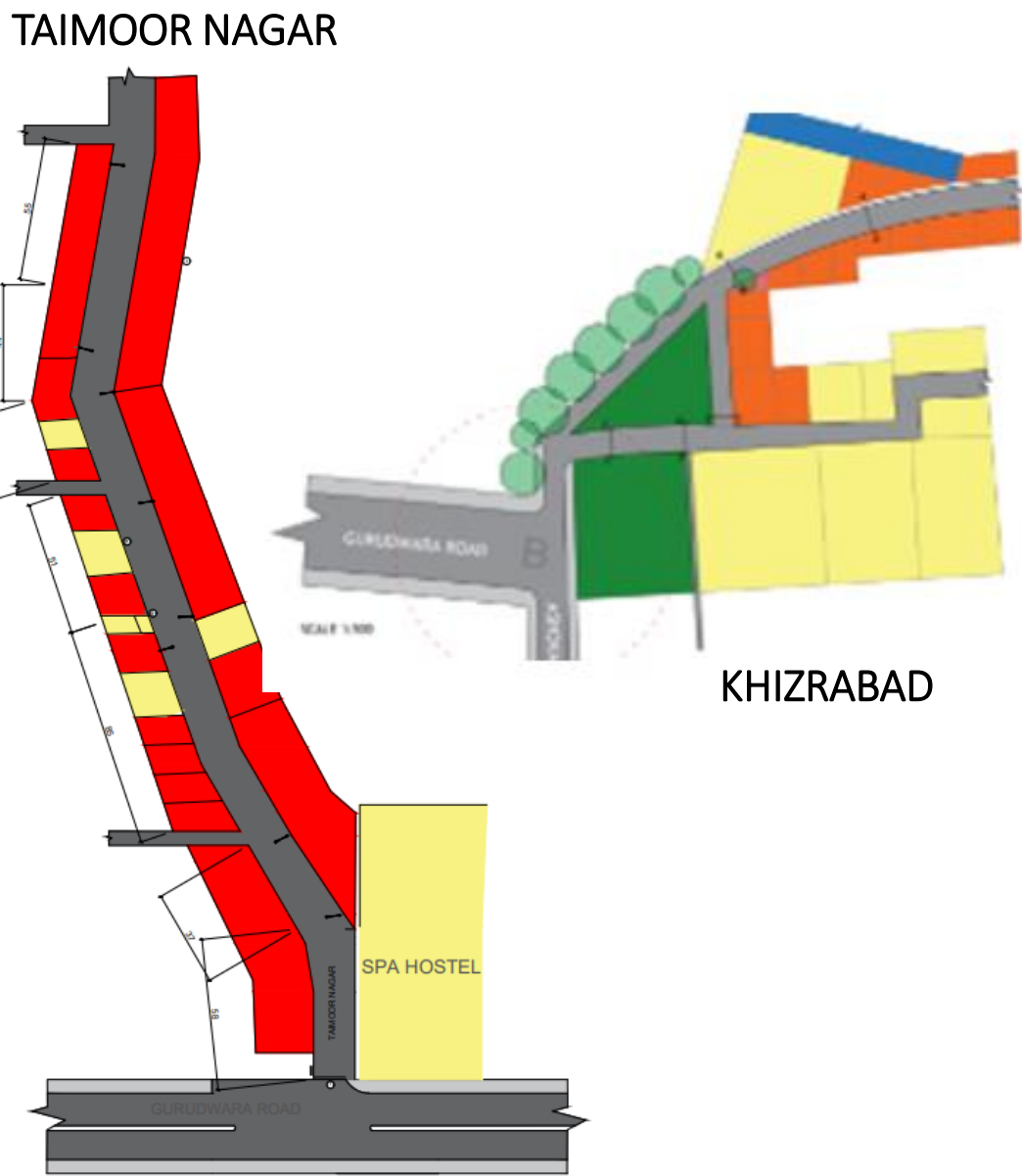
Bachelor of Physical Planning
3RD SEMESTER

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New Delhi



TRANSPORT IMPROVEMENT PLAN AND SUSTAINABLE MOBILITY, TAIMOOR NAGAR & NEW FRIENDS COLONY

STREET PLAN AND PICTURES



On street parking



Dirty streets



KHIZRABAD AND TAIMOOR NAGAR (VILLAGE): IN DETAIL SCORING ON ALL SCORE CARDS

ADEQUACY OF STREET INFRASTRUCTURE

VILLAGE S	CATEGORY	footpath width	kerb height	Median width	Median height	Dead width at bus stop	total score out of 6	Score out of 10	Avg total score
	street code								
S	NQ	1	1	-	-	-	2	3.3	3.3
	BR	1	1	-	-	-	2	3.3	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 3.

- An average score of 3.3 out of 10 is given to these streets (Khizrabad and Taimoor Nagar).
- Score of 1 was awarded to NQ and BR in the sub category footpath width and kerb height, meaning there was an absence of footpath itself in the street.

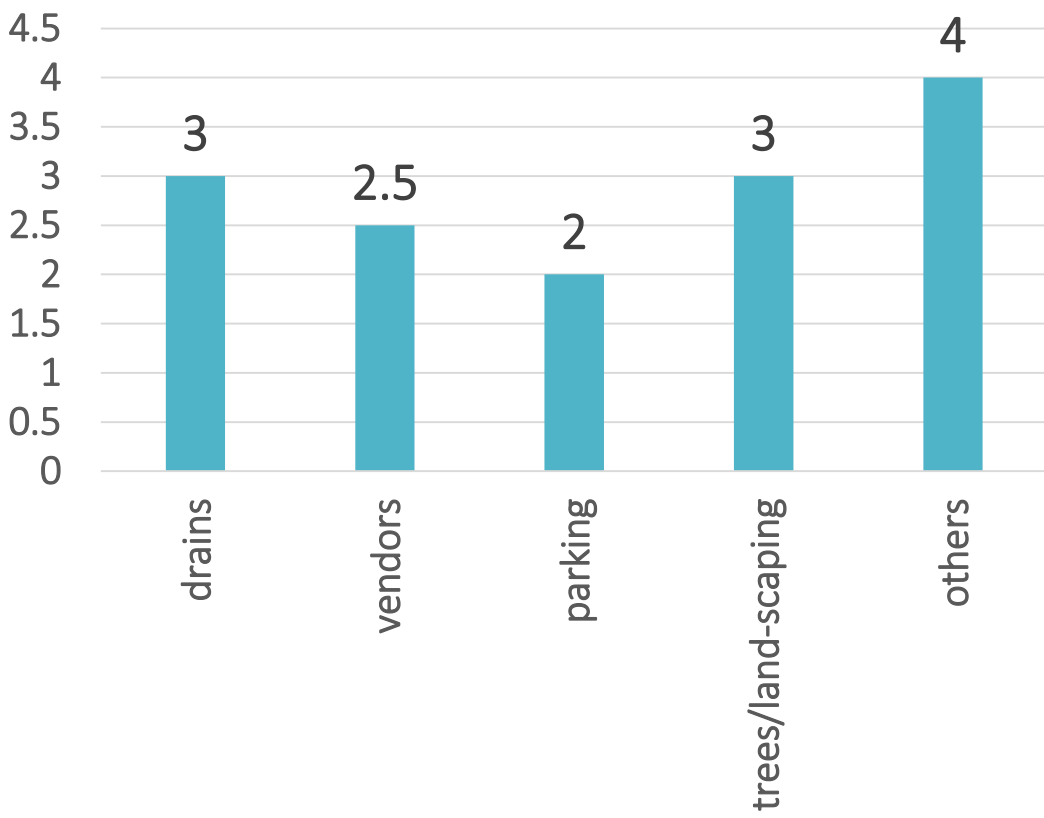
QUALITY OF STREET INFRASTRUCTURE

VILLAGE S	CATEGORY	maintenance and condition of footpath	Continuity of footpath	drains	obstructions	TOTAL score out of 25	Score out of 10	Avg total score
	street code				vendors parking trees/land-scaping others			
S	NQ	0	0	5	3 1 1 3	13	5.2	4.9
	BR	0	0	1	2 3 5 5	16	4.6	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 5.



Due to the absence of footpaths in the area, the pedestrians are forced to walk on the street.



CROSSINGS AND INTERSECTIONS

VILLAGE S	CATEGORY	zebra crossing	gaps in median for crossing	pedestrian signals	on street parking obstructing pedestrian crossing	Total Score (Out Of 5)	Score out of 10	Avg total score
	street code			at intersections for pedestrians only				
S	NQ	-	-	-	4	4	8	7
	BR	-	-	-	3	3	6	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 5.

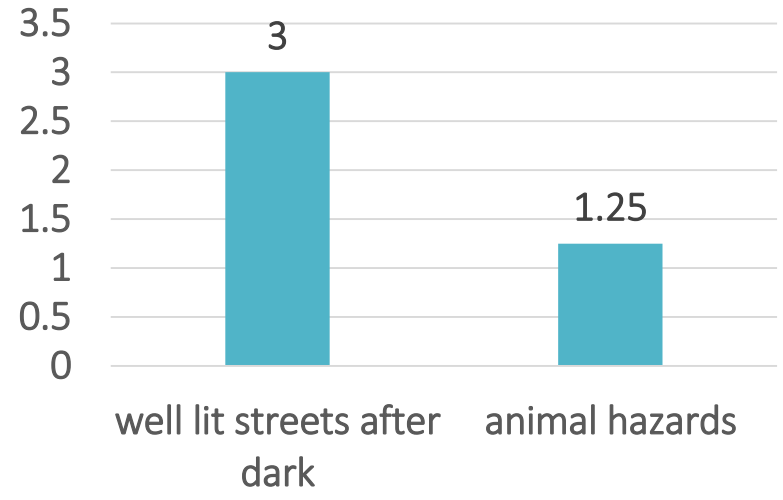
- An average score of 7 out of 10 is given to the two streets.
- On street parking has been scored 3.5 out of 5 which means that the vehicles parked on the street covers 40-60% of the stretch.

DRIVER BEHAVIOUR AND SAFETY

VILLAGE S	CATEGORY	vehicles stopping for pedestrians	motorists using footpath	well lit streets after dark	animal hazards	Total Score (Out Of 10)	Score out of 10	Avg total score
	street code	at zebra crossings for pedestrians	at stop signs					
S	NQ	0	0	0	4	5.5	5.5	4.25
	BR	0	0	0	2	3	3	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 5.

- An average score of 4.25 out of 10 is given to these two streets in the category Driver behavior and safety.
- The sub category, *Animal hazards* shows that there are more than 10 unleashed animals present on the given stretch of the street at a given time ,making it unsafe for the pedestrians.



COMFORT, APPEAL AND AESTHETICS

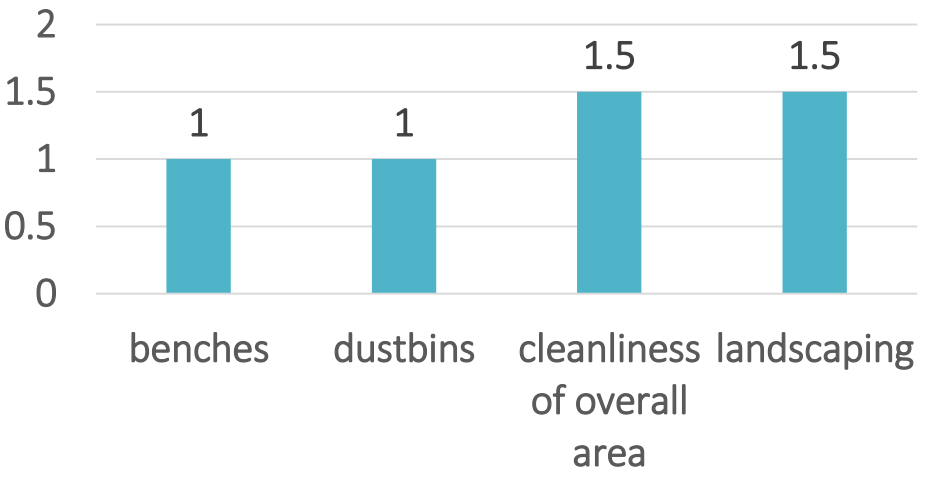
VILLAGE S	CATEGORY	Amenities	cleanliness of overall area	landscaping	Total Score (Out Of 20)	Score out of 10	Avg total score
	street code	benches public toilets shelter at bus stop dustbins					
S	NQ	1 0 0 1	2	2	6	3	2.5
	BR	1 0 0 1	1	1	4	2	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 5.

- The streets NQ and BR ranks the lowest in terms of comfort, appeal and aesthetics.
- Benches, dustbins and landscaping was absent in the given stretch.
- The scores given to the sub category *cleanliness of the overall area* indicates that the area had bad odour and visible litter, making it pedestrian unfriendly.



No landscaping, dirty streets

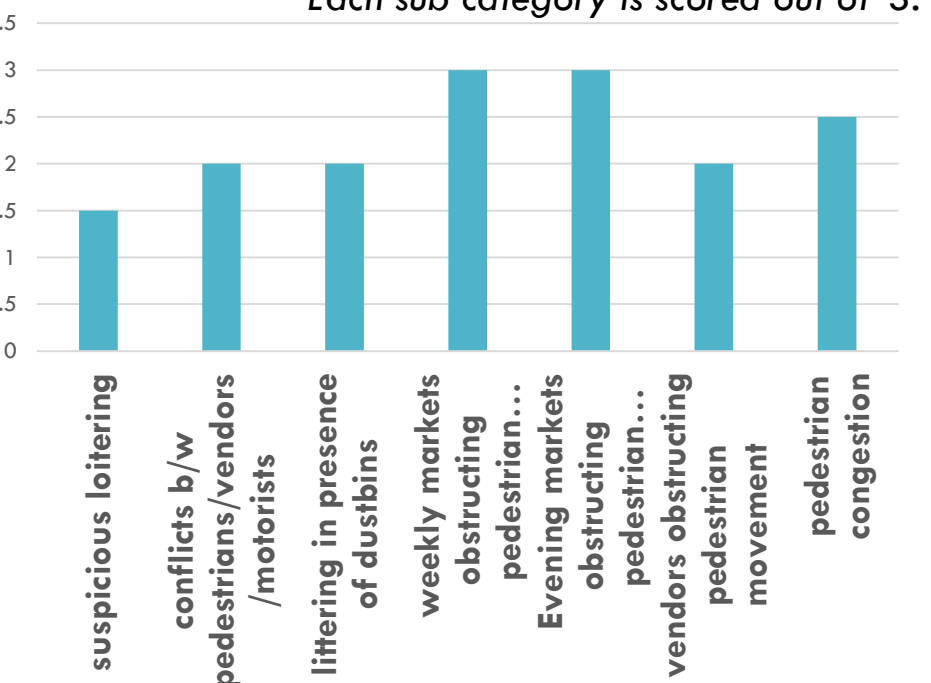


BEHAVIOUR OF PEOPLE/VENDORS

VILLAGE S	CATEGORY	suspicious loitering	conflicts b/w pedestrians/vendors/motorists	littering in presence of dustbins	jaywalking in presence of zebra crossings	walking on road in presence of footpath	weekly markets obstructing pedestrian movement	Evening markets obstructing pedestrian movement	vendors obstructing pedestrian movement	pedestrian congestion	total score (out of 27)	Score Out Of 10	Avg total score
	street code												
S	NQ	2	1	2	0	0	3	3	2	3	16	7.6	7.6
	BR	1	3	2	0	0	3	3	2	2	16	7.6	

*Parameters which were not required for particular streets have not been taken into consideration for scoring
*Each sub category is scored out of 3.

- The category behavior of People/vendors is scored the highest out of all the categories. An average score of 7.6 out of 10 is given to the two streets.
- The respective scores indicate that there were no evening or weekly markets obstructing the streets hence causing minimum pedestrian congestion.
- However, it was observed that suspicious loitering and littering in the presence of dustbins was seen in the given time interval.



KEY MAP



LEGEND

GROUP NAME
WALKABILITY AUDIT

SHEET TITLE:
STUDY OF INTERNAL VILLAGE STREETS

GROUP MEMBERS

Trisha
Samreen
Aatish

SHEET NO.

7

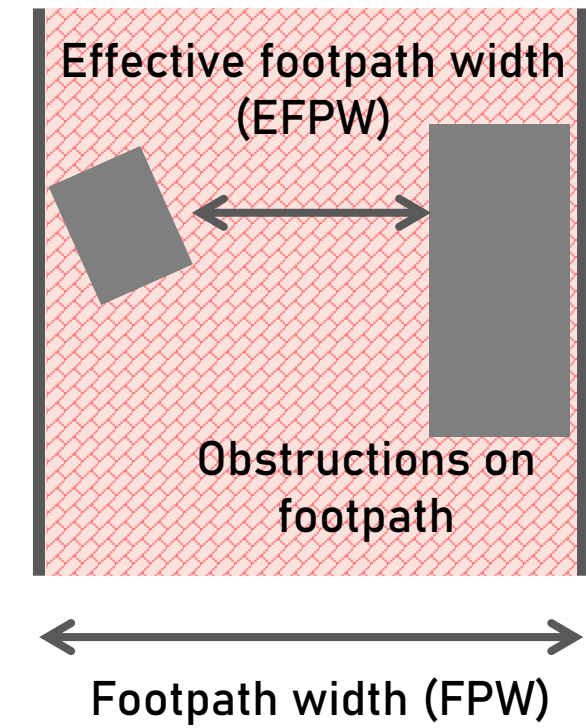
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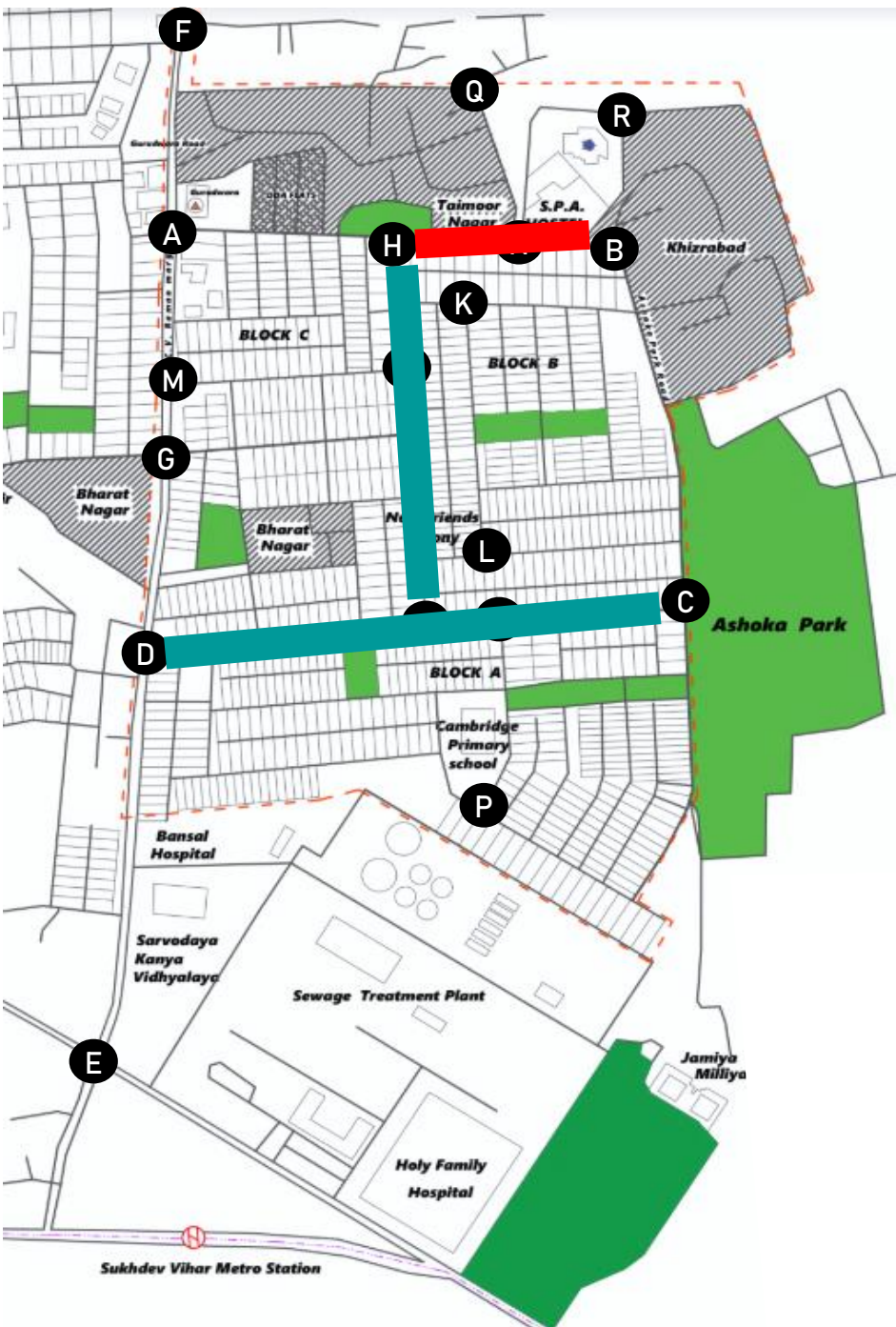
CONCEPT & METHODOLOGY



Here, the cross section data is used to further emphasize on the “obstructions” sub category of the “sidewalks” section from the walkability score cards.

- The data borrowed includes the Total Footpath width and the Total effective footpath width of the streets.
- The **ratio** $x = (EFPW/FPW)$ and helps us understand which of the footpaths have the least and most obstructions in the form of vendors, parking, etc.
- If $x = 1$, no obstructions
- The smaller the value of x , the greater the no. of obstructions , making the footpath inaccessible.

Highest and lowest values of “x”



WALKABILITY SCORES FROM “SIDEWALKS” SECTION ALONG WITH DATA FROM “CROSS-SECTION” GROUP

street code		FPW	EFPW	ratio (EFPW/FPW)	X average	Walkability score	FPW	EFPW	ratio (EFPW/FPW)	X average	Walkability score	
CV RAMAN	AF	1.5	1.5	1	0.814	7.9	2.4	1.5	0.63	0.8	8	
		2.5	2.2	0.88			3.2	2.2	0.7			
		2.5	2.5	1			2	2	1			
		2.5	1.2	0.48			3	1.2	0.38			
		2.7	1.4	0.52			3.4	2.4	0.71			
		2	2	1			2	2	1			
		2	1.21	0.61			3	2.5	0.83			
		3.3	2.8	0.84			2	1.2	0.6			
		2	2	1			2	2	1			
	AD	2.05	1.3	0.48	0.612	6.3	2.8	1.3	0.46	0.75	6	
		1	1	1			3	2	0.67			
		2.5	1.2	0.48			3	3	1			
		2	1	0.5			2.2	1.9	0.95			
		2	1.1	0.6			4.5	3.2	0.71			
	DE	2.2	2.1	0.95	0.662	7.9	2.05	1.8	0.88	0.78	7.9	
		2.19	2	0.91			2.67	2.67	1			
		3.05	2.5	0.81			2.78	2.5	0.93			
		2.2	1.3	0.59			3.3	1.3	0.39			
2.6		2	0.77	2.9			2	0.69				
X average (CV RAMAN) = 0.672						X average (CV RAMAN) = 0.77						
GURDWARA AND JD MUSAFIR	AH	5.8	2.5	0.43	0.55	7	1.8	1	0.56	0.6	7	
		2.5	1.3	0.52			2	1.3	0.65			
		2	1.4	0.7			2.1	1.1	0.5			
	HB	2.2	1.1	0.5	0.46	4.5	2.1	1	0.47	0.46	4.5	
		2.2	0.9	0.41			2.2	0.9	0.41			
		2.1	1	0.48			2.3	1.3	0.56			
	BC	2.5	1.4	0.56	0.69	7.4	2.3	1.5	0.65	0.7	7	
		3.2	1.5	0.46			2.3	1	0.43			
		2	1	0.5			2	2	1			
		3.2	1.8	0.56			2.3	1.7	0.74			
		2.3	1.7	0.73			2.5	1.4	0.56			
		2.5	1.9	0.76			1.7	1.2	0.71			
		3.2	1.2	0.38			1.7	1.1	0.65			
		3	2	0.67			6	4.2	0.7			
		3	2.4	0.8			2.2	2.2	1			
		2.5	2.2	0.88			2.5	1.8	0.72			
		2.5	2.4	0.96			2.4	1.9	0.79			
	CD	2.48	2.1	0.85	0.8	7.3	2.14	2.14	1	0.82	7.3	
		2.55	1.9	0.75			2.12	1.2	0.57			
		2.34	1.9	0.81			2.17	1.9	0.89			
	X average (GURDWARA ROAD, ASHOKA PARK ROAD, JD MUSAFIR) = 0.625						X average (GURDWARA ROAD, ASHOKA PARK ROAD, JD MUSAFIR) = 0.69					
	NFC	HJ	2.5 m	1.7	0.68	0.82	7.1	2.5 m	1.7	0.68	0.82	7
2.5 m			2.5	1	2.5 m			2.5	1			
3.5			2.7	0.77	3.5			2.7	0.77			
MO		4	4	1	0.69	7.1	4	4	1	0.69	7.1	
		4	1.5	0.375			4	1.5	0.375			
KL		1.37	1.37	1	0.71	8	1.3	1.37	1	0.71	8	
		1.3	0.9	0.69			1.35	0.9	0.67			
		1.35	1	0.74			1.4	1	0.71			
		1.4	0.7	0.5			1.42	0.7	0.5			
		1.56	0.9	0.57			1.5	0.9	0.6			
		1.6	1.2	0.75			1.6	1.2	0.75			
IP		2.5	2	0.8	0.78	8	2.6	2	0.76	0.78	8	
		3	2.2	0.73			2.8	2.2	0.79			
		3	3	1			3	3	1			
		3	1.6	0.53			3	1.6	0.53			
		3	2.5	0.83			3	2.5	0.83			
X average (NFC) = 0.75						X average (NFC) = 0.76						

CV RAMAN MARG

X average (FA, 0.814) > X average (DE, 0.662) > X average (AD, 0.612)
X (CV Raman Marg) Average = 0.672

- The average ratio $x = 0.672$. Hence, we can conclude that the level of obstructions is moderate on this street.
- The average walkability score of the street is 7.4 in the “sidewalks” sections. This is a good score, above 7.

From this we can conclude that the number obstructions are moderate on CV Raman Marg and make the footpaths inaccessible to a large extent.

GURDWARA, JD MUSAFIR MARGD

X average (CD, 0.8) > X average (BC, 0.69 > X average (AH, 0.55) > X average (HB, 0.46)
X (GURDWARA, JD) Average = 0.625

- The average ratio $x = 0.625$. Hence, we can conclude that the level of obstructions is also moderate on this street.
- The average walkability score of the street is 6.55 in the “sidewalks” sections. This is a poor score, below 7.

From this we can conclude that the number obstructions are moderate on Gurdwara road and JD Musafir Marg and make the footpaths inaccessible to a large extent.

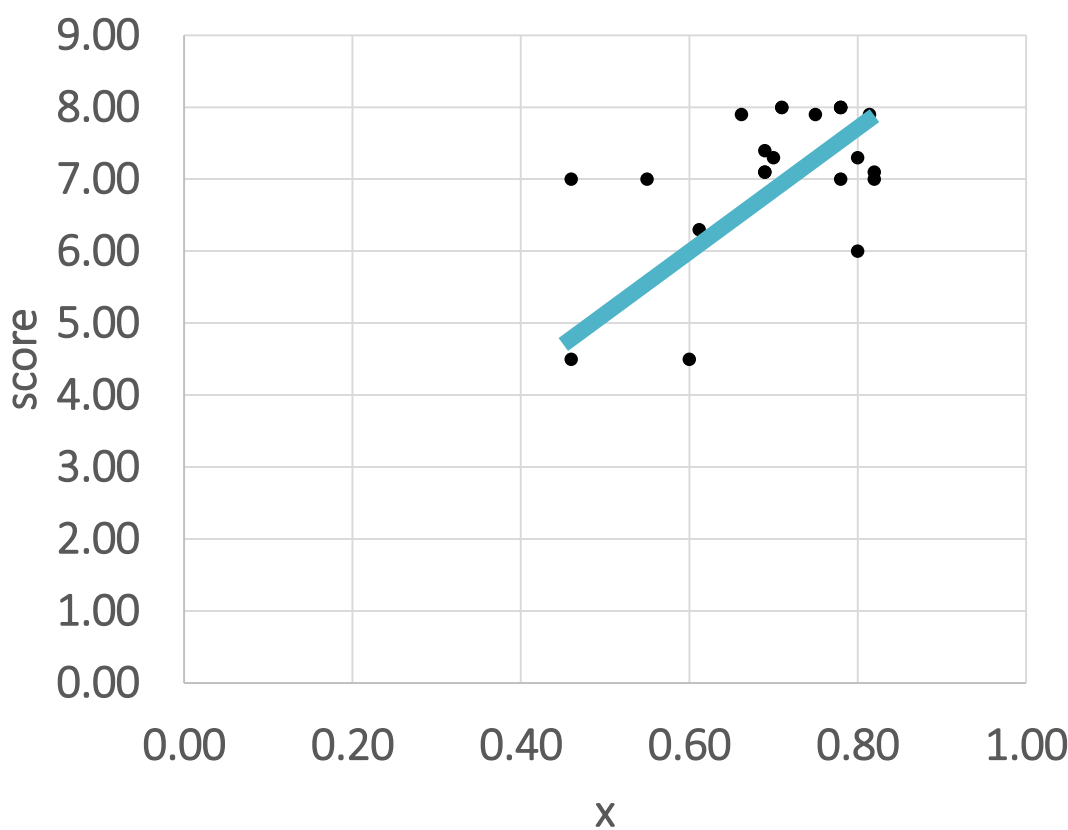
NFC

X average (KL, 8) = X average (IP, 8) > X average (HJ, 7.1) = X average (MO, 7.1)
X (NFC) Average = 0.75

- The average ratio $x = 0.75$. Hence, we can conclude that the level of obstructions is also moderate on this street.
- The average walkability score of the street is 7.55 in the “sidewalks” sections. This is an average score, around 7.

From this we can conclude that the number obstructions are moderate in NFC and make the footpaths inaccessible to a moderate extent.

CORRELATION BETWEEN X AND WALKABILITY SCORES

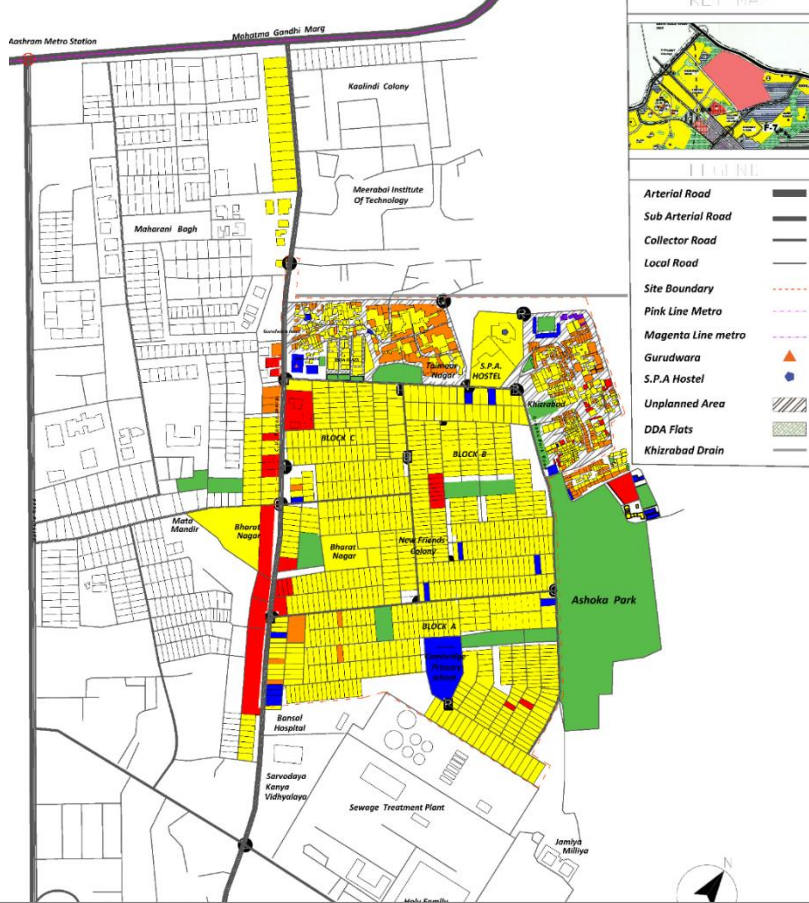


The graph shows us the correlation between the two variables “x” and “score” (the walkability score from the “Quality of infrastructure” section.

The value of Pearson's correlation coefficient for these two variables = +0.67

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

KEY MAP



LEGEND



GROUP NAME
WALKABILITY AUDIT

SHEET TITLE:
EFFECTIVE FOOTPTH WIDTH AND
WALKABIITY SCORES

GROUP MEMBERS

Trisha
Samreen
Aatish

SHEET NO.

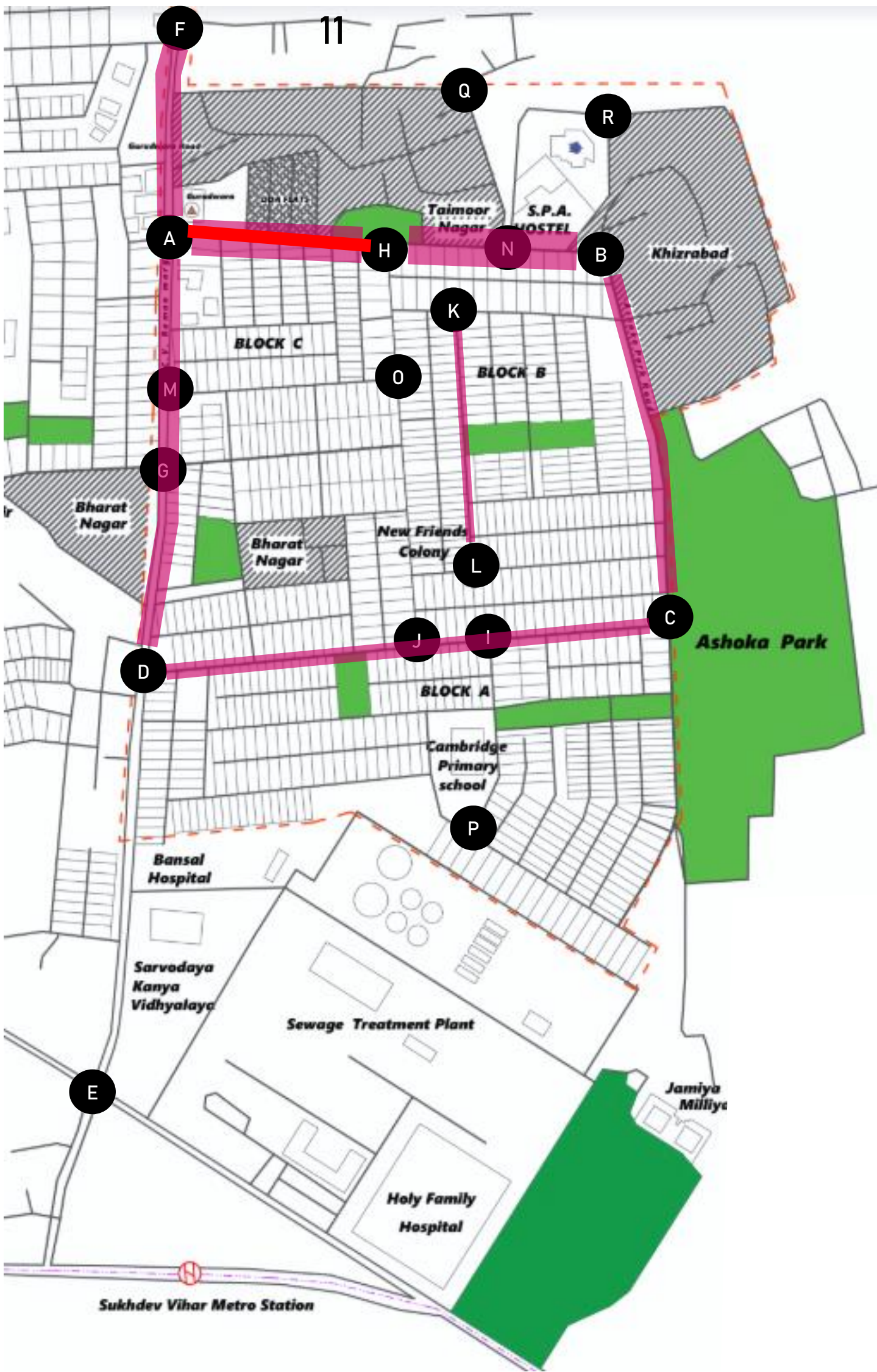
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PEDESTRIAN VOLUME



Pedestrian Volume

This table shows the Total pedestrian volume present on that street, this includes pedestrians walking in both directions.

The map visually represents the data given in the second table, that is, the Total pedestrian volume on the street. The thicker the line on the map, the larger the pedestrian volume.

WALKABILITY SCORES FROM “DRIVER BEHAVIOUR AND SAFETY” SECTION ALONG WITH DATA FROM “SPOT SPEED” AND “PEDESTRIAN STUDIES” GROUP

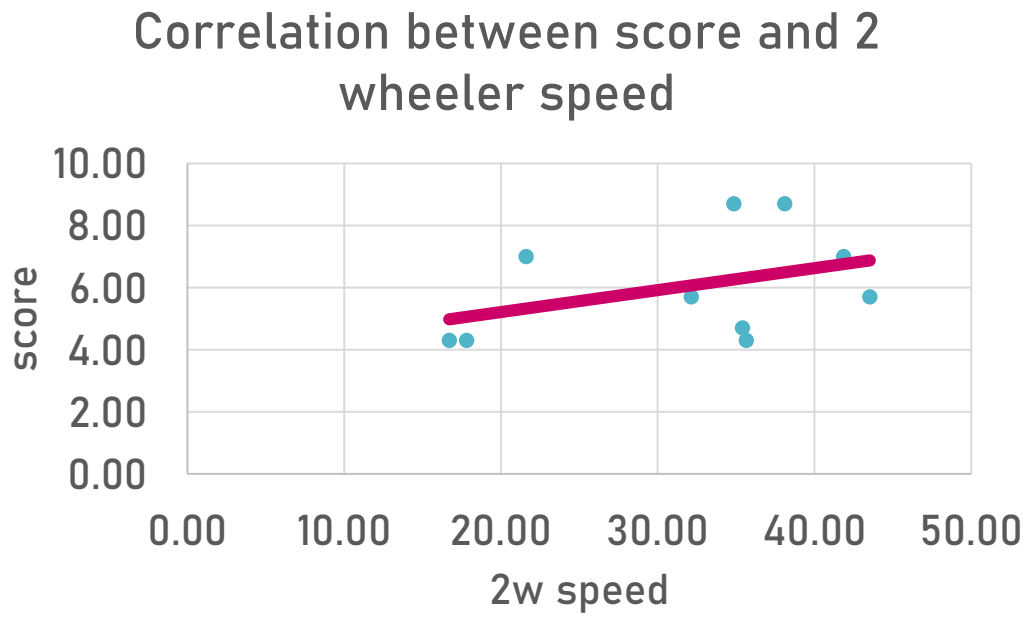
CORRELATION BETWEEN SPEEDS AND WALKABILITY SCORES

street code	SPEEDS 85th percentile (kmph)			SPEEDS 95th percentile (kmph)			Score
	2W	3W	4W	2W	3W	4W	
AD	34.5	27.65	31.95	41.85	32.4	36.4	7
DA	18.85	17.5	16.3	21.6	23.05	19.55	7
DE	31.85	30.85	22.35	34.85	35.7	31.55	8.7
ED	30.6	26.45	28.7	38.1	31.75	31.95	8.7
AH	12.95	11.8	11.4	17.8	12.95	13.9	4.3
HA	13.79	9.95	13.1	16.7	12	17.35	4.3
CB	31.6	26.7	27.85	35.4	28.6	32.45	4.7
BC	30.05	25.4	27.8	35.65	29.3	32.8	4.3
CD	26.67	24.96	29.64	43.53	26.09	40.45	5.7
DC	28.63	25.24	26.55	32.13	28.3	30.4	5.7

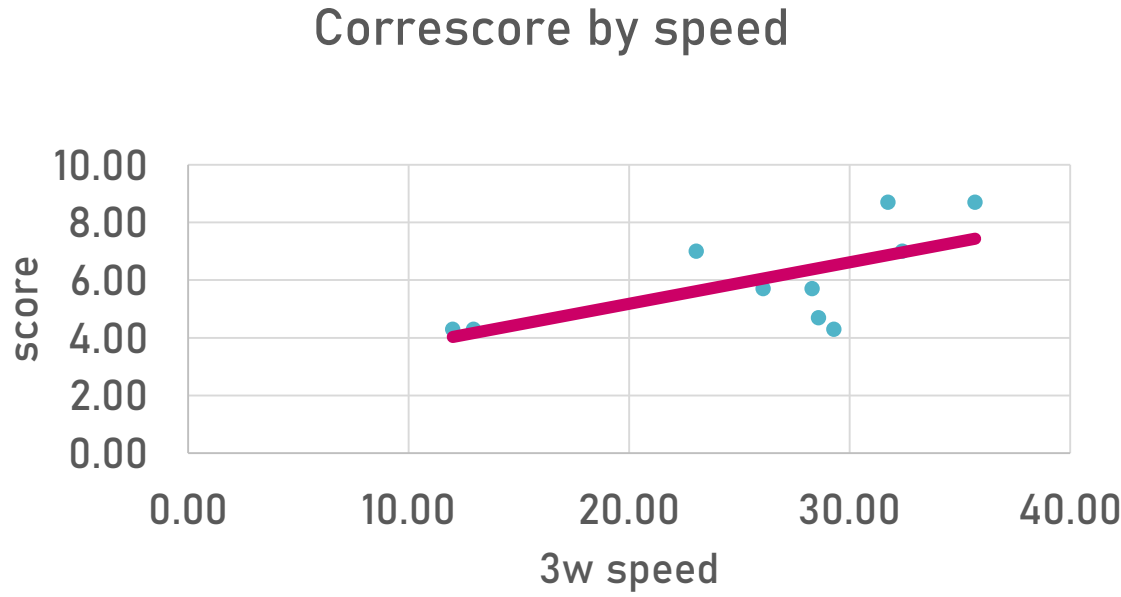
STANDARDS

- Sub- arterial: 60 kmph
- Collector: 50 kmph
- Local street: 30 kmph

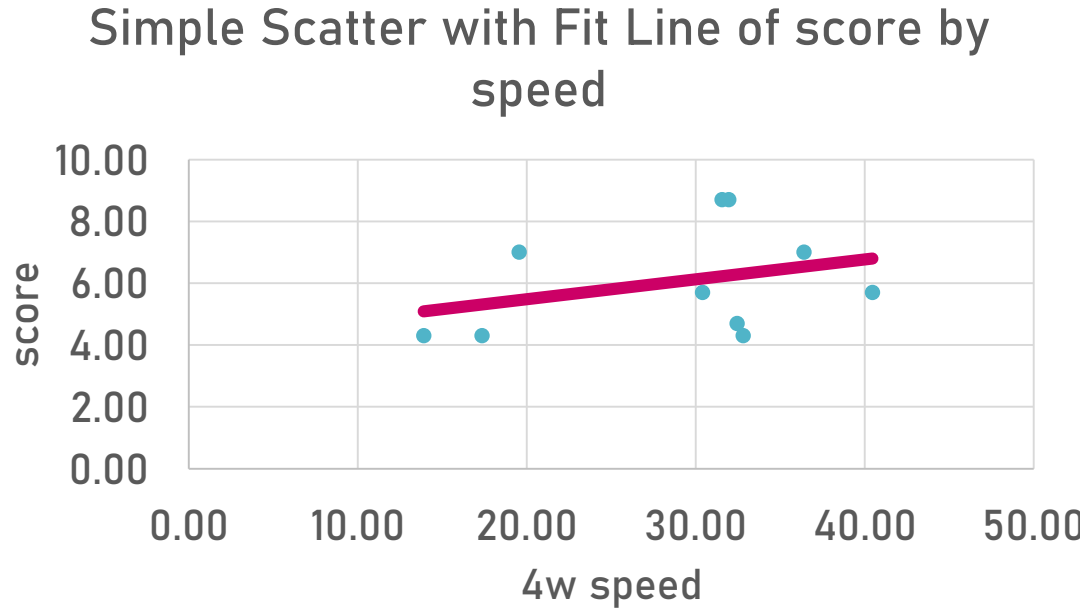
The vehicles travelling on this street are travelling below the design speed given by IRC standards. A measure to still compare the safety is give below.



R =+ 0.495, which is a weak correlation, but is positive.



R =+ 0.7, which is a good correlation, but is positive.



R =+ 0.4, which is a very weak correlation, but is positive.

A CLOSER LOOK AT STREET AH, GURDWARA ROAD

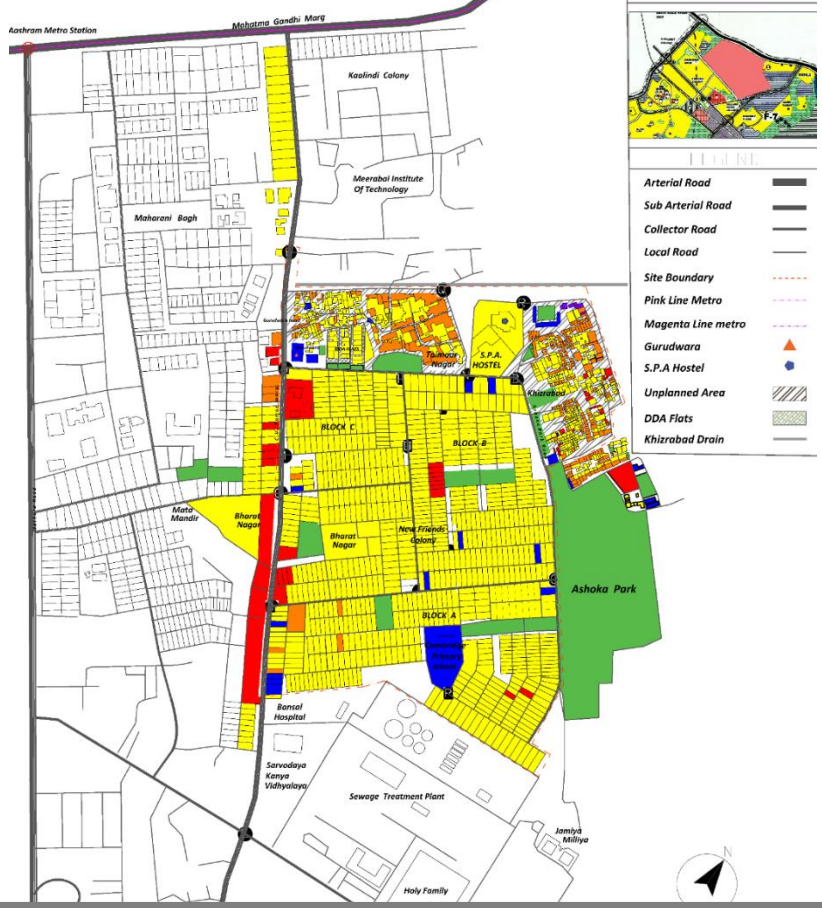
- The streets on which the pedestrian volume is highest, the 95th percentile speeds are lowest. For example, street AH I direction A to H and H to A, the pedestrian volume is highest. The speeds on those streets on the other hand, are the lowest, not exceeding 17 kmph.
- The walkability score on this street for “driver behaviour and safety” are the lowest, 4.3.

- The score card for street AH for section “driver behaviour and safety” is below:

GURDWARA	CATEGORY	vehicles stopping for pedestrians			motorists using footpath	well lit streets after dark	animal hazards	Total Score (Out Of 30)	Score out of 10
	street code	at zebra crossings	for pedestrians	at stop signs					
	AH	1	1	1	5	2.5	2	12.5	4.3

- The major problem seems to be motorists not stopping for pedestrians while crossing. According to the score cards, a score of 1 means that almost NO motorist stops for pedestrians, even at pedestrian signals.
- Hence, on streets where speeds are low, safety still cannot be assured for pedestrians if the motorists do not stop for pedestrians.

KEY MAP



LEGEND

- Pedestrian Volume
- Gurdwara
- S.P.A Hostel
- Unplanned Area
- DDA Flats

GROUP NAME
WALKABILITY AUDIT

SHEET TITLE:
STUDY OF SPEEDS OF
VEHICLES AND WALKABILITY
SCORES

GROUP MEMBERS

Trisha
Samreen
Aatish

SHEET NO.

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BASE MAP

FINAL SCORING OF STUDY AREA

- The “adequacy of infrastructure” and “behaviour of people/vendors” have the highest scores of 7.12 and 7.6.
- Comfort, Appeal and Aesthetics is doing the worst in the overall study area, with a score of 3.6.

- _____



10 (score, good)	This gradient is value based gradient with red as value 1 and green as value 10.
5 (score, average)	
1 (score, poorest)	

Average scores of sections in the area



KEY MAP



Site boundary - - - -

— *Journal of the American Medical Association*, 1997

100

Age Group	No (%)	Yes (%)	Don't know (%)	No answer (%)
18-24	65	15	10	10
25-34	60	20	10	10
35-44	55	25	10	10
45-54	50	20	15	15
55-64	45	15	20	20
65+	40	10	25	25

100

Highest score

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GROUP MEMBERS	SHEET NO.
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Trisha	11
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School of Planning

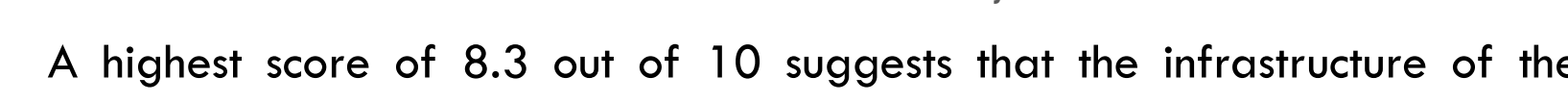
FINAL SCORING: ROAD HIERARCHY WISE

SCORES IN STREET HIERARCHY

- The highest scored streets

-

ROAD HIERARCHY WISE AVERAGE SCORES OF ALL SECTIONS



Comfort, appeal and aesthetics have been rated the lowest which means the presence of dustbins, benches and public toilets was not present or not in good condition.



Since the footpaths were encroached by vendors and shops, and almost half of the street is being used for parking of vehicles, walkability score of the area is low.



The category, *crossings and intersections* has been rated the lowest which indicates that on street parking and parking on footpaths by the residents made the street pedestrian unfriendly.



The section *Behavior of people* has been scored the highest among all; which suggests that there was no suspicious loitering, conflicts between the pedestrians or any pedestrian congestion disturbing the street.

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