



23

Ministry of Housing and Urban Affairs

Government of India





Streets 4 People CHALLENGE

STAGE 02

W2: Planning your Walking & Cycling Network

Stage:02 progress so far... India Cycles4Change & Streets4People Challenges

The Freedom2Walk&Cycle took the nation by storm in January!

Together, our city leaders and citizens clocked in

Over 12 lakhs kms of walk, cycle and run!

Between 1st-26th Jan 2022

20+ cities have pledged towards

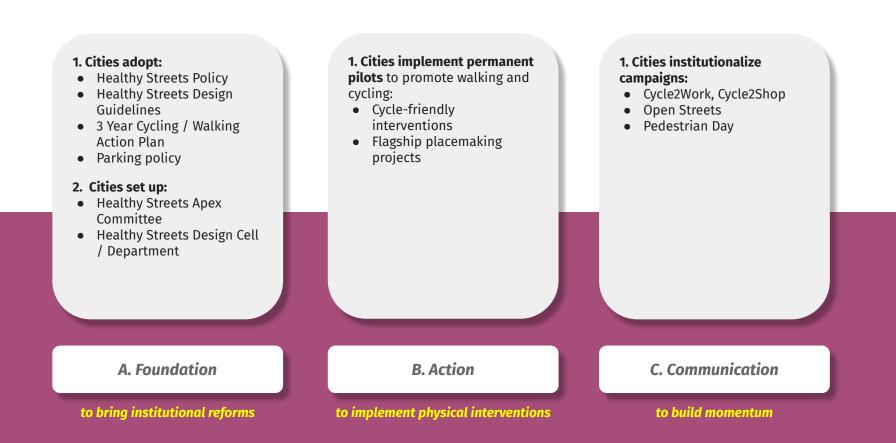
making long term commitments!



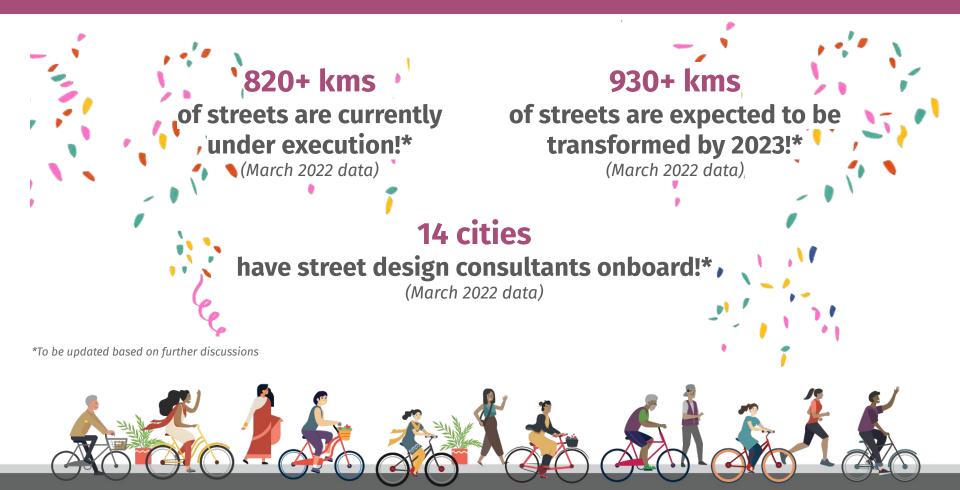








Over the last month, cities had one-on-one discussions with us!



Congratulations to all the cities for initiating work towards the **2023 goals** to achieve the vision of creating **Healthy Streets, Healthy Cities!**

We are excited for our cities to commence work on their network plans and scale up Walking & cycling-friendly interventions!

Let's hear from cities on the their process of creating network plans and scaling up!





Prasanna Desai Architect, Urban Designer & Director PVP College of Architecture, Pune

Bengaluru



Sobia Rafiq Co-Founder Sensing Local, Bengaluru

It's time for Action and Scale up!

Goals 2023: Healthy Streets, Healthy Cities (C4C & S4P)

A. ACTION to implement physical interventions

A1. Test TUs & Implement permanent cycling interventions

A2. Test TUs & Implement permanent walking/placemaking interventions

B. FOUNDATION

to bring institutional reforms

B1. Adopt the Healthy Streets Policy

B2. Adopt the **HS Design Guidelines**

B3. Adopt the 3-Year Cycling & Walking Action Plan

B4. Adopt the Parking Policy

B7. Set up the HS Apex Committee

B8. Set up the HS Department / Cell

C. COMMUNICATION

to build momentum

C1. Institutionalise the **Open Streets Campaign**

C2. Declare & Host the **Pedestrian Day, Bicycle Day**

C3. Institutionalise Cycle2Work / Cycle2Shop Campaigns

In this workshop, we will discuss...

A. ACTION

to implement physical interventions

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B. Foundation - Goals

B3. Adopt the 3-Year Cycling & Walking Action Plan The 3-Year Cycling and Walking Action Plans will lay out the long-term roadmap to implement Healthy Streets initiatives in your city!

3 4 5 6 Vision Evaluation Goals Strategies/ Network Implementation Funding & Initiatives

Roadmap

Plan

3-year Cycling and Walking Action Plans

A template for the **Action Plan will** be shared soon!

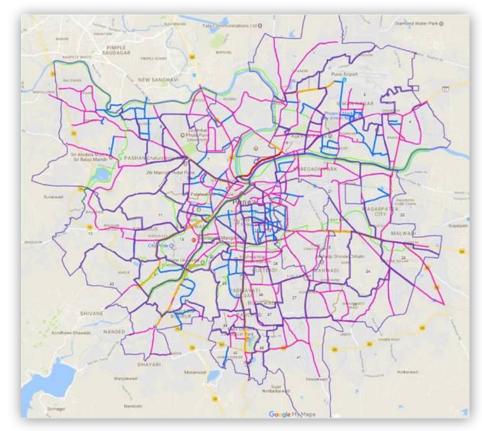
Indicators

Financing

What is a walking & cycling **Network Plan**?

- Walking & Cycling Network
 Plan is a dense street
 network plan that identifies
 walking and cycling routes.
- It shall also inform the type of permanent walking- and cycling-friendly interventions/elements required.
- A well-connected network shall ensure seamless connectivity across the city.

We **encourage cities** to **do network planning at two scales** - *city-wide and neighbourhood*



The Network Plan will be part of the <u>3-year Action Plan!</u>

<u>Check out</u> <u>Pune's city-wide</u> <u>Bicycle Network</u> <u>Plan here!</u>

Pune's Bicycle Network Pune Image source: Pune Smart City

Why does your city need a walking & cycling **Network Plan**?

- To identify the quantum and type of walking and cycling infrastructure that needs to be implemented
- To develop street inventory & abstract budget estimates
- To build support for scaling up Street Design projects, allocate budget for DPR preparation & hire design consultants, and source budget for implementation.
- To build a case for setting up Design cell/ department, adoption of policies, guidelines.
- To plan and design your streets with permanent and connected walking & cycling infrastructure



Get started on the network plan - Build your team

Reach out to the coordination team for any clarifications!

HOW can you prepare the Network Plan?



OR



Set up an **in-house** working team with urban designers, planners, GIS experts, TULIP Interns **Empanel** a team of Urban Designers / Planners and work with them

Note: Collaborate with all stakeholders, NGOs, CSOs, local universities / institutions

Choose a way that shall best suit your city!

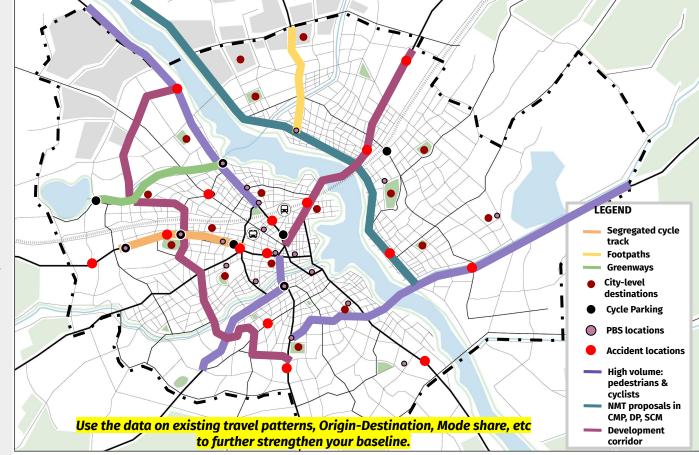
Let's get started with developing the walking & cycling network plan!

Step 1: Map the baseline information

Prepare a basemap, using GIS or other geospatial tools, with the following layers:

- Existing walking and cycling infrastructure
- Accident prone locations
- Routes frequented by the cyclists and pedestrians.
- NMT proposals in CMP, DP, SCM, etc.
- Routes suggested by citizens or other stakeholders
- City-level destinations transit stations, schools, markets, job centers, parks, etc.

To collect these data, conduct surveys and tap into data from other agencies and existing reports.



Step 2: Identify the street hierarchy

Arterial Streets

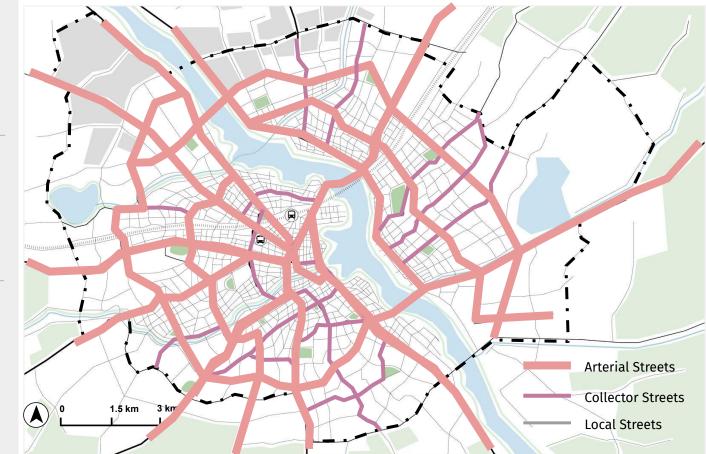
Arterial streets provide intra-city long distance travel. They connect various parts of the city. They have high traffic volumes and may have high vehicle speeds. They may have public transport (bus, metro, etc.) or IPT (shared auto/vans etc.) service.

Collector Streets

Collector streets connect **traffic from** arterial streets to local streets. They also provide connection between different neighbourhoods. They may have public bus transport or IPT service.

Local Streets

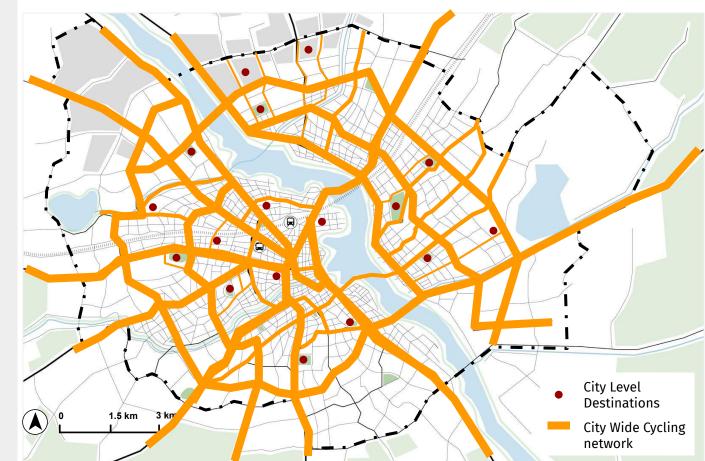
Local streets **provide access to private properties in a neighbourhood.** They are not meant to provide through-movement for vehicles outside the neighbourhood. As per IRC:86 the **speed on local streets should be not more than 30kmph.**



Step 3: Map the network: City-level

Identify your **city-level walking and cycling network** by covering:

- All Arterial streets
- Collector streets that have / connect to major public transport or shared auto corridors
- Collector and local streets that connect city-level destinations such as corporate offices, markets, industries, townships, etc.
- Other connections through bridges, and private property linkages.
 Ensure routes frequented and suggested by cyclists, citizens or other stakeholders are covered in the network plan.



Step 3: Map the network: Neighborhood-level

Densify your neighbourhood-level walking and cycling network by:

- Including all local streets
- Adding potential **shorter linkages** through parks, private properties, etc
- Providing midblock crossings every 80–250 m in residential areas, and at every 80–150m in commercial areas, with sufficient access points.

You can also consider developing this as a ward-level network plan.

The network for only <u>one neighborhood</u> has been illustrated on this map.

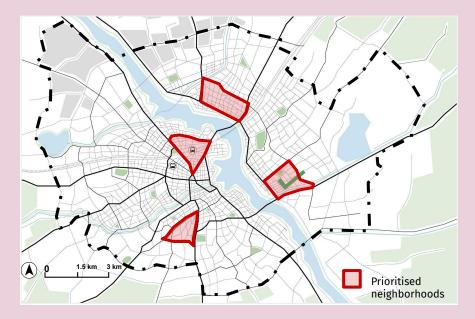
0.50 km

0.25 km

Neighborhood Cycling network

New linkages

Prioritize a few neighborhoods to start with!



- Neighbourhoods with high road accident count
- Neighborhoods that attract most number of trips
 - Job centers
 - Places of Interest (tourism)
- Neighborhoods with strong support for cycling among citizens, active corporators, and politicians

Now that you have the network plan, let's look at how you can use it to identify interventions and make it robust.

Types of walking- & cycling-friendly interventions

SEGREGATED FOOTPATHS



On **all streets** with **street speed > 15 kmph** to ensure pedestrian safety. It could also have placemaking components.

Segregated footpaths are feasible on streets with Right of Way>=9m SEGREGATED CYCLE TRACKS



On **Arterial and collector streets** with **street speeds > 30 kmph** to ensure cyclists' safety and encourage cycling to reduce traffic congestion.

Segregated cycle tracks are feasible on streets with Right of Way>=18m TRAFFIC CALMED STREETS



On **collector and local streets** where there is less traffic volume and greater ability of vehicles to speed up (>30 kmph).

To ensure safety of children and residents in a neighborhood.

Types of walking- & cycling-friendly interventions

WALK- & CYCLE-ONLY STREETS



In **areas with high footfall** such as **markets, commercial areas.** It could also have placemaking components.

To avoid traffic congestion and provide safe and comfortable **movement of people.**

WALK, CYCLE, & PUBLIC TRANSPORT-ONLY STREETS



In areas with high footfall such as markets, commercial areas, transit station areas (railway stations, bus terminals, metro stations).

To avoid traffic congestion and ensure **multimodal integration.**

CYCLE HIGHWAYS



Off street linkages that provide long distance connectivity by creating shorter travel distances.

They can be at-grade or grade separated, with sufficient entry and exit points connecting the main street network.

Types of walking- & cycling-friendly interventions

INTERSECTIONS



Through bicycle boxes, traffic calming elements, prioritized signals, etc. to ensure safe and continuous connections.

BRIDGES AND OTHER LINKAGES



Through private properties—such as educational institutions, offices, large gated communities, etc— and natural landscapes **to ensure shorter linkages.**

MID-BLOCK CROSSINGS



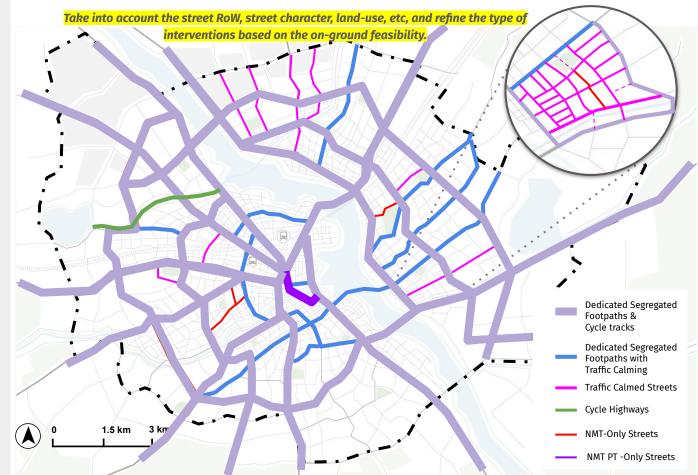
Through dedicated signalised or unsignalised crossings every **80–250 m in residential** areas, and at every **80–150m in commercial** areas, with refuge median as necessary.

Step 4: Identify and assign the type of walking & cycling interventions

- All streets with street speed above 15 kmph shall have dedicated and segregated footpath.
- All streets with street speed of above 30 kmph shall have dedicated and segregated cycle track.
- Streets were pedestrians and motorists share the same street space should be traffic calmed to below 15 kmph.

As per IRC:86 - 2018, design speeds for plain roads:

- Arterial streets 60kmph (provided it is access controlled through service road, otherwise design it as collector street)
- Collector streets 40kmph
- Local streets 30kmph
- School zone, hospital, crowded areas 20kmph



Step 5: Create a street inventory for your Network Plan

Based on the Network Plan, create a street inventory table with the following:

- Street name, Zone / Ward name or number
- Street length
- Location coordinates
- Type of permanent walking & cycling interventions + Length Feel free to customize it as per your city's requirements

Use Excel or any geospatial mapping tools to develop the table.

Create a Master inventory for city-level Network Plan & supplementary inventory based on neighborhood-level Plan

A	2			PL	JNE	nicipal Cor CYCLE ads and T	PLAN					
Segment No.	Zone No.	Ward Office (Admin Wards)	ROAD / STREET NAME	LHS	RHS	LOCATION COORDINATES		ROAD LENGTH (IN KMS)				
						Start	End	Segregated (Dedicated) Retrofitted Existing Cycle Track	Segregated (Dedicated) Proposed Cycle Track	Proposed Painted Cycle Lane	Segregated (Dedicated) Proposed Greenway	Segregat Proposed C Track (Merged v footpat
A	В	С	D	E	F	G	Н	1	J	K	L	м
1	ZONE 5	H. Kasba - Vishrambaug	L B Bhopatkar Path (Kelkar Chowk - Munjabacha Bole Rd)			18.516382, 73.850028	18.51487, 73.85008			0.2		101
2	ZONE 3	Wada	L B Bhopatkar Path (Kelkar Chowk - Munjabacha Bole Rd)			18.516382, 73.850028	18.51487, 73.85008	24	-	0.2	521)	-
3	ZONE 5	H. Kasba - Vishrambaug	L B Bhopatkar Path (Munjabacha Bole Rd - Umbraya Maruti Chowk)			18.51487, 73.85008	18.51419, 73.85014		-	0.1	-	
4	ZOINE 3	Wada	L B Bhopatkar Path (Munjabacha Bole Rd - Umbraya Maruti Chowk)			18.51487, 73.85008	18.51419, 73.85014		-	0.1	-	
5	ZONE 5	H. Kasba - Vishrambaug	Sadashiv Peth Road (Umbraya Maruti Chowk - NAGNATHPAR MARUTI MANDIR)			18.51419, 73.85014	18.51238, 73.85038	÷	÷	0.2		ŝ
6	ZUNE 5	Wada	Sadashiv Peth Road (Umbraya Maruti Chowk - NAGNATHPAR MARUTI MANDIR)			18.51419, 73.85014	18.51238, 73.85038			0.2		

Use this sample table to get started!

#	Street Name	Length in Kms	Length of interventions planned						
			Segregated Cycle Tracks	Segregated Footpaths	Traffic Calmed Streets	Walk & Cycle Only Streets	Walk, Cycle, & Public Transport Only Streets	Cycle Highways	

Update the inventory, every time when there is a change in Network Plan.

Get feedback on the developed network plan!

- **Reach out** to community leaders, political leaders, RWAs, bicycle mayors, CSOs, NGOs, local universities, institutions, etc to gather inputs on the **walking and cycling network plan.**
- **Refine** the network plan based on the **feedback received.**



Ensure that your plan keeps growing over time.

Feel free to strengthen your planning methodology with additional data and inputs from stakeholders.

Check out some of the sample network plans from cities to add more layers to your network plans!



Developing the network plan, with the streets inventory, will help in the development of the phasing plan, packaging & budget estimates.

Steps towards these will be shared soon!

Reach out to the ITDP team for discussions and reviews for the network plan!

A. Action - Goals

A1. Test TUs & Implement permanent cycling interventions

A2. Test TUs & Implement permanent walking/placemaking interventions

What will each city achieve in 2023? 50kms of Healthy Streets!









15 km*

walking and cycling corridors

with segregated cycle lanes and footpaths (for RoW>18m)

35 km*

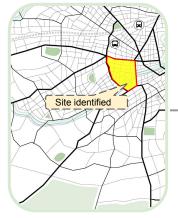
of walking and cycling neighborhood network through footpaths, cycle tracks, traffic calming elements, placemaking

All

intersections & crossing are safe for walking and cycling **Cycle parking, rentals and repair clinics** along the network

*Ensure that the network is connected and continuous

A1 & A2. Implement permanent interventions - Road map



Source ITDP India

a. Finalise your sites



Source Bandra Collective

b. Prepare detailed design

Source: NACTO

c. Test the design & capture learnings



Source ITDP India

d. Make it permanent

Continue to engage with the community & build momentum for walking & cycling!

A1 & A2. Implement permanent interventions - Road map



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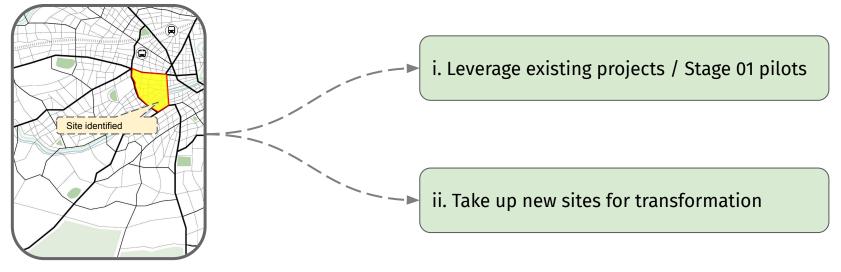
Source ITDP Indic

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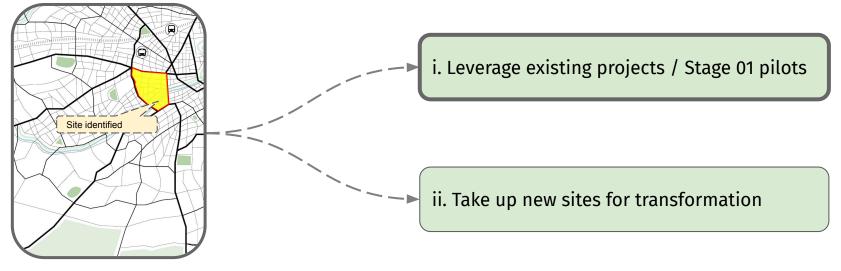
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a. Finalise your sites



Source ITDP India

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Source ITDP India

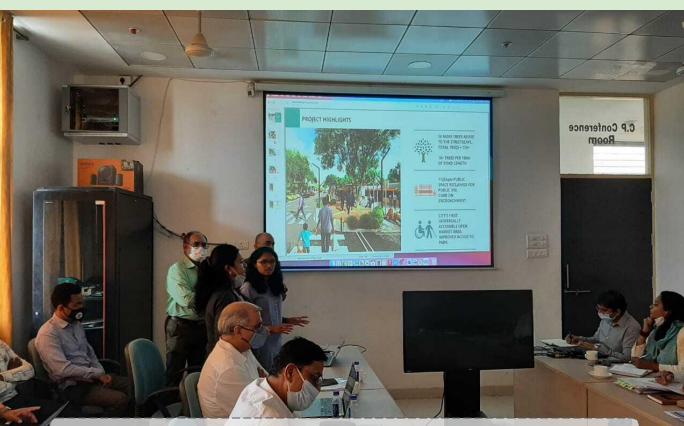
i. Leverage existing projects / Stage 01 pilots

Why?

- To embed the Healthy Streets principles in ongoing projects and maximise impact
- To apply your learnings from Stage 1 Pilot testing, for permanent transformation

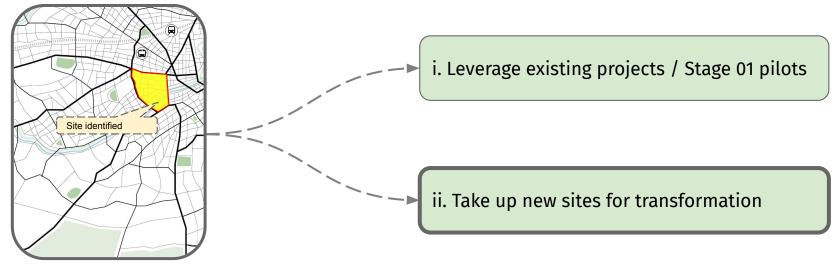
Which sites/projects shall qualify?

- Any street project that will **allow for design** changes / additions.
- Any project that doesn't currently have safe walking and cycling infrastructure, and will benefit from them.



Embrace an area-based approach vs an isolated street or public space project

a. Finalise your sites



Source ITDP India

ii. Take up new sites for transformation

Remember your pledge

Take a look at the **infrastructure transformation committed** by your city in the **Freedom2Walk&Cycle pledge.**

Aim Higher

Go beyond the challenge targets and finalize additional streets for transformation.

Use the network plan to help identify and finalize your sites.



Remember these typologies while identifying your site!



Mixed income area

Resettlement area

Unplanned low-income area

Does your city have another type?

A1 & A2. Implement permanent interventions - Road map



Source ITDP India

a. Finalise your sites



Source Bandra Collective

b. Prepare detailed design



Source: NACTO

c. Test the design & capture learnings



Source ITDP Indic

d. Make it permanent

Continue to engage with the community & build momentum for walking & cycling!

b. Prepare Detailed Designs

Reach out to the coordination team for support on these!

HOW can your city design streets?



Set up an in-house design team



Roll out RfP and hire Design Consultants



Host a competition to

crowdsource design ideas



Collaborate with local universities / institutions

Choose a way that shall best suit your city!

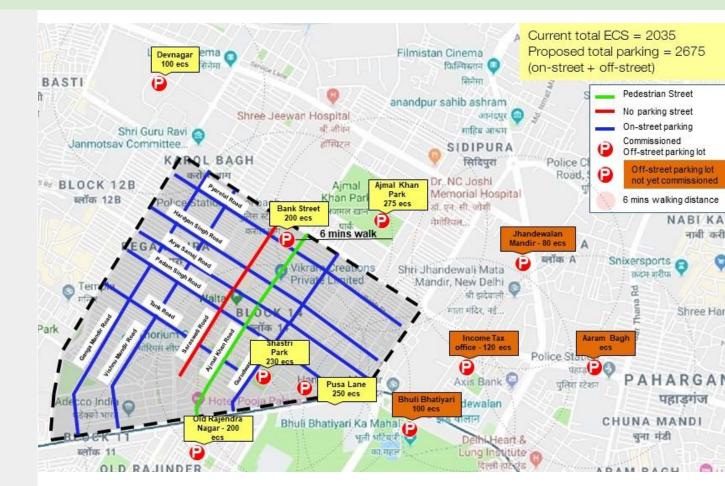
Embrace an area-based approach!

Think and implement comprehensive solutions!

<u>Eg: Karol Bagh, Delhi</u>

The pedestrianisation of Ajmal Khan Road, has led to reimagination of the entire neighbourhood.

Measures included multi-modal integration, parking & vendor management, and footpath improvements.

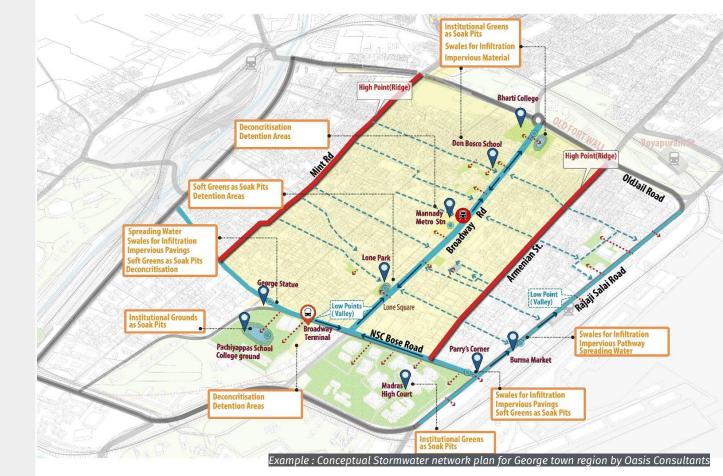


Embrace an area-based approach!

Think and implement comprehensive solutions!

Eg: George Town, Chennai

The street network planning has led to strategizing stormwater and open management measures



Check out these collaterals to guide you through the detailed designs!



Reach out to the ITDP team for design reviews!

C. Communication - Goals

C1. & C2. Host World Bicycle Day

And coming up is the most awaited celebration of the year!

Save the date and mark your calendars for June 3rd, to celebrate World Bicycle Day!

Last year, we hosted cycle rallies and launched online campaigns!



Let's take up some exciting new initiatives for World Bicycle Day 2022!

Kick start the planning for these initiatives now!!



1. Implementing 30 KMPH Streets!



Well-designed 30 KMPH reduce the chances of fatal accidents when pedestrians and cyclists share the streets with motor vehicles.







Source: Copenhagenize

1. Implementing 30 KMPH Streets!

 Implement 30KMPH streets in at least 3 neighbourhoods!

Celebrate the 30 KMPH streets on 3rd of June!

Source: Barcelona.Cat

The guide will be shared soon!

2. Adopting the Healthy Streets Policy

Click here to download the guide to adopt the Policy



Celebrate the Policy Adoption Event on 3rd of June!

600

3. Institutionalising Open Street Campaigns

The guide will be shared soon!

Bring all the stakeholders together and **plan regular Open Streets** across the city!

Announce and kick-start the campaigns on 3rd June!

Source: Mumbai Equal Streets

Let's kick-off this Bicycle Day by empowering women!

Women often feel unsafe to cycle on our streets. Host women oriented cycle rallies and celebrate their freedom to cycle on 3rd June!



Let's make World Bicycle Day a festival in our cities. 'Plan multiple other cycling events in the week of 3rd of June. activities

So, let's begin and make this a nationwide celebration!

Goals towards which collaterals are already shared...

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to bring institutional reforms

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B1. Adopt the Healthy Streets Policy

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B7. Set up the HS Apex Committee

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C. COMMUNICATION

to build momentum

C1. Institutionalise the **Open Streets Campaign**

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C3. Institutionalise Cycle2Work / Cycle2Shop Campaigns

The collaterals can be found in the <u>Resources section</u> of the website

Next steps

What will cities do?

Foundation:

- Develop the walking and cycling network plan
- Set up HS Department / Cell
- Adopt the HS Policy
- Set up Apex Committee

Action:

- Finalize your sites
- Develop the detailed designs

Communications

• Take up the World Bicycle Day Initiatives

What will ITDP share?

Foundation:

- Guide to create the walking & cycling network plan
- Guide to adopt HS Policy

Communications

• Guide to host the World Bicycle Day

The leaderboard shall be launched soon!

	ed on the initiatives taken towards the identified goals.														seu on					
Total	Events			Sharing			Infrastructure			Crime & Safety								a .e oard!		
	۳	Ģ	ø	22	**	27 280	6 %	0	Ш	Ħ	a	\$P	\		dig	۰	Size	Country	City	#
77.9	279.88	7.32	×	17	12.07	21.77	57.51	98.87	60.78	37.18	82.46	78.99	279.88	1.94	51.00%	63.83	s	Netherlands	Utrecht	1
65.	445.58	23.84	×	31	26	35.52	51.23	88.04	53.05	28.15	88.43	83.04	445.58	0.53	39.10%	58.74	s	Germany	Munster	2
60	1165.81	14.12	~	89	100	78.87	34.28	75.31	53.37	73.57	77.05	84.61	1165.81	1.61	28.90%	62.67	s	Belgium	Antwerp	3
60.	218.44	74.05	~	15	17.33	12.17	55.23	86.54	61.6	62.47	83.01	66.62	218.44	1.04	29.00%	61.19	М	Denmark	Copenhagen	4
60.	1019.18	22.63	×	33	33.73	32.06	55.9	98.87	61.71	43.72	77.75	84.49	1019.18	1.77	32.00%	63.42	м	Netherlands	Amsterdam	5
55.	433.11	7	×	10	9.46	10.8	46.55	91.85	52.4	26.56	91.89	90.87	433.11	0.37	30.00%	58.98	s	Sweden	Malmo	6
52.	476.73	3.28	×	48	49.7	46.15	32.72	63.55	35.06	11.92	80.06	74.48	476.73	1.71	30.00%	54.20	L	China	Hangzhou	7

Source: Global Bicycle Index

The leaderboard will be used to **measure the city's performance** and to **develop** interesting and unique data points based on the impact!

Thank you!



http://bit.ly/c4conline

Streets 4 People CHALLENGE

https://bit.ly/s4ponline