Sustainable Urban Mobility Plans: Concept, process, content & benefits

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Today’s Agenda

• Introductions
• Megatrends
• Introduction to the SUMP Cycle
• Case Studies
• Tools
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• **Megatrends**
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Megatrends in cities

1. Urbanization, demographics and the emerging middle class
2. Inequality
3. Sustainability
4. Technological change
5. Technological availability
6. Clusters and global value chains
7. Governance
8. New trade routes
Three Main Trends in Urbanization, increasing population and demands

- **MEGA CITY**
  City With A Minimum Population Of 5 Million
  EXAMPLE: Greater London

- **MEGA REGIONS**
  Cities Combining With Suburbs To Form Regions. (Population over 10 Million)
  EXAMPLE: Johannesburg and Pretoria (forming “Jo-Toria”)

- **MEGA CORRIDORS**
  The Corridors Connecting Two Major Cities or Mega Regions
  EXAMPLE: Hong Kong-Shenzhen-Guangzhou in China (Population 120 Million)
By 2020, We Will See Development of Mega City Corridors and Networked, Integrated and Branded Cities

1950s Urbanisation
- Creation of the historic centre and districts

2000s Suburbanisation
- Urban sprawl, first highways and ring road

2015s Network City
- Third suburban area and cities along the highways created, ring road overtaken by the urban sprawl

2020s: Branded Cities
- Ring Road Motorway, Living Areas growing outside the ring road as seen in London

Megacity Trend
- City borders will expand out of suburbs to include daughter cities. The Core City will enclose multiple downtowns.
- Multiple Transportation Models will be used and more than 50% will use public transportation.
- Most offices moved to the first belt suburbs except non cost sensitive activities; city centres becoming shopping areas (small scale deliveries) for expensive goods and living areas for “double income, no kids” households.

Source: Frost & Sullivan
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• **Introduction to the SUMP Cycle**
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A Sustainable Urban Mobility Plan – SUMP is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles.
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Purpose of the SUMP

Create a sustainable urban transport system!

- Ensure the accessibility offered by the transport system is available to all
- Improve safety and security
- Reduce air and noise pollution, greenhouse gas emissions and energy consumption
- Improve the efficiency and cost-effectiveness of the transportation of persons and goods
- Contribute to enhancing the attractiveness and quality of the urban environment and urban design
The policies and measures defined in a Sustainable Urban Mobility Plan cover **all modes and forms of transport in the entire urban agglomeration**, including public and private, passenger and freight, motorised and non-motorised, moving and parking.

Similar analogies?
→ Push vs Pull Systems
→ How about the four step model (Trip generation, Trip distribution, Mode choice, Route assignment) or other models?
SUMP - Approach characteristics

- Status analysis and baseline scenario
- Definition of a vision, objectives and targets
- Selection of policies and measures
- Assignment of responsibilities and resources
- Arrangements for monitoring and evaluation
Element 1: Determine your potential for a successful SUMP!

1.1 Commit to overall sustainable mobility principles
1.2 Assess impact of regional/national framework
1.3 Conduct self-assessment
1.4 Review availability of resources
1.5 Define basic timeline
1.6 Identify key actors and stakeholders
Element 2: Define the development process and scope of plan

2.1 Look beyond your own boundaries and responsibilities
2.2 Strive for policy coordination and an integrated planning approach
2.3 Plan stakeholder and citizen involvement
2.4 Agree on workplan and management arrangements

Element 3: Analyse the mobility situation and develop scenarios

3.1 Prepare an analysis of problems and opportunities
3.2 Develop scenarios
Rational and transparent goal setting

Element 4: Develop a common vision

4.1 Develop a common vision of mobility and beyond
4.2 Actively inform the public

Element 5: Set priorities and measurable targets

5.1 Identify the priorities for mobility
5.2 Develop SMART targets
Rational and transparent goal setting

Element 6: Develop effective packages of measures

6.1 Identify the most effective measures
6.2 Learn from others’ experience
6.3 Consider best value for money
6.4 Use synergies and create integrated packages of measures
Element 7: Agree on clear responsibilities and allocate funding

7.1 Assign responsibilities and resources
7.2 Prepare an action and budget plan

Element 8: Build monitoring and assessment into the plan

8.1 Arrange for monitoring and evaluation
Element 9: Adopt Sustainable Urban Mobility Plan

9.1 Check the quality of the plan
9.2 Adopt the plan
9.3 Create ownership of the plan
Implementing the plan

Element 10: Ensure proper management and communication (when implementing the plan)

10.1 Manage plan implementation
10.2 Inform and engage the citizens
10.3 Check progress towards achieving the objectives

Element 11: Learn the lessons

11.1 Update current plan regularly
11.2 Review achievements – understand success failure
11.3 Identify new challenges for next SUMP generation
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• Third-largest city in Sweden
• Number of inhabitants: 300,515
• Area: 355 km²
• Population density: 897 inhabitants /km²
• Transition from an industrial city to a city with increasing population and workplaces within moving media, life sciences, education etc.
• Öresund bridge (proximity to Copenhagen)
• University of Malmö
• Bus network with more than 180 buses and a high service frequency is in place (~ 34 M pa)
• Central point in the regional train and bus system
• 450 km of cycle ways.
Overview of Strategic Policy Documents

Source: Malmö’s Mobility Master Plan

Sustainable Urban Mobility Plans, University of Cyprus, 11th of May 2015
European Platform on Sustainable Urban Mobility Plans

Issues to consider

1. Well-informed decision-making & political backing
   - yes
   - no
   - maybe

2. Internal communication and cooperation aiming for common ground
   - &
   - :
   - !

3. Prioritizations between different modes of transport

4. Continuous dialogue with stakeholders

5. Cost-benefit analyses and consequence analyses

COMMUNICATION

What?
- EXPLICIT PRIORITISATIONS

How?
- COMMON GROUND & CASE-BASED LEARNING
- PLANNING & PILOT STUDIES

Implement!

Implement cases

www.eltis.org/mobility-plans

Cyprus 11th of May 2015
Malmö’s interventions

Formation of different types of streets

Source: Malmoe’s Mobility Master Plan, Sustainable Urban Mobility Plans, University of Cyprus
Hamburg’s HafenCity
Hamburg’s HafenCity, a case of integrated (re)planning

- HafenCity is a newly developed “downtown area” expanding the city core of Hamburg by 40%.
- Mobility was in the centre of the planning process
- It is located in the former harbour area with its basins and canals at the river Elbe.
- Mixture of uses (residential, offices, retail, cultural, education, university)
  - ~ 12,000 people, jobs for ~45,000 and a hundred thousand of visitors per day
- Around 28 ha of public parks and squares;
- Private investment – around €8.5 billion; Public investment – about €2.5 billion;
- Developing new infrastructure (a new flood control system, new buildings, new PT).
- Inherent unsupportive culture: the modal share of car use in Hamburg is greater than in other major German cities

Some facts:
- 44% of Hamburg workers go by private car to their work;
- Commuters included, this is even 49%;
- For comparison:
  - City of Berlin + Munich 27%;
  - City of Copenhagen has set the goal that in 2015 50% commute by bike;

Hamburg’s HafenCity, a case of integrated (re)planning

- Infrastructural measures taken in HafenCity to influence the modal split of public transport, cycling, walking compared to private car use:
  - A network of walkways along streets, between buildings and at the waterfront in a mixed used environment;
  - An attractive system of cycling;
  - A network of rental locations for city bikes;
  - A high quality public transport system into HafenCity;
  - An energy efficient bus route system;
  - Parking spaces below buildings as part of the system for flood protection raising the level of HafenCity to 8m above sea level;
  - Developing a system for electrical charging stations in private and public parking areas

- Some mobility oriented issues:
  - All of the mobility related projects were subsidised by the Hafencity Company selling plots
  - Additionally, key attractors were asked to participate in the costs
1997: Announcement of HafenCity project
1999: Masterplan competition: winner Kees Christiaanse / ASTOC
2000: Hamburg Senate approves Masterplan
2000: Start of infrastructure measures, site clearance and relocation of businesses
2003: Building construction begins on large scale (Am Sandtorkai / Dalmannkai neighborhood)
2007: Construction of central area, Überseequartier, begins
2007: Work begins on U4 subway line
2009: Completion of first neighborhood, Am Sandtorkai / Dalmannkai
2010: Presentation and discussion of revised Masterplan for eastern HafenCity
2011: Completion of neighborhoods Am Sandtorpark / Grasbrook (except residential) and Brooktorkai / Ericus
2012: U4 subway goes into operation
2012: Construction of Am Lohsepark neighborhood starts
2013: Opening Grasbrookpark
2013: Completion of Baakenhafen bridge
2013: Completion of Elbarkaden
2013: Construction of Am Lohsepark neighborhood begins
2014: Opening of HafenCity University (HCU)
2014: Result of architectural competition for western Strandkai
2014: Above ground construction of Baakenhafen neighborhood begins
2014: Final urban planning competition for HafenCity (Elbbrücken neighborhood)
2014: Southern Überseequartier has new investor
2016: Opening Lohsepark
2017: Inauguration of Elbphilharmonie Concert Hall
2025: Projected completion of HafenCity
Copenhagen
Cyclists travel an impressive total of 1.2 million kilometers by bike every day.

Cycling is on the forefront

93% of cyclists are satisfied or very satisfied with Copenhagen as a cycling city in 2010 (cf 85% in 2008)

A total of 350 km of cycle tracks and 40 km of green cycle routes

37% of everyone working or studying in Copenhagen cycles every day

The ‘world’s best city for cyclists’: with an objective of 50% of Copenhageners cycling to their place of work or education.

How?

Prioritization and innovation

Creating a coherent network that ensures a high level of quality for space, intersections and maintenance so that many cyclists can travel securely and comfortably at the tempo that suits each individual.

A network for commuters in suburbs/outside city with smooth, even road surface (free from leaves, ice, snow)

Standard visual design, quick safe cycle crossings and a green wave for cyclists through closely spaced traffic lights.
Copenhagen’s participatory SUMP

Debate folder (problems and challenges):
- Interviews with citizens and stakeholders
- Public debate meetings at Town Hall
- Opinion poll
- Political discussions and publication of results

2. Debate folder (solutions and priorities)
- Public debate meetings at Town Hall
- Opinion poll (traffic measures)
- Political level discussions and publication of results
- Meeting with stakeholders and interested parties
- Political level discussion on draft action plan
- Public hearing on draft action plan
- Political approval of the Traffic and Environmental Plan

Different measures were taken in the fields of:
- Decisions on a new Metro enlargement
- Decisions on environmental zoning
- Bicycle measures
- Bus priority measures
Some lessons learned

- Should not prioritise sustainable mobility in terms of the experimental, technical solutions but look for the long-term structural ones that allow different technical solutions within the urban system for many decades;
- The case of too many and different policies conflicting one another
- Introduce an inclusive approach and ask the local stakeholders to participate. E.g. a big transport demand attractor should also share the investment costs or the operational costs
- Use an appropriate framework (and parameterize if possible)
- High level (political) commitment
- Act smart: financing may be secured through (many) different sources
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Developing a Prototype  
Testing & Improving  
Applying  
Training of External Auditors 

ADVANCE Phases
Audit
ADVANCE Audit Steps

STEP 1
Analyzing the Status
Desk Research
Auditor I Site Visit
4 Weeks

STEP 2
Assessment (Current State)
Assessment & Comparison of Mission & Action Fields by Indicators
6 Weeks

STEP 3
Prioritization
Development of the Action Plan I Stakeholders Involved
9 Weeks

STEP 4
Final Action Plan
Adaptation of the Action Plan
4 Weeks

STEP 5
Audit Report & Certification
2 Weeks

European Platform on Sustainable Urban Mobility Plans

Sustainable Urban Mobility Plans, University of Cyprus 11th of May 2015

www.eltis.org/mobility-plans
### Action Fields

<table>
<thead>
<tr>
<th>ACTION FIELDS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 - Parking management</td>
<td>Parking management refers to various policies and programs that result in more efficient use of parking resources. Parking management is a powerful mechanism to influence how people travel to the city and within the city. Parking management is an ambivalent instrument: it serves both the car and traffic regulation.</td>
</tr>
<tr>
<td>A1.1 On-street parking</td>
<td>Price differentiation to on-street parking is applied.</td>
</tr>
<tr>
<td>A1.2 Differentiation for target groups</td>
<td>Preferential treatment for different target groups (i.e. residents, commuters, carpoolers, people with disabilities, …)</td>
</tr>
<tr>
<td>A1.3 Differentiation according to emissions</td>
<td>Parking fees in car parkings are differentiated according to emissions.</td>
</tr>
<tr>
<td>A1.4 Move to off-street parking</td>
<td>The number of on-street parking spaces are reduced and possibly replaced with off-street places (underground parking facilities).</td>
</tr>
<tr>
<td>A1.5 Reduction of parking</td>
<td>The total number of car spaces (both on-street and underground parking facilities) are reduced in the city center.</td>
</tr>
<tr>
<td>A1.6 Park + Ride</td>
<td>Providing Park + Ride facilities</td>
</tr>
<tr>
<td>A1.7 Park + Bike</td>
<td>Providing Park + Bike facilities</td>
</tr>
<tr>
<td>A1.8 Parking guiding system</td>
<td>A parking guiding system around the city centre exists.</td>
</tr>
</tbody>
</table>
Questions? Comments?

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