

Global experiences on port-city planning

Focus on sustainable mobility issues

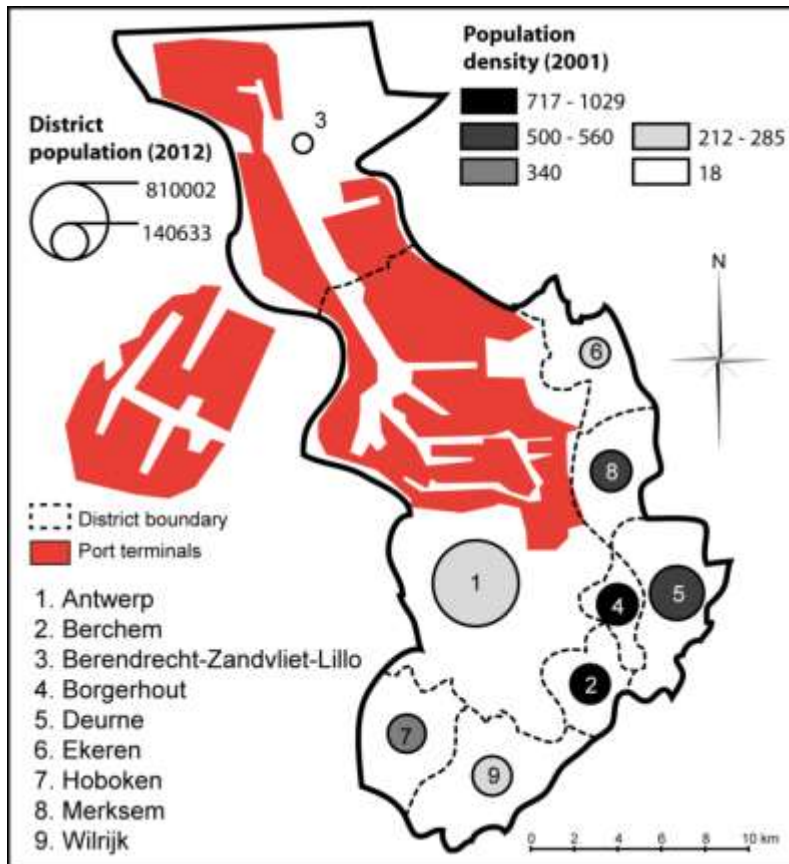
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7th Interregional Forum: “Planning for Port-Cities: Sustainable Mobility Policies & Solutions”

Piraeus, Greece

Sustainable port mobility: main issues?



1. Traffic impacts: 85% of trucks on LA highway sections
2. Environmental impacts: half of SO₂-emissions in Hong Kong
3. Land use impacts: third of land surface of Antwerp


Health impacts and premature deaths

1. Managing traffic impacts sustainably

Los Angeles/Long Beach



1. Managing traffic impacts sustainably

- Avoiding congestion at port gate
 - Stimulating off peak traffic of port trucks
 - Dedicated freight rail/roads/tunnels
 - Corridor development
 - Port intermodal connections
 - Modal shifts
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Stimulating modal shifts via concessions



Criterion	Sub-criteria
Financial (max. 40 points)	Total financial value (NPV)
Strategy & Marketing (25 pts)	Competition: positioning in market
	Volume: expected volumes
	Strategy: extent of cargo control
Sustainability (20 pts)	Environment (EMS, air quality, CO2 emissions)
	Use of hinterland modes
	Security
Technical (15 pts)	Accuracy terminal capacity
	Quality of terminal handling concept
	Flexibility of terminal design

Hinterland mode	2005	2010	2015	2020	2025	2030	2035
Road	60	57	45	42	40	37	35
Rail	9	10	16	17	18	19	20
Inland waterways	31	33	39	41	42	44	45

2. Sustaining support by greening ports

Gothenburg



Source: Port of Gothenburg

2. Sustaining support by greening ports


- Emission inventories
 - Emission control areas
 - Voluntary fuel switch close to port
 - Green bunkering facilities (LNG)
 - Port tariffs linked to emissions
 - Shore power
 - Electrification port equipment
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Port dues as tool for sustainability

Air pollution:

- Incentives for cleaner ships (ESI, sulphur charges, NO_x discounts)
- Vessel speed reduction (Long Beach)
- Fuel switch programmes (Hong Kong)

Modal shifts:

- Discount for rail (Spain) and barge
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3. Dealing with space constraints

Hong Kong



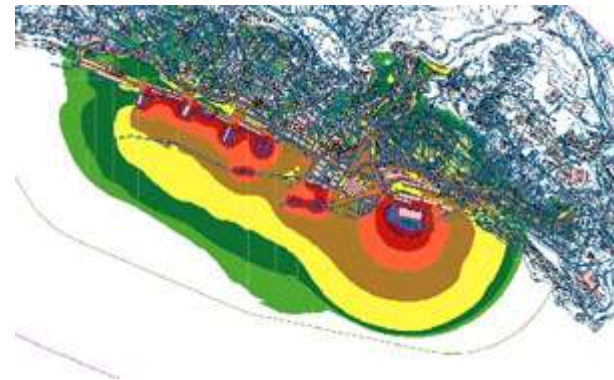
Source: Shutterstock

3. Dealing with space constraints

- Floating ship-to-ship handling
- De-concentrated logistics areas
- Greenfield port sites (off shore)
- Alignment port and urban planning

The Policy Triptych for Port-City Interfaces

1. Source
2. Transmission
3. Receptor



	If negative impact	If positive impact
1. Source	Mitigate	Amplify
2. Transmission	Buffer	Facilitate
3. Receptor	Insulate	Absorb

Triptych for air pollution from ports

	Mechanism	Instruments	Actors
Source	Mitigate	Ship design Filters/ scrubbers Alternative fuels Speed	Manufacturers of equipment and ships, energy companies, carriers, IMO, flag and port states
Transmission	Buffer	Buffer zones Relocation	Urban planners Port authority
Receptor	Insulate	Home isolation Disposition buildings Urban parks	Developers, planners, architects

Triptych for port-related traffic

	Mechanism	Instruments	Actors
Source	Mitigate	Port gate planning Modal split	Port authority, terminal operators, transport firms
Transmission	Buffer	Dedicated routes Routing/tunnels/bypasses Urban logistics rules	Municipalities, central government
Receptor	Insulate	Industrial location Distribution centers	Firms



What does this mean for ports?

- Just a pawn or a central node?
- Beyond the landlord role?
- Revenue sources key instrument:
smart concessions and smart tariffs
- To facilitate cleaner ships, fuel
shifts, slower speed, modal splits,
clustering, environmental quality



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Thank you

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