



# Cyclelogistics Ahead

## Empowerment Workshop



Co-funded by the Intelligent Energy Europe Programme of the European Union

 **Presenter**



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## Agenda

- “ Cyclelogistics . what is it all about?
- “ Potential in numbers
- “ Scope of Cyclelogistics solutions
  - . Private logistics
  - . Services . municipalities & companies
  - . Delivery
- “ What municipalities can do to encourage Cyclelogistics
- “ City case study . Cambridge, UK
- “ Summary



## Project Summary – Cyclelogistics Ahead



- Cyclelogistics Ahead builds on the success of the predecessor project “Cyclelogistics – moving Europe forward”
- Cyclelogistics Ahead supports the aim of near zero emission urban logistics by 2030 as part of the Energy programme of the European Commission
- Cyclelogistics Ahead addresses the three affected target groups: 1. Transport Sector, 2. Municipalities and 3. Private and commercial end users



# Cyclelogistics Is Nothing New!



# A Changing Urban Landscape



# The Rebirth of Cyclelogistics

1. People awareness of environmental issues and positive image of cycling



# The Rebirth of Cyclelogistics

## 2. Rising cycling culture





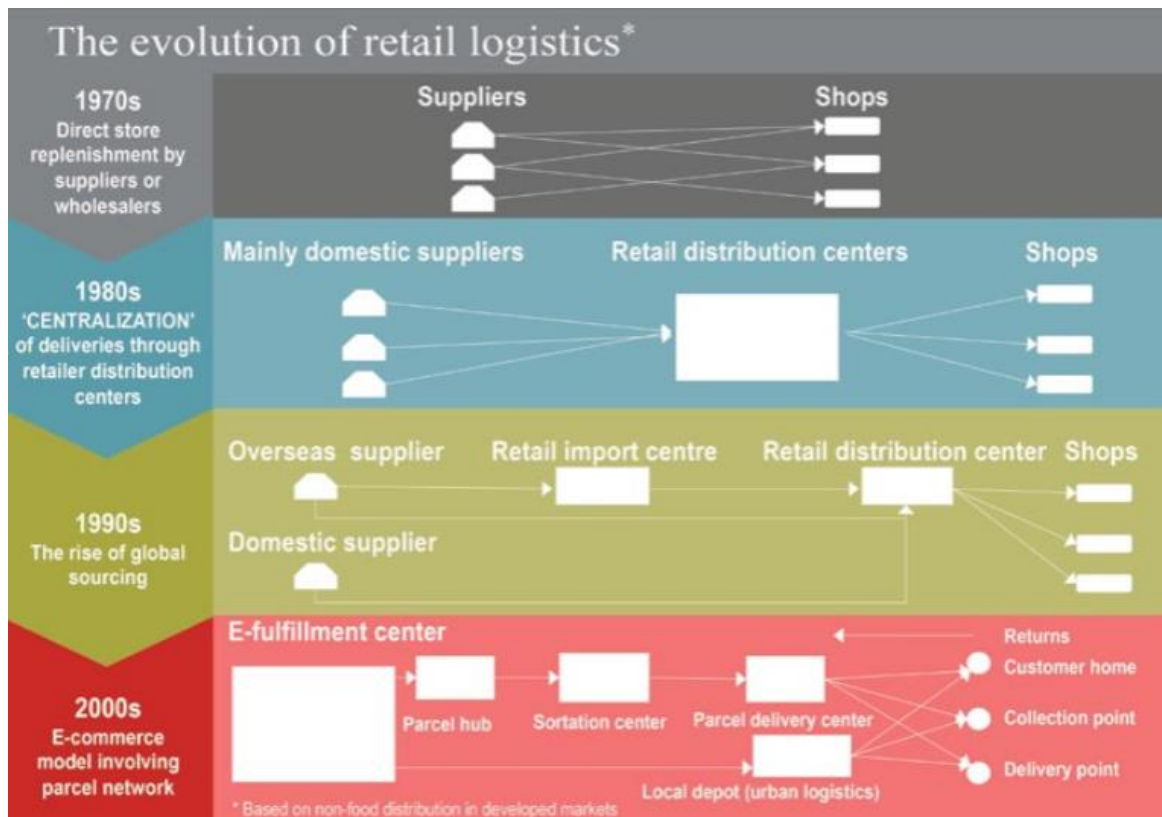
## The Rebirth of Cyclelogistics

### 3. Giving back public space to people



# The Rebirth of Cyclelogistics

## 4. E-commerce and retail evolution



Instead of completely replacing older retail logistics schemes, most recent ones have added to them+



# The Rebirth of Cyclelogistics

## 5. Developments in cycle design & technology



# The Rebirth of Cyclelogistics

## 6. Direct investments from global players



# Cyclelogistics Helps Achieve More Liveable Streets



## **Cyclelogistics – A Serious Proposition**

### ***Congestion & Emissions***

Urban freight constitutes 20% of traffic and 30% of CO<sub>2</sub> & 50% of NO<sub>x</sub> emissions

### ***Passenger Mobility***

Passenger mobility to increase 300-400% by 2050 (ITF,2011)

### ***Logistics Companies Going Green***

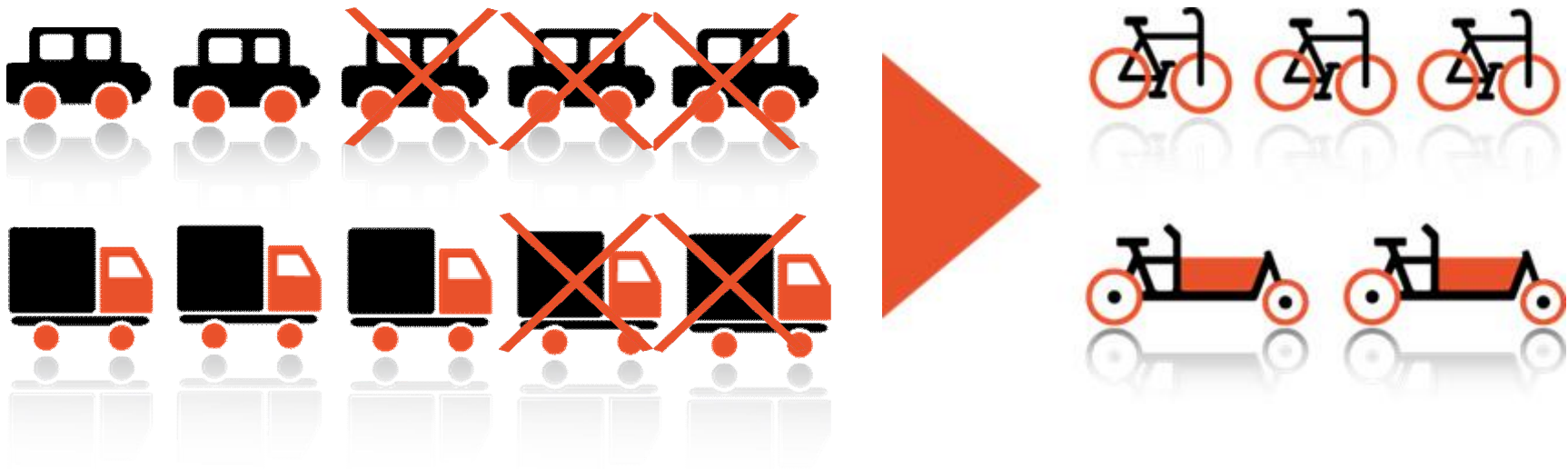
Deutsche Post DHL committed to 30% CO<sub>2</sub> reduction by 2020

### ***Restricted Access to Motorised Vehicles***

Congestion charges, zero emission zones, no parking, etc



# Big Potential



In European cities, every second motorised trip, associated with the transport of goods, could be shifted from cars or vans to bicycles, cargo bikes or cargo trikes

## Potential In The Area Of Deliveries



In the area of delivery, every fourth trip associated with the transport of goods could be shifted from motorised vehicles to cargo bikes

***25% of all urban delivers could be done by cargo bike!***





## Bike Types - Equipment Options

1. Standard Bicycle with Shoulder Bags/Panniers
2. Standard Bicycle with Trailer
3. Cargo Bikes (manual & electric assist)
4. Cargo Trike/Quad (electric assist)

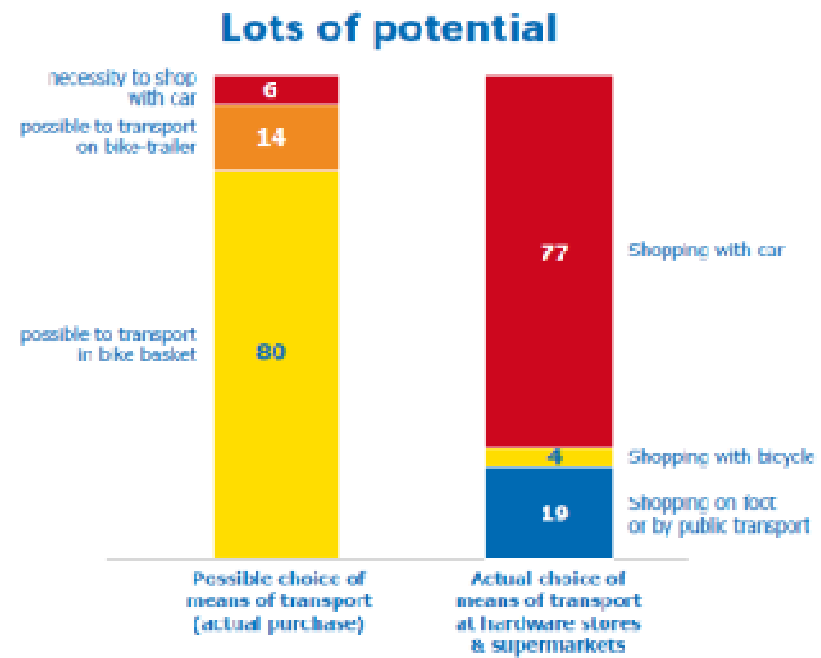


# Cyclelogistics Scope

1. Private Logistics
2. Services . municipality and companies
3. Delivery



# Cyclelogistics Scope – Private Logistics



Source: ARGUS, 2009. Arbeitsgemeinschaft umweltfreundlichen Stadtverkehr [www.graz.radeln.net](http://www.graz.radeln.net)



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# Cyclelogistics Scope – Services (1)



Trades: plumbers, electricians, carpenters, window cleaners



Waste collection



Park & garden maintenance



# Cyclelogistics Scope – Services (2)



Catering

Street cleaning



# Cyclelogistics Scope - Delivery

## Outspoken Delivery, Cambridge, UK



## Cyclelogistics Scope – Delivery

### FLEET



10 x cargo bikes (manual & electric assist)

100kg of freight

Approx 0.3m<sup>3</sup>



5 x Electric Assist Trikes

250kg of freight

Approx 1.4m<sup>3</sup>



# Cyclelogistics Scope - Delivery

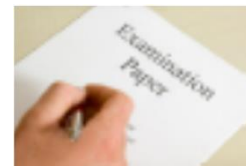
Types of Cargo Carried . B2B (business to business)



Security packages come as a sealed envelope which you post open to view the pay details

Monthly View

Employee Name	Payable Plus List	Payable	Plus	Total
John	...	...	...	...
...	...	...	...	...
...	...	...	...	...



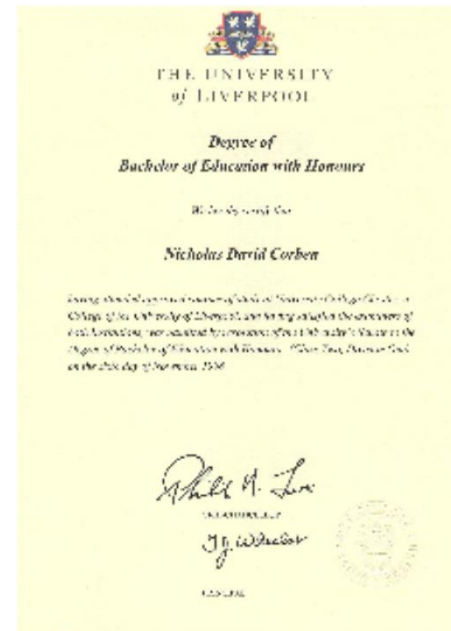


# Cyclelogistics Scope - Delivery

Types of Cargo Carried . B2C (business to consumer)

Last Mile . for big logistics companies

Local Companies



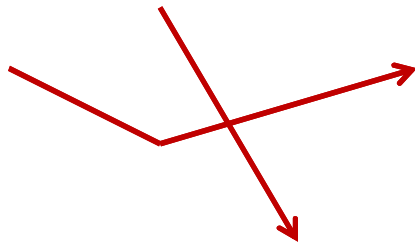
# Cyclelogistics Scope - Delivery

Services:



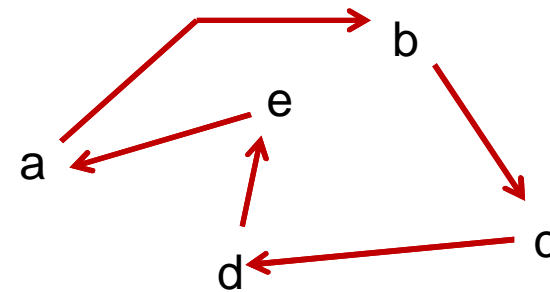
## Cyclelogistics Scope - Delivery

Sameday



### Ad-hoc - point to point

- “ Reliant on customers contacting you
- “ Fast delivery
- “ Cargo size dictates capacity
- “ Optimising efficient use of available capacity and riders



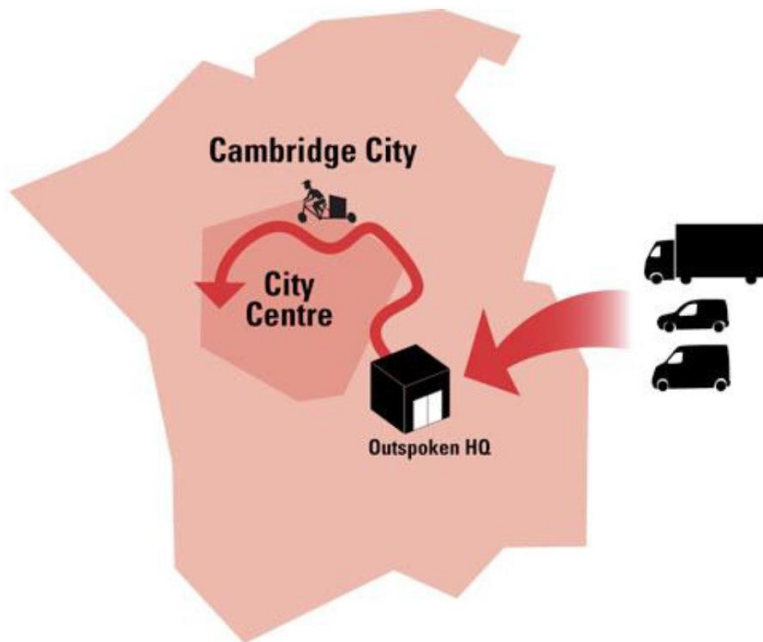
### Contracts

- “ Regular income
- “ Allows loads to be consolidated
- “ Efficient use of cargo bike space and rider
- “ Can service ad-hoc point to point job



# Cyclelogistics Scope - Delivery

Last Mile



*Up to 400 packages per day*



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# Cyclelogistics Scope - Delivery

**Increase range of services by using micro consolidation centre**



# Cyclelogistics Scope - Delivery

London



Advertising



# Bike Types Exercise – What are the Advantages and Disadvantages of the following equipment types



1. Standard Bicycle with Shoulder Bags/Panniers



2. Standard Bicycle with Trailer



3. Cargo Bike (manual & electric assist)



4. Cargo Trike/Quad (electric assist)



## Bike Types Exercise – Advantages and Disadvantages



### 1. Standard Bicycle with Shoulder Bags/Panniers

#### **Advantages**

- “ Fast & agile in traffic
- “ Ease of use
- “ Low purchase cost
- “ Low maintenance cost
- “ Ease of storage
- “ Can be used on-road & off-road
- “ Easy parking
- “ Can be taken on train

#### **Disadvantages**

- “ Limit to size of package carried (weight & volume)
- “ Lack of visibility
- “ Negative image
- “ Security of bike when making delivery





## Bike Types Exercise – Advantages and Disadvantages



### 2. Standard Bicycle with Trailer

#### **Advantages**

- “ Low purchase cost
- “ Low maintenance cost
- “ Can be hitched to many bike types
- “ Ability to carry larger loads (up to 80kg)
- “ Can be used on-road & off-road
- “ Potential advertising potential
- “ Trailer can be unhitched and taken closer to customer

#### **Disadvantages**

- “ Limited cargo security
- “ Open to weather (although closed boxes available)
- “ Storage when not in use
- “ Maintenance of 2 items of equipment
- “ Push/pull effect when riding
- “ Need to lock bike & trailer



## Bike Types Exercise – Advantages and Disadvantages



### 3. Cargo Bike (manual & electric assist)

#### **Advantages**

- “ Ability to carry larger loads (up to 100kg)
- “ Flexible cargo carrying capability
- “ Can be used on-road & off-road
- “ Cargo security & weather protected
- “ Designed for purpose (professional)
- “ Ease of use
- “ Potential advertising revenue

#### **Disadvantages**

- “ Purchase cost
- “ Maintenance cost
- “ Storage when not in use
- “ Additional bike security required
- “ Loading & unloading
- “ Greater rider ability required
- “ Overloading risk



## Bike Types Exercise – Advantages and Disadvantages



### 4. Cargo Trike/Quad (electric assist)

#### **Advantages**

- “ Ability to carry larger loads (up to 250kg)
- “ Flexible cargo carrying capability
- “ Cargo security & weather protected
- “ Easy loading and unloading
- “ Designed for purpose (professional)
- “ Potential advertising revenue
- “ Mobile consolidation capability
- “ Comparable to a small van

#### **Disadvantages**

- “ Slow in traffic
- “ Purchase cost
- “ Maintenance cost
- “ Storage when not in use
- “ May be restricted to the road network
- “ Range when fully loaded
- “ Greater rider ability required
- “ Rider strength & stamina



## Cyclelogistics Scope - Delivery

Examples:

From farm to customer:

<https://www.youtube.com/watch?v=sxwNLZvjsAU>

Mobile consolidation centre:

<https://www.youtube.com/watch?v=cULs0ZjhNyg>



**BREAK**



# What Municipalities Can Do To Encourage CycleLogistics



## What Municipalities Can Do To Encourage CycleLogistics

### **Context**

1. Compared to passenger transport, urban freight logistics has to a large extent been neglected by urban transport policy making
2. City logistics is not properly integrated into transport planning and local economic development strategies
3. In most cities there is a lack of information and proper understanding of freight flows and dynamics of deliveries
4. Urban freight transport demand and supply mostly determined by private sector organisations
5. Public sector more focussed on public transport systems and passenger transport



# What Municipalities Can Do To Encourage CycleLogistics

## *Two Options:*

### 1. The Stick

- Regulatory measures (access restrictions, time windows, etc)
- Market based measures (congestion charging, etc)
- Planning measures (zoning)



### 2. The Carrot

- Working with and supporting main stakeholders
- Infrastructure (micro consolidation centres, cycle parking, etc)
- Technology (green vehicles, open data, etc)
- Governance and coordination (Urban Freight Cooperation platforms, awareness raising)





# What Municipalities Can Do To Encourage CycleLogistics

## *Two Options:*

### 1. The Stick

- Regulatory measures (access restrictions, time windows, etc)
- Market based measures
- Planning measures



**In reality may need to adopt both approaches**

### 2. The Carrot

- Working with and supporting main stakeholders
- Infrastructure (micro consolidation centres, cycle parking, etc)
- Technology (green vehicles, open data, etc)
- Governance and coordination (Urban Freight Cooperation platforms, awareness raising)



## What Municipalities Can Do To Encourage CycleLogistics

### ***The Stick Approach:***

- ” Restricted access
- ” Parking restrictions
- ” Low emission zones
- ” Congestion charges
- ” Vehicle speed limits
- ” Delivery windows
- ” Vehicle size and weight restrictions
- ” Strengthen road traffic law and enforcement



## What Municipalities Can Do To Encourage CycleLogistics

### ***The Stick Approach:***

- ” Restricted access
- ” Parking restrictions
- ” Low emission zones
- ” Congestion charges
- ” Vehicle speed limits
- ” Delivery windows
- ” Vehicle size and weight restrictions
- ” Strengthen road traffic law and enforcement

### **But:**

1. Blunt instrument
2. Alienates stakeholders
3. Encourages piecemeal and independent solutions
4. May be implementing initiatives for other reasons
5. Can be a carrot .  
*facilitating alternative means of transport*



## What Municipalities Can Do To Encourage CycleLogistics

### ***The Carrot Approach:***

- “ Coherent pro-cycling policies
- “ Investment in cycling infrastructure
- “ Supporting introduction of micro-consolidation centres
- “ Allowing delivery lockers to be installed
- “ Working with stakeholders to encourage innovative solutions
- “ Cyclelogistics friendly tenders



## What Municipalities Can Do To Encourage CycleLogistics

### **Strategies**

1. Investment in cycling infrastructure
2. Use of cargo bikes for municipal services (leading by example)
3. Testing of regulatory measures favouring cyclelogistics
4. Remodelling on-street and off-street delivery requirements and facilities
5. Securing and providing space for micro consolidation centres and parcel stations
6. Full or part funding cyclelogistics initiatives
7. Promotion of cyclelogistics intermodal solutions
8. Cyclelogistics friendly tenders



# What Municipalities Can Do To Encourage CycleLogistics

## 1. Investment in Cycling Infrastructure

*Normalise cycling and services will follow!*



## What Municipalities Can Do To Encourage CycleLogistics

### 2. Use of cargo bike by municipalities . leading by example:

- a. Internal mail for Cambridge City Council, UK
  - daily collection of mail bags from Royal Mail
  - service level agreement serving 12 locations
  - previously performed by 2 full time employees and a van
- b. Park & garden maintenance (Plovdiv, Bulgaria)  
and street cleaning (Graz, Austria)
- c. Other (garbage collection, document transfer, etc)



## What Municipalities Can Do To Encourage CycleLogistics

### 3. Testing of regulatory measures favouring cyclelogistics





## What Municipalities Can Do To Encourage CycleLogistics

### 4. Remodelling on-street and off-street delivery requirements and facilities:

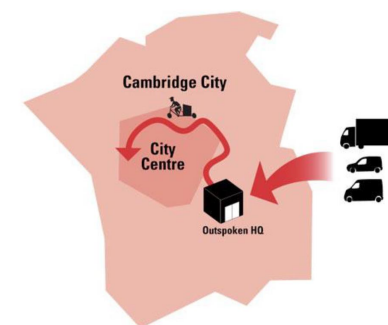
- a. Providing specific facilities for cargo bike parking
- b. Adoption of regulations for design and provision of off-street delivery and storage areas in business
- c. Introduction of cycle based home delivery services
- d. Incentives to local shops and businesses that choose green delivery options
- e. Introduction of cargo bike sharing schemes
- f. Development of delivery service plans for local shops and businesses



## What Municipalities Can Do To Encourage CycleLogistics

### 5. Securing & providing space for micro consolidation centres:

- a. Securing space for micro-hubs in policy planning and zoning strategies
- b. Identifying and adapting key public space for micro-consolidation purposes linked to cycle-based last-mile services
- c. Testing low cost mobile micro-hubs in cooperation with cyclelogistics companies
- d. Promoting strategies or incentives for shared micro-hubs



## What Municipalities Can Do To Encourage CycleLogistics

### 5. Securing and providing space for micro consolidation centres (examples):

Amsterdam Example - Foodlogica



Barcelona Example:

<https://www.youtube.com/watch?v=0WIH11VcNFs&feature=youtu.be>



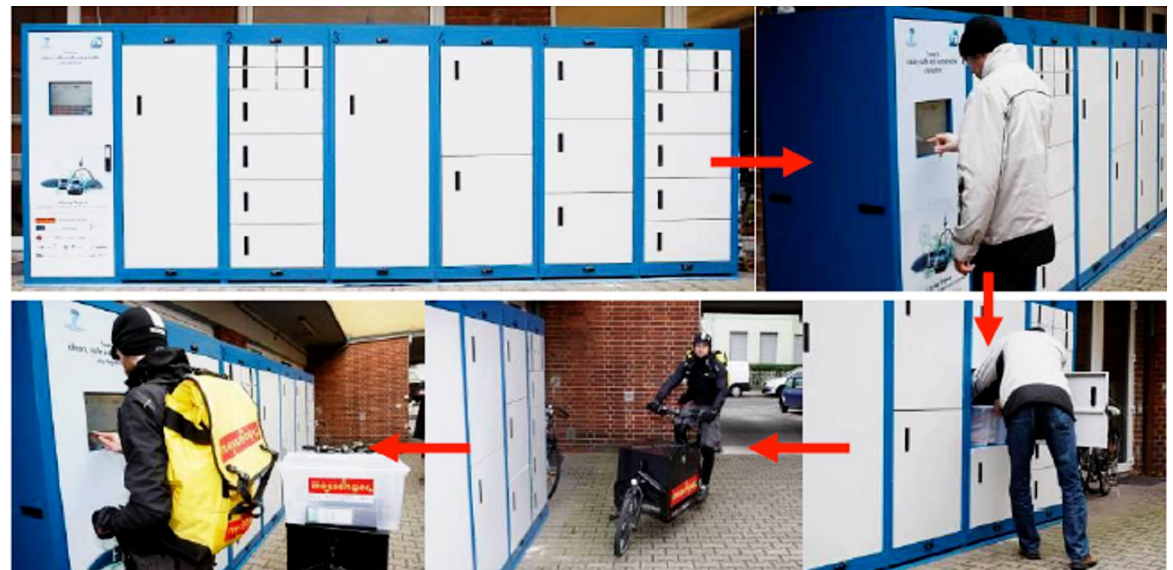
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# What Municipalities Can Do To Encourage CycleLogistics

## 5. Securing and providing space for parcel stations:

*Direct to customer*

*Transshipment*



# What Municipalities Can Do To Encourage CycleLogistics

## 6. Full or part funding cyclelogistics initiatives (1)



Exeter printing companies harness electric pedal power

Two printing companies in Exeter will be using electric bicycles to make local deliveries, after taking advantage of Devon County Council's match funding for sustainable travel.

The companies - Peninsular OneSource - Design & Print and Stormpress - heard about the offer at an Exeter Chamber of Commerce event and were inspired to look at their business operations and see how they could make them more sustainable, and whilst saving money on deliveries at the same time.

The challenge now for these two printing companies is to see who can rack up the most miles (and save the most money!) through their electric bike deliveries!



### Costs

£2,556.00 = 75% match funding for x2 electric vehicles and accessories (panniers, helmet, waterproofs)

Example:

- Devon County Council
- Local transport sustainability fund (LSTF) from Central Government
- Two electric bikes & accessories supplied (75% funding)
- Used for local deliveries (3 miles or less)

*Similar examples in Austria, Graz (50% funding), Lustenau and Hartberg*



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# What Municipalities Can Do To Encourage CycleLogistics

## 6. Full or part funding cyclelogistics initiatives (2)



Cargo bike hire schemes



**Cargo bikes & businesses**

Come to East London to find out how switching to pedal-power for moving stuff around could help your business or organisation save money, be more efficient, please customers, travel through town & deliver more easily, and all whilst staying healthy and keeping our air clean.

Come to either of our **FREE workshops on the evenings of Weds 24<sup>th</sup> or Thurs 25<sup>th</sup> July** and get 10% off all Carry Me cargo bike purchases within three months. **booking is essential:** <http://tinyurl.com/mam6k8>

**If you are a business/organisation in Hackney, Havering or Redbridge or are thinking of setting up a business or becoming a sole trader, please book on and find out more.** We will have a range of cargo bikes from local social enterprise Carry Me Bikes available for you to check out.

**This event is FREE, but places are limited and booking is essential** - contact [Alex Stredwick](mailto:Alex.Stredwick@carrymebikes.com) for details: [alex@carrymebikes.com](mailto:alex@carrymebikes.com) & book here <http://tinyurl.com/mam6k8>

**Location:** Old Linthouse Town Hall, 646 Commercial Road. **Time:** 5pm on Weds 24<sup>th</sup> and Thurs 25<sup>th</sup> July (both sessions are the same; please do attend either of them).

These events are funded by sustainable transport charity Sustrans and EU Cycle Logistics, and supported by Outspoken Delivery and Carry Me Bikes.

<http://champions.sustrans.org.uk/cleaner-air-champions>  
<http://www.sustrans.org.uk/>  
<http://www.cyclelogistics.eu/>  
<https://www.facebook.com/page/CycleLogistics/286582445747373>  
<http://www.outspokendelivery.co.uk/>  
 Twitter: <https://twitter.com/OutspokenDaily>  
 Twitter: [https://twitter.com/CarryMe\\_Bikes](https://twitter.com/CarryMe_Bikes)  
 Facebook: <http://www.facebook.com/CarryMeBikes>

Cargo bike try-out



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# What Municipalities Can Do To Encourage CycleLogistics

## 7. Promotion of cyclelogistics intermodal solutions



## What Municipalities Can Do To Encourage CycleLogistics

### 8. Cyclelogistics friendly tenders

- “ Many tenders written assuming solution is van based
- “ May be necessary to run a pilot to prove cyclelogistics solution
- “ Be willing to split tenders into smaller area (eg. cyclelogistics routes, motorised vehicle routes)
- “ Actively encourage joint supplier solutions
- “ Don't be constrained by conventional thinking!





## City Case Study – Cambridge, UK

- 60km north of London
- Population 130,000, plus 20,000 students
- 4km wide by 3km deep
- Narrow, cobbled streets in heart of city
- Flat terrain (Fenland)
- Many tourists all year round
- Cycling culture (25% of people cycle to work)
- Train station on edge of city
- Number of science & business parks on edge of city
- Very high house prices (resulting in lots of commuting)
- Active cycle advocacy group



# City Case Study – Cambridge, UK

Current Framework Conditions (1):



Two way cycle access  
in one way streets



Restricted Access  
(10am to 4pm)



Blanket 20mph  
across city

# City Case Study – Cambridge, UK

Current Framework Conditions (2):

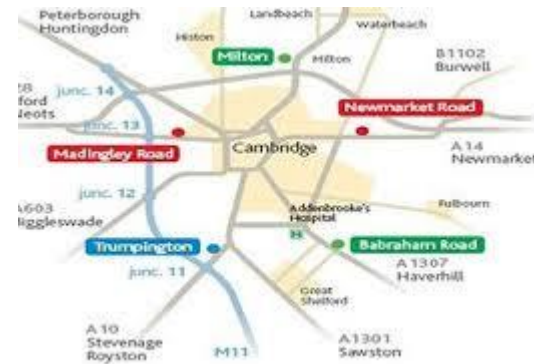


Cambridge Guided Bus

Cambridgeshire Local Transport Plan 2011 – 2026

Policies and Strategy

Cambridgeshire local transport plan



5 park and ride sites



Electric charging points



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# City Case Study – Cambridge, UK

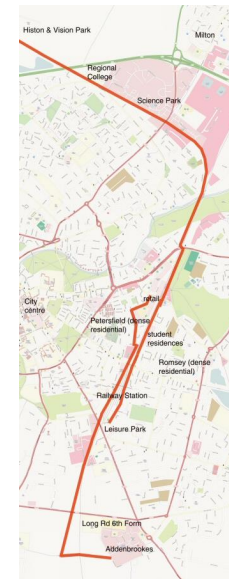
Ongoing/Future Initiatives:



Cambridge Science  
Park Station



Expansion of Addenbrookes  
Hospital . Bio-medical Campus



Chisolm Trail  
linking north of  
city to existing  
station



## What Municipalities Can Do To Encourage CycleLogistics

### ACTION: Establish urban freight delivery platform

- “ Get all stakeholders together
- “ Outline the problems
- “ Highlight the possibilities via example implementations
- “ Discuss potential ideas and easy first solutions
  - Group purchasing scheme
  - Consolidated deliveries
  - Home delivery
  - Customer ordering/delivery portal
  - Cargo bike sharing scheme
- “ Identify realistic and achievable first steps



## Workshop Exercise – What Can You Do In Your City?

Consider the following questions

1. What are the problems that your city suffers from where cycle logistics solutions might help?
2. What are the challenges for implementing cycle logistics in your city?
3. List three cycle logistics initiatives which could potentially be implemented in your city indicating priorities and potential timescales?
4. Are there currently any cycle logistics operations in your city? List



## Summary

- “ Cyclelogistics is nothing new!
- “ Our urban landscapes need to change because of congestion, pollution, etc
- “ Citizens want more liveable cities BUT still want easy access to products and services
- “ 1 in 2 motorised trips involving cargo could be shifted to bikes
- “ 25% of urban commercial delivery could be done by bike
- “ Various entry levels for cycle based solutions: bikes, trailers, cargo bikes, cargo trikes
- “ Many business opportunities for cycle based solutions
- “ Private enterprise will implement solutions
- “ But for joined up approach Municipalities need to encourage cyclelogistics





## Summary

Thank you for listening

***Any questions?***





# Contact



**Gary Armstrong**



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