Integrating and planning for non motorized transport in urban areas

UNESCAP Regional Expert Group Meeting & Second Asia BRTS Conference, 29th Sept - 1st Oct 2014, Ahmedabad, India

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The majority of trips in Asian cities are done on foot.
or using cycles
However often developing countries face challenges in the form of...

Inadequate pedestrian infrastructure
However often developing countries face challenges in the form of...
Inadequate cycling infrastructures
In terms of infrastructure, what differentiates advanced cities are not highways or subways but quality sidewalks and cycleways.”

Enrique Penalosa, former Mayor of Bogota, Colombia
and our cities design should facilitate such development!
Advantages of Non-Motorized Transport

• Low Cost Infrastructure
• Higher User Safety
• Environment friendly
• Low Cost for users
• Healthy for users
• Low-Cost Vehicles

Photo by Carlosfelipe Pardo
Advantages of Non-Motorized Transport

reduces greenhouse gases emissions provides important health benefits

- Lower all-cause mortality**
- Less high blood pressure**
- Less type 2 diabetes**
- Less colon cancer**
- Less depression**
- Better body mass index and body composition**
- Better functional health in older adults**
- Less risk of falls in older adults**
- Better cognitive function**
- Better quality sleep*
- Better health-related quality of life*
- Less coronary heart disease**
- Less stroke**
- Less metabolic syndrome**
- Less breast cancer**
- Better fitness**

Health effects associated with physical activity
How to promote NMT in a country?
Adopt Sustainable Transportation Policy and strategies

DO THE RIGHT MIX

Source: Bicycle Innovation Lab
“The highest priority should go to public transport, walking and non-motorised vehicles that are accessible to almost everyone and have low impacts”

Enrique Peñalosa
For people
The 5 key requirements for NMT planning also called “S.P.A.C.E”

1. Safety : speed, visibility, previsibility
2. Priority/Direct routes : horizontal design, traffic lights
3. Accessible/Coherence
4. Comfort : vertical design, traffic lights
5. Enjoyable/Attractiveness (less important)
1. Road Safety – Reduce Speed and mode separation

An infrastructure that guarantees safety of the pedestrians and cyclists
All the city: 30 km/h
Low vehicular speeds where cyclists and cars cross
Pedestrian Safety - would you walk here?

perceptions of poor safety discourages walking/cycling
access at crossing should be designed considering requirements of various user groups (e.g. young children, vision- and mobility-impaired people, etc.).
Shortcuts
Bi-directional Bikepath on one side: direct routes

- Direct Routes
- Coherence
- Road Safety
- Attractive Routes

2.80 m.
3. Coherence – consistent, continuous, and adequate amenities

The infrastructure forms a coherent unit and is linked to the origins and the destinations of cyclists.

That’s why we need:

- Consistent quality
- Different design
- Continuity
- Few changes in the design and width
- Complete routes
- No interruptions
- Adequate signaling

Source: CSE
Can elderly and people with special abilities use such NMT facilities?
Can elderly and people with special abilities use such NMT facilities?
...think about the blind people, can they safely use such infrastructure?
4. Comfort – priority and unobstructed pass

How to achieve this?

- Providing **priority** for cyclists at junctions in case of mixed traffic (e.g. green box)
- **Non-slippery pavement**
- Protected form wind, sun, and rain
4. Comfort - priority and unobstructed pass
Insufficient pavement width for pedestrians

Pedestrian overpasses or footpaths with insufficient width are always uncomfortable, and people seldom use them.
5. Attractiveness: Choosing the best options

The infrastructure is designed and integrated with the environment so that pedalling and walking becomes attractive.
5. Attractiveness: Choosing the best options

Don’t you think a person would enjoy walking on this footpath?
What if they have what they want?

- Give them S.P.A.C.E and how will they be?

Strasbourg (F)
Nyhavn today
Developed-city examples

Copenhagen  
Munich  
Tokyo  
Singapore  
Stockholm  
London
Developing-city examples

Shanghai

Bogotá
35,000 people have already reclaimed the streets of Gurgaon. What are you waiting for?

Raahgiri Day — an initiative to reclaim the streets of Gurgaon is back on Dec. 8 and on every Sunday after that. One side of the designated streets will be blocked once again for all motorised traffic. So join us on your cycles or skateboards or just for a leisurely walk. After all, the streets belong to everyone and not just cars.

Date: 8th December and every Sunday after that | Time: 7am to 12 noon
Venue: On the streets opposite Vyoopur Kendra and Galleria Market, DLF Phase IV, Gurgaon.

Log on to www.facebook.com/RaahgiriDay for more details. Tell us what you plan to do on Raahgiri Day and win exclusive merchandise from The Times of India. SMS ‘RAAHGIRI <Your plan for Raahgiri Day>’ to 58888.
Case Study - Copenhagen, Denmark
Case Study - Copenhagen

Background

- 1.2 million inhabitants; 2,632 inhabitants per square meter
- Bicycles have always been a part of Copenhagen life since the 19th century; the Second World War substantially increased the level of bicycle use
- Post-war era until 1960: cars dominated urban policies
- High GDP (USD 36,449 per capita)
- Turning point 1970:
  - oil crisis; growing traffic congestion
- Challenge:
  - providing affordable transport to all
  - redirect their transport policy to one where bicycles would have a predominant role
  - comprehensive urban development plan
- After 2000, second milestone: more systematic approach to cycling
Københavner: reasons for cycling - faster and healthy

Bicycles now account for 37% of trips in the city. Traffic accidents have been reduced ("safety in numbers") cultural/fashion approach to cycling: "Cycle Chic"

Survey results in the year 2010

NEW CYCLISTS’ REASONS FOR STARTING TO CYCLE

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s faster</td>
<td>51%</td>
</tr>
<tr>
<td>It’s more convenient</td>
<td>32%</td>
</tr>
<tr>
<td>It’s healthy</td>
<td>31%</td>
</tr>
<tr>
<td>It’s cheap</td>
<td>30%</td>
</tr>
<tr>
<td>It feels good / good way to start the day</td>
<td>20%</td>
</tr>
</tbody>
</table>

19% of existent cyclists started cycling more than two years ago and 9% started cycling within the past two years. 70% have always cycled.

HEALTH IMPACTS OF CYCLING – DKK PER CYCLED KM

<table>
<thead>
<tr>
<th></th>
<th>Impact on society</th>
<th>Impact on individual cyclist</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health benefits</td>
<td>1.74</td>
<td>3.77</td>
<td>5.51</td>
</tr>
<tr>
<td>Accident costs</td>
<td>0.54</td>
<td>0.25</td>
<td>0.79</td>
</tr>
<tr>
<td>Total health impact</td>
<td>1.20</td>
<td>3.52</td>
<td>4.72</td>
</tr>
</tbody>
</table>

Source: Copenhagen Bicycle account 2010, Photo Carlosfelipe Pardo
Advantages of expanding the role of NMT: Summary

Priority and promotion for non motorized transport will generate:

• Greater access to all population
• Greater traffic safety
• Greater livability
Cycling-Inclusive Policy Development: A Handbook
April 2000

Sustainable Transport - Car-Free Development
Preserving and Expanding the Role of Non-motorised Transport

Useful Resource
Training course manuals

- Public Awareness and Behavioural Change
- Non-motorised Transport
- Mass Transport Options
- Bus Regulation and Planning
- Financing Urban Transport
SUTP Website (Engl., CN, Span.)

- Active since 2002
- GIZ SUTP Publications
- Multimedia (gallery, videos)
- 35,000 visitors (per month)
- Almost 50,000 registered users
- Approx. 35,000 downloads (per month)

www.sutp.org
Write to us for any assistance on making Sustainable Urban Transport a reality in your city

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