Cargo-Tram Zurich – The environmental savings of using other modes by Gottfried Neuhold – CEO ERZ
The city of Zurich and surroundings

364’000 Inhabitants
190’000 dwelling units
100’000 t of garbage per year
Between 65 and 85 million m³ sewage

Marked in red – affiliated municipalities
Marked in white – catchment area
Plants of ERZ Entsorgung + Recycling Zürich

• Approx. 870 employees
• Approx. 200 mio. € turnover without public cleaning

For more information look at www.erz.ch
Traffic jam in Zurich

• Only half of all accommodation units dispose of a car of their own.

• The average age of the population of the city of Zurich is increasing. In areas where people do not have cars, the average age is high.

• Zurich is not surrounded by a beltway, therefore the traffic stands still or moves in the mode of stop and go twice a day.
Illegal deponies

• In 1996 and 1997 Zurich had up to 3000 t of illegal disposed garbage.
• In 2004 the illegal disposed garbage dropped to 1200 t.
Garbage truck in traffic jam

- The initial situation led to the following conclusions:
  - We have to move away from the road and get as close as possible to the clients.
  - We have to provide the facilities at times when the working population is no longer at work.
Tractive vehicle Cargo-Tram

We decided to use the tram:

The very old and partially existing rolling material gave way to a solution for the Cargo-Tram.
Metal container Cargo-Tram

Initial costs for the transportation company VBZ and ERZ: 32'000 €
Tramlines in the city of Zurich

Studies showed the possibility of 9 collecting points

Points for delivering bulky items to be disposed by Cargo Tram

New stop operating since the beginning of 2005
Tram stop “Letzigrund”

The Cargo-Tram started in April 2003 with 4 stops extending them to 8 in 2004.

In March 2005 the ninth stop was put into operation.

Remarks: Opening of doors left side (direction of travel) / two security officers on site
Cargo-Tram in operation

In 2003 a total of 272 t was collected in 35 collecting rides which represents 7.8 t per collection point.

How does the population get informed?

At the end of the year each household receives the ERZ disposal calendar which also contains information (timetable) about the Cargo-Tram.
Collected amounts of waste in 2004

Figures represent collected amounts in tons per day of collection and per stop.

This picture shows an interesting distribution of the average amount of collected garbage per collection point. It stretches from 5.1 to 12 t.

In 2004 785 t of garbage were collected at 8 stops in 94 collecting rides from which 644 t were bulky goods and 141 t were metal.

This represents approx. € 3'200 per ride including operative and back-office costs (information to the population, logistics, etc.).
Innovation Award

Although we won the Innovation Award, this does not mean that we rest on our laurels.

We are already working at the next development.
Recycling Center Werdhölzli

In the Westend of the city of Zurich a new Recycling Center with tram siding was built permitting an efficient charging and discharging of the Cargo-Tram.

From here the garbage is transported by truck to the different recyclers and/or the waste incineration plants.
New compression container

The normal containers turned out to have an insufficient capacity for the bulky goods.

The new containers are provided with a press for bulky goods.
Containers designed by Gföllner GmbH

From January 2006 at the latest the Cargo-Tram will also be collecting electrical devices at all 9 stops once a month.

Pro memoria:
In Switzerland the price of nearly all electrical devices include a pre-collected disposal charge which guarantees a return free of charge and pays for the recycling costs.

Concerning the recycling of the electrical devices we will be working together with RUAG AG, a former amunition manufacturer which has specialized in recycling.

CH PPP (public public partnership)
Environmental savings

- 5020 km covered by lorries
- 960 h running time while standing

which represents

37 500 l Diesel per year

Taking the conference’s topic – Solutions for Air Quality and Noise Problems in Urban Freight Transport – into account, the solution of disposing waste by Cargo-Tram achieved a reduction of 37’500 l Diesel annually.

Emission of harmful substances in kg
(approximate figures)

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<th>Value</th>
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We kindly invite you to visit Zurich and watch personally the Cargo-Tram in operation.