

BEST URBAN FREIGHT SOLUTIONS BESTUFS III

”Square the circle or square one”

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Main Items

- A city without traffic is a non city
- Harmonised solutions regionally and/or community wide
- Competition

A city without traffic is a non city(1)

- It is of course not an easy task to describe all the basic elements which together make up the phenomenon "CITY" but for sure traffic of a kind and nature that can fulfil the needs of the people living in the city should not be ignored.



A city without traffic is a non city(2)

- Traffic is the kind of chaos that comes from transport
- Transport whether it is of people or freight constitute one of the basic elements of a living city
- Transport meet the needs of the inhabitants, commuters or visitors

- An example:



A city without traffic is a non city(3)

- If 1,000,000 people in a city need 1 liter of milk every day
- You will need at least 38 truck loads per day to get the finished product from the dairy to the central delivery points
- Later you need other trucks to do with empties
- Of course if you substitute with milk powder and pour water from the tube a lot of transport could be spared
- If the same number of people in a city prefer 1 bottle of beer every day
- You will need at least 25 truck loads per day to get the finished product from the brewery to the central delivery points
- Later you need 12 truck loads to do with empty return bottles

A city without traffic is a non city(4)

- In Denmark with about 5 million inhabitants
- > 22 million trips by truck (>6 tons) per year
- Equal to > 60.000 trips per day
- Of a distance < 49 kilometers
- 59 per cent of all truck trips in Denmark

A city without traffic is a non city(5)

- We have got problems to solve
- But my important message is that we must be aware not to throw out the baby with the dirty water
- If we solely do away with traffic we have not achieved anything
- Events like this one today are thus very important for spreading messages about best practice initiatives

Harmonised solutions regionally and/or community wide(1)

- The implementation of the internal market for transport in the community makes it almost mandatory to harmonise any restrictions in city traffic.



Harmonised solutions regionally and/or community wide(2)

- Although the Institute for Transport Studies has not as yet been involved in detailed surveys on city logistics, we have for several years dealt with questions of the environmental impact of goods transport.
- One of our main lessons from the trans ECO_2 and the OMIT projects were that hauliers, shippers and recipients must be able to measure for example emissions per truck or tons of freight in an operational way. This is a prerequisite for improvement!
- To base improvement on restrictions alone would not do the job.

Harmonised solutions regionally and/or community wide(3)

Only three elements really matter regardless of transporting vehicle if one wants to be as environmentally friendly as possible:

- Engine type
- Speed
- Utilisation

Harmonised solutions regionally and/or community wide(4)

- Take as an example OMIT - a tool for environmental calculation of international freight transport
- and the following transport:
 - A soccer ball of 430 gram, Ø 22 cm
 - A 20' container containing about 32 m³
 - That is the same as 3.005 balls according to international rules
 - Which is 1.29 metric ton per container
 - and haulage of 2 containers per truck

Identify transport - Step 1 of 4



From:

Lahore, Pakistan

To:

København, Danmark

Description:

Transport af fodbolde, jvfr. "En vejviser til godstransportens univers", udgivet af Transportrådet, 2001.

Weight of cargo (ton):

1,29

Volume of cargo (m3)

32



Year of calculation:

2001

Help

Next >

Cancel

Select Transport Modes - Step 2 of 4



Truck

Train

Ro-Ro

Container

Bulk

Mode 1: Truck

Mode 4: Container Ship

Mode 1: Truck

A

V

Delete mode

Help

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Next >

Cancel

Select distances - Step 3 of 4



Mode 1 of 3

Truck

Lahore

Karachi

Other locations

Distance: km

Mode 2 of 3

Container Ship

Karachi

Hamborg

Other locations

Distance: km

Mode 3 of 3

Truck

Hamborg

København

Other locations

Distance: km

Help

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Cancel

Transport Chain - Step 4 of 4



Mode 1 of 3

Truck

Type:

Default: Truck 16.5m 40t
Year: 2001

Parameters...

Mode 2 of 3

Container Ship

Type:

Default: Container-4000
Year: 2001

Parameters...

Mode 3 of 3

Truck

Type:

Default: Truck 16.5m 40t
Year: 2001

Parameters...

Help

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Calculate

Cancel

Change Parameters

Mode 1 of 3

Parameter:

Value:

Average load when loaded (m3)

48

Average weight of load when loaded (ton)

16

Euro-norm

0

Exhaust reduction technology type

1

Average fuel consumption (km/l)

2

Percentage of km without load

0

OK

Cancel

Parameters...

Parameters...

Parameters...

Help

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Calculate

Cancel

Change Parameters

Mode 2 of 3

Parameter:

Value:

Capacity (TEU)

4000

Actual number of TEU

3000

Weight of cargo per TEU for actual container

1,29

Speed (knots)

23,4

Specific oil consumption (ton/h)

0

Reduction technology, Nox (g/kWh)

17

Sulphur content of oil (percentage)

3

OK

Cancel

Help

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Calculate

Cancel

OMIT 1.0

User: Erik Boeshave
Company: Institut for Transportstudier
Origin: Lahore, Pakistan
Destination: København, Danmark
Description: Transport af fodbolde, jvfr. "En vejviser til godstransportens univers", udgivet af Transportrådet, 2001.
Weight of Cargo (ton): 1,29
Volume of Cargo (m3): 32
Year of calculation: 2001

Calculation time: 11:14
Calculation date: 27-08-01

Mode	Distance in km	Energy				
		Consumption in MJ	Emission CO2 in g	Emission SO2 in g	Emission CO in g	Emission NOx in g
Truck	1.300	11.657	854.465	28	2.622	20.249
Container	8.700	16.934	1.320.878	26.342	3.935	41.813
Truck	400	2.851	208.949	7	265	2.501
	10.400	31.442	2.384.293	26.377	6.822	64.563

Mode	Distance in km	Energy				
		Consumption in MJ per tonkm	Emission CO2 in g per tonkm	Emission SO2 in g per tonkm	Emission CO in g per tonkm	Emission NOx in g per tonkm
Truck	1.300	6,95	509,5	0,0	1,6	12,07
Container	8.700	1,51	117,7	2,3	0,4	3,73
Truck	400	5,52	404,9	0,0	0,5	4,85
	10.400	2,34	177,7	2,0	0,5	4,81

OMIT Conclusion

- Energy consumption = 31,442 MJ ~ 10.5 MJ per ball
- One liter diesel oil is approx. 36 MJ
- A VW Lupo 3 liter runs 33.3 km/l diesel
- Thus you can drive approx. 10 km to purchase one locally produced ball, instead of buying one from Pakistan by the same energy consumption.

Competition(1)

- *Because competition is healthy for the economy.*
- *Competition distributes the resources of the society or community in the best possible way.*
- *Competition gets the business on its tiptoes.*

((In my humble interpretation from a column in a Danish newspaper on the chairman of the Danish Competition Council, professor Svend Hylleberg)



Competition(2)

- Innovation is the most predictable outcome of competition, thus fostering best practice solutions
- Again measuring or benchmarking irons out the competitive status of hauliers, shippers and recipients engaged in their respective role in the citylogistics chain
- If citylogistics were to be monopolised, it would be counterproductive to the overall aim

Competition(3)

It is acknowledged that:

- efficiency and cost improvement measures often have a positive effect on environment and transport safety; and
- vice versa, environmental and safety improvement measures often lead to cost savings and higher efficiency.

In conclusion

One way or the other we have to find common solutions for people, traffic and transport if we still want to develop our cities as places where the inhabitants, the commuters the visitors and the environment can have the advantage all are looking for and which can be delivered only by a city of a reasonable size.

A recent study of environment zones for distribution of freight in the inner city of Gothenburg by Elisabeth Leu and Maria Ottoson shows in its literature study, that many projects which primarily concern freight traffic have become very costly and the efficiency has not reached the levels anticipated.

”Square the circle or square one”

