United Nations Development Programme

Streets for Life: Making Walking and Cycling Safe

Guidelines on Non-Motorized Transport Planning & Design in Lebanon

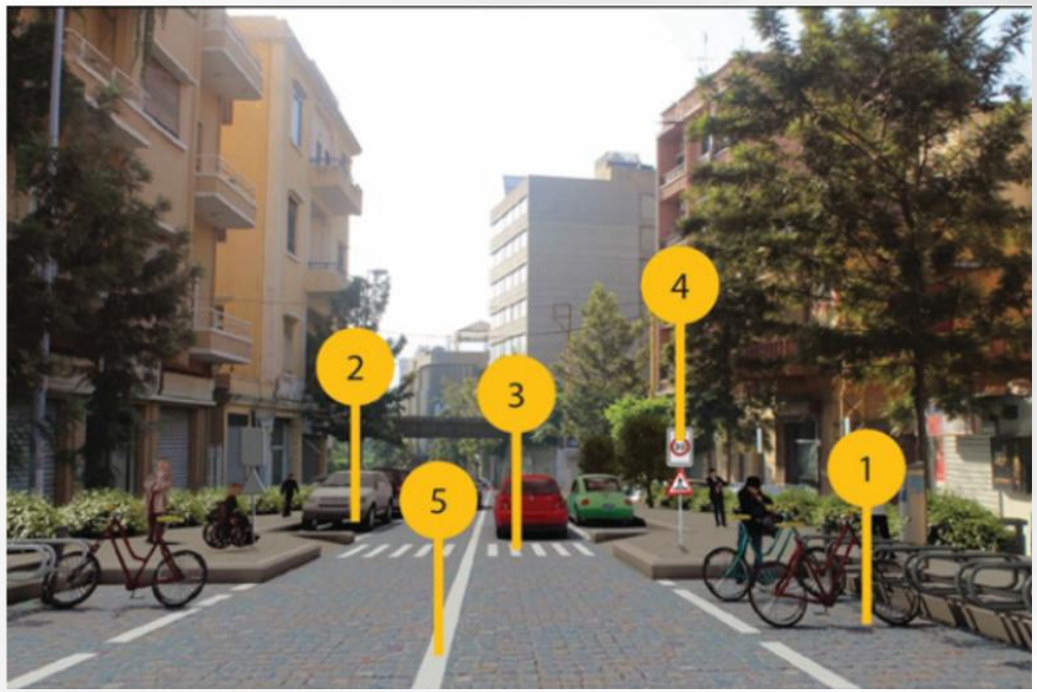
14 May 2025, Beirut. 8th UN Global Road Safety Week

Overview

The guide is **a toolkit designed to assist municipalities in planning, designing, and implementing non-motorized transport (NMT) infrastructure** projects to create more accessible, pedestrian-friendly, and cyclist-friendly public spaces.

Current Situation

Proposed Layout



(1) Bicycle parking / (2) Parking Lane / (3)Pedestrian Crossings
(4) Signage / (5) Zone-30

Why Do Municipalities Need This Guide?

Why Do Municipalities Need This Guide?

1

Car-Centric Infrastructure

Municipalities prioritize car-centric infrastructure, which marginalizes non-motorized transport and increases car dependency, congestion, air pollution, and reduced urban livability.

Car infrastructure dominates public spaces. Source: Executive Magazine

Why Do Municipalities Need This Guide?

1 2 3

Local Authorities Lack Expertise & Guidance

Municipalities often lack the necessary expertise, knowledge, and strategic guidance to effectively implement NMT solutions.

Source: UN-Habitat

Why Do Municipalities Need This Guide?

1 2 3

Chain Effect mural: 'Drive a bicycle instead!'. Source: The Guardian

Cultural Resistance

There's a prevailing social perception in Lebanon that NMT is not a viable mode of transportation.

How is the Guide Structured?

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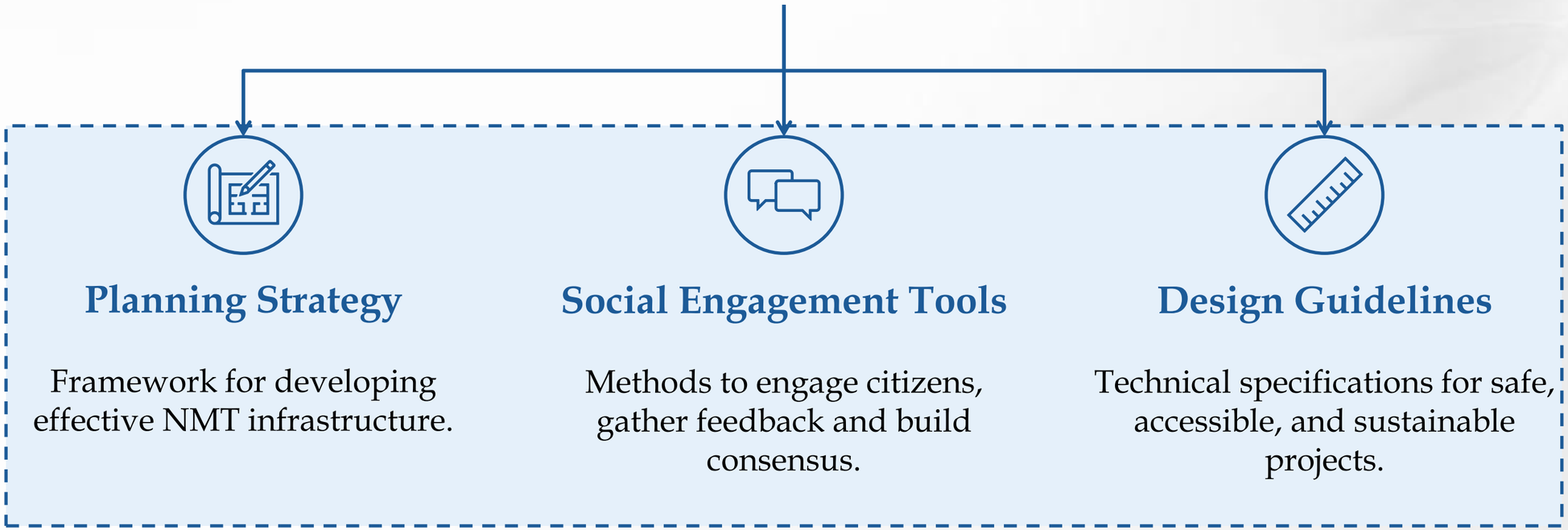
This guide is structured into three key sections



How Would Municipalities Use This Guide?

How Would Municipalities Use This Guide?

To illustrate the practical application of this guide, we will walk through **a scenario involving a common urban transportation challenge.**

Imagine a municipality identifying **a dangerous pedestrian area** marked by frequent, fatal accidents.

How can they apply these guidelines to transform and secure this space?

Follow the 5-Phase Planning Strategy

1 — 2 — 3 — 4 — 5

First, the municipality needs to establish a comprehensive **Planning Strategy.**

Our guide presents a five-phase approach to developing a holistic non-motorized transport (NMT) strategy

Phase 1: Defining Goals and Objectives

1 2 3 4 5

Defining Goals and Objectives

Defining goals and objectives specifically related to pedestrian safety at the dangerous location.

Phase 1: Defining Goals and Objectives

1 2 3 4 5

Defining Goals and Objectives

Goals

The overarching aspirations of the project, providing a general direction and purpose.

Eliminate pedestrian fatalities and significantly reduce serious injuries.

Phase 1: Defining Goals and Objectives

1 2 3 4 5

Defining Goals and Objectives

Goals

The overarching aspirations of the project, providing a general direction and purpose.

Eliminate pedestrian fatalities and significantly reduce serious injuries.

Objectives

Specific, measurable milestones that the project aims to achieve to accomplish its goals.

- **Improve pedestrian safety infrastructure.**
- **Enforce traffic calming measures.**
- **Conduct awareness campaigns for both drivers and pedestrians.**

Phase 1: Defining Goals and Objectives – Social Tools

1 2 3 4 5

Defining Goals and Objectives

Social Engagement Tools Used

Collaborative Needs Assessment Tools

Questionnaires
Focus Group Discussions

+(Online Platforms)

Co-creation & Co-production Tools

Workshop Sessions

Phase 2: Investigating Local Context

1 2 3 4 5

Investigating Local Context

Conducting a thorough investigation of the local context surrounding the dangerous area.

Phase 2: Investigating Local Context

1 — 2 — 3 — 4 — 5

Investigating Local Context

Regulatory Framework

Identify relevant public agencies, review traffic and pedestrian safety regulations, and explore funding opportunities through grants.

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Investigating Local Context

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Physical Infrastructure

Evaluate the area for crosswalk visibility, sidewalk and lighting conditions, traffic calming measures, accident data, vehicular speed/volume, and public transport connectivity.

Phase 2: Investigating Local Context

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Investigating Local Context

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Social Component

Understand local safety concerns, pedestrian behaviors and travel patterns to tailor interventions.

Phase 2: Investigating Local Context

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Identify relevant public agencies, review traffic and pedestrian safety regulations, and explore funding opportunities through grants.

Physical Infrastructure

Evaluate the area for crosswalk visibility, sidewalk and lighting conditions, traffic calming measures, accident data, vehicular speed/volume, and public transport connectivity.

Social Component

Understand local safety concerns, pedestrian behaviors and travel patterns to tailor interventions.

Stakeholder Dynamics

Analyze relationships and influence among local organizations, businesses, and advocacy groups to secure support for safety improvements.

Phase 2: Investigating Local Context – Social Tools

1 — **2** — 3 — 4 — 5

Investigating Local Context

Social Engagement Tools Used

Collaborative Needs Assessment Tools

Questionnaires
Focus Group Discussions
Key-Informant Interviews
Public Forums
Mapping & Local Audits
+*(Online Platforms)*

Phase 3: Prioritizing Sites and Interventions

1 2 3 4 5

Prioritizing Sites and Interventions

Prioritizing specific intervention sites within the identified dangerous area, based on the findings from the Phase 2 context analysis, followed by prioritizing design interventions for those selected sites.

Phase 3: Prioritizing Sites and Interventions

1 2 3 4 5

Prioritizing Sites and Interventions

Prioritizing Intervention Sites

Needs

Target areas with the highest accident rates and severe safety hazards.

Feasibility

Evaluate roadway limitations, utilities, stakeholder opposition, and legal constraints.

Impact

Prioritize sites with high pedestrian traffic and key access points

Phase 3: Prioritizing Sites and Interventions

1 2 **3** 4 5

Prioritizing Sites and Interventions

Prioritizing Intervention Sites

Needs

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Feasibility

Evaluate roadway limitations, utilities, stakeholder opposition, and legal constraints.

Impact

Prioritize sites with high pedestrian traffic and key access points

Prioritizing Design Interventions

Needs

Select interventions that directly address the specific safety hazards at each site.

Feasibility

Consider cost, available resources, potential disruption, and ease of implementation.

Impact

Choose measures that will yield significant improvements in pedestrian safety and reduce accident risks.

Phase 3: Prioritizing Sites and Interventions – Social Tools

1 2 3 4 5

Prioritizing Sites and Interventions

Social Engagement Tools Used

Co-creation & Co-production Tools

Workshop Sessions
Mapping Sessions
Public Meetings

+(Online Platforms)

Phase 4: Experimenting with Tactical Urbanism

1 2 3 4 5

Experimenting with Tactical Installations

Utilizing **tactical urbanism** to test potential pedestrian safety interventions before committing to permanent solutions at the prioritized sites.

Phase 4: Experimenting with Tactical Urbanism

1 2 3 **4** 5

Experimenting with Tactical Installations

Temporary Interventions

Use temporary materials to simulate features like raised crosswalks, refuge islands, and speed bumps.

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1 2 3 **4** 5

Experimenting with Tactical Installations

Temporary Interventions

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Tactical Urbanism in Milan, Italy

Phase 4: Experimenting with Tactical Urbanism

1 2 3 **4** 5

Experimenting with Tactical Installations

Temporary Interventions

Use temporary materials to simulate features like raised crosswalks, refuge islands, and speed bumps.

Community Engagement

Involve residents, businesses, and schools to gather feedback and adjust interventions.

Phase 4: Experimenting with Tactical Urbanism

1 2 3 **4** 5

Experimenting with Tactical Installations

Temporary Interventions

Use temporary materials to simulate features like raised crosswalks, refuge islands, and speed bumps.

Community Engagement

Involve residents, businesses, and schools to gather feedback and adjust interventions.

Data Collection

Monitor traffic, pedestrian behavior, and accident rates to inform the design of permanent solutions.

Phase 4: Experimenting with Tactical Urbanism – Social Tools

1 2 3 **4** 5

Experimenting with Tactical Installations

Social Engagement Tools Used

Co-creation & Co-production Tools

Workshop Sessions
Pilot Projects

Participatory Monitoring & Evaluation Tools

Questionnaires
Photo/Video Documentation
Local Audits
Traffic and Pedestrian Counts

Phase 5: Evaluation and Implementation

1 2 3 4 5

Evaluation and Implementation

Evaluating the effectiveness of the tactical pedestrian safety installations implemented in Phase 4 and then deciding on the next steps.

Phase 5: Evaluation and Implementation

1 2 3 4 5

Evaluation and Implementation

Systematic Evaluation

Assess traffic speeds, pedestrian usage, accident/near-miss data, and community feedback.

Phase 5: Evaluation and Implementation

1 2 3 4 **5**

Evaluation and Implementation

Systematic Evaluation

Assess traffic speeds, pedestrian usage, accident/near-miss data, and community feedback.

Assess Successes & Challenges

Identify which interventions worked and note any issues like congestion or negative impacts.

Phase 5: Evaluation and Implementation

1 — 2 — 3 — 4 — **5**

Evaluation and Implementation

Systematic Evaluation

Assess traffic speeds, pedestrian usage, accident/near-miss data, and community feedback.

Assess Successes & Challenges

Identify which interventions worked and note any issues like congestion or negative impacts.

Transition to Permanent Solutions

Replace successful tactical measures with permanent installations.

Phase 5: Evaluation and Implementation – Social Tools

1 — 2 — 3 — 4 — 5

Evaluation and Implementation

Social Engagement Tools Used

Participatory Monitoring & Evaluation Tools

Questionnaires
Focus Group Discussions
Public Review Meetings
Key-Informant Interviews
Public Forums
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Technical Design Guidelines

As **municipalities move** into Phases 4 and 5, **the design guidelines ensure safe, accessible, and user-friendly NMT infrastructure.**

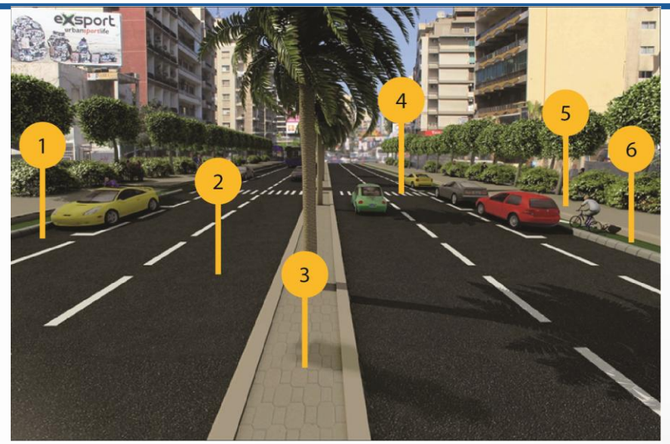
These guidelines provide the technical specifications and best practices necessary to ensure that our physical interventions are safe, accessible, and effective within the Lebanese context.

Design Recommendations based on Road Type

1

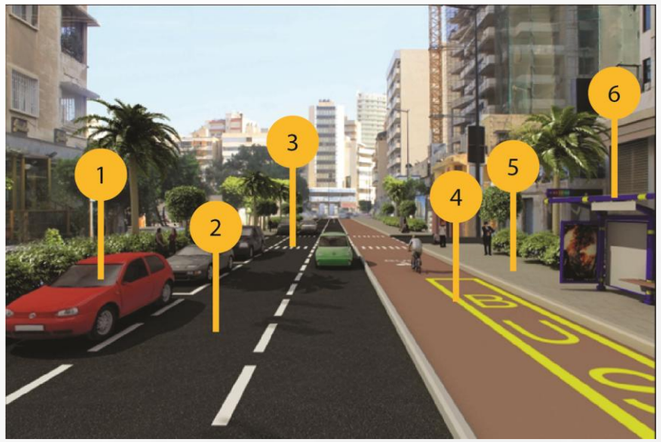
Road Hierarchy

Classify roads with tailored design recommendations for each road type.

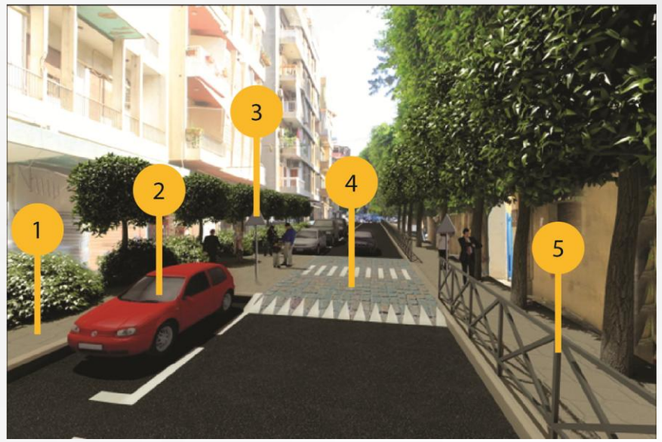


Primary Arterial

Collector Road



Secondary Arterial



Local Road

Design Guidelines - Traffic Calming Zones

2

Traffic Calming Zones

Provide guidelines for creating zones to reduce speeds and enhance safety.

30 km/h Zone

Pedestrian Zone

Shared Zone

Design Guidelines - Street Components

Figure 43: Angled Parking (Team Acko, 2017)

Table 19: Recommended Widths for Angled Parking Configurations

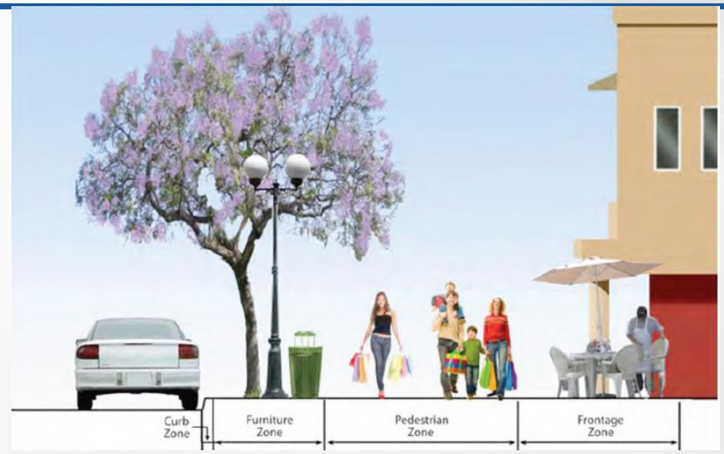
Parking Angle (°)	Recommended Width (m)
60	5.6
45	5.3
30	4.7

Angled Parking Configurations

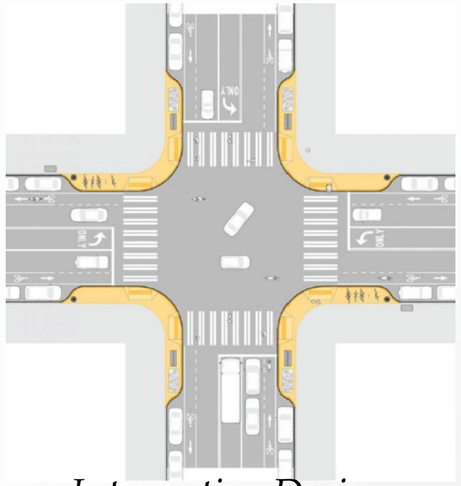
3

Street Components

Detail essential elements like **traffic lanes, parking, sidewalks, cycling lanes, and intersections** for cohesive streetscapes.



Sidewalk Zones



Intersection Design

Separated Bike Lane

Bidirectional Bike Lane

Design Guidelines - Street Furniture

4

Street Furniture

Offer guidance on selecting and placing **pedestrian facilities, cycling infrastructure, and signage** to create inclusive public spaces.

Crosswalks

Bike Storage

Design Guidelines - Traffic Calming Measures

Curb Extensions for Shorter Crosswalks

Raised Table at Intersection

5

Traffic Calming Measures

Outline strategies such as curb extensions and speed control devices to lower vehicle speeds and protect pedestrians.

Design Guidelines – Public Transport Integration

Integration of Bike and Bus Infrastructure

6

Public Transport Integration

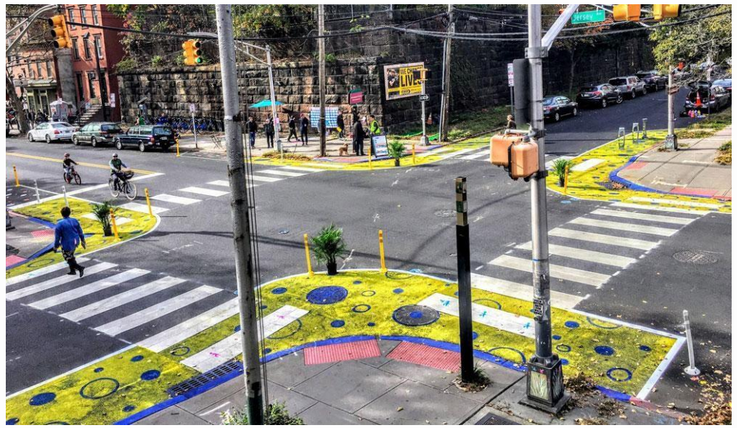
Ensure seamless connections between NMT infrastructure and public transit through optimized design.

Design Guidelines – Tactical Alternatives

7

Tactical Alternatives

Introduce low-cost, temporary interventions (e.g., parklets, pop-up bike lanes) to test concepts and engage communities.



Tactical Intervention to Widen Sidewalks at Intersection.

Temporary Bikes Lanes. Source:

Global Case Studies

Paseo de La Reformo, Mexico City

- Bogotá's Ciclovías: Strategies for promoting cycling
- São Paulo's Área 40: Promoting Pedestrian Safe Environments
- Mexico City's Ecobici: Promoting Shared Zones for NMT
- Paris: How to deal with dock-less bikes and scooter hire

Conclusion

- Provides municipalities with a clear roadmap for NMT planning.
- Promotes people-centered, inclusive, and sustainable transport.
- Five-phase strategy ensures practical, context-based implementation.
- Emphasizes community engagement and equitable design.
- Adaptation to the local context is key to success.
- Supports healthier, more accessible, and resilient cities.

Thank You

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