City Changer Cargo Bike

Cargo Bikes Mean Business

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- Email garya@eclf.bike
- Representing European Cycle Logistics Federation (ECLF) – eclf.bike
- Day job – Zedify (formerly Outspoken Delivery), UK
- Zedify – largest cycle based delivery operator in the UK serving 8 cities (Cambridge, London City, Waltham Forest, Brighton, Glasgow, Edinburgh, Norwich & Southampton)
City Changer Cargo Bike Project

- EU Horizon 2020 Research & Innovation Programme
- 3 year project (Sept 2018 to Aug 2021)
- 21 partners (including 15 cities)
- Project objectives:
  - To raise awareness
  - To utilise innovative tools
  - To establish favourable framework conditions
  - To achieve wide roll-out and transferability
  - To reduce congestion, emissions; increase safety; increase public space and improve public space usage
Cyclogistics is Not New!
A Changing Urban Landscape
Emissions

Lorries & Vans on our Streets

Congestion

Restricted Access

Parking Fines

@CycleLogistics
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.

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

33% of all urban delivers could be done by cargo bike!
Cyclelogistics is about delivering cargo NOT cycling
# Creating a Sustainable Business

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Equipment Options
2 Wheels – Pros & Cons

Pros (+ve)

Cons (-ve)
2 Wheels – Pros & Cons

Pros (+ve)
- Fast & agile in traffic
- Ease of use
- Entry level purchase cost (manual)
- Cargo secure & weather protected
- Small/Medium sized cargo carried
- Flexible cargo carrying capability
- Designed for purpose
- Potential advertising revenue

Cons (-ve)
- Additional cost for electric assist
- Maintenance costs
- Storage when not in use
- Additional bike security required
- Greater rider ability required
- Loading & unloading
- Over-loading risk making bike unstable
3 & 4 Wheels – Pros & Cons

Pros (+ve)

Cons (-ve)
3 & 4 Wheels – Pros & Cons

Pros (+ve)

- Ability to carry larger loads (small, medium, large)
- Flexible cargo carrying capability
- Cargo secure & weather protected
- Easy loading and unloading
- Containerisation
- Potential advertising revenue
- Mobile consolidation capability
- Trike comparable to a small van

Cons (-ve)

- Purchase cost
- Maintenance costs
- May be restricted to the road network
- Slow in traffic
- Additional controls (brake lights, indicators)
- Storage when not in use
- Parking (so as not to obstruct traffic)
- Rider strength and stamina
- Greater rider ability required
Trailers – Pros & Cons

Pros (+ve)

Cons (-ve)
Trailers – Pros & Cons

Pros (+ve)

- Low purchase cost
- Ability to carry larger loads (small, medium, large)
- Flexible cargo carrying capability
- Can be hitched to many bike types
- Easy loading and unloading
- Containerisation potential
- Trailer can be unhitched and used in walk mode

Cons (-ve)

- Limited cargo security (open trailers)
- Open to weather (open trailers)
- Storage when not in use
- Maintenance of 2 items of equipment (bike & trailer)
- Push/pull effect when riding
- Need to lock bike & trailer
- Stability
Equipment Innovation

Pallet Transport

Solar Cooler Cargo Bike

Electric Assist Trailers

Containerisation
Case Studies

Cargo Bikes in Action
Case Study 1

Co-operation between Courier Companies

• Co-operation between 15 cycle logistics operators in the Netherlands
• Serving 28 cities across the country
• First & Last mile by cargo bike - trunking using biogas vans between cities
• Track and trace facility

https://www.youtube.com/watch?v=zkbI5eBbs4I
Case Study 2

Intermodal Solution

• Covers all of Switzerland (70+ companies use the service)
• First and last mile by local couriers (e.g. cargo bikes, motor bikes, cars, vans)
• Trunking between cities using Swiss rail network

https://www.youtube.com/watch?v=HWAuDj9ao74
Case Study 3

Creating a franchise network to provide national coverage

• Largest cycle based delivery operator in the UK serving 8 cities (Cambridge, London City, Waltham Forest, Brighton, Glasgow, Edinburgh, Norwich & Southampton)
• Each city operation is a franchise
• National customers (example)

https://twitter.com/i/status/1052875368246304768
Case Study 4

Last Mile Food Delivery

- Food delivered from the farms to a container on the edge of Amsterdam
- Cargo trikes are stored in container overnight
- Solar panels on top of container to recharge batteries used on cargo trikes

https://www.youtube.com/watch?v=fMtBfKNnoVo
Case Study 5

Catering Using Cargo Bikes

• Catering and Food production company
• Vegetarian and organic food producer
• Food cooked in own kitchen
• Delivery via cargo bikes/trikes
• Cargo bikes/trikes used as serving tables
• Mass catering capability – lunch for 400 delegates at last ECLF conference in Vienna
Street Cleaning

- Graz street cleaners use cargo bikes
- Hamburg street cleaners trial e-trikes
  - reduce emissions
  - role model in sustainable practice
  - economic efficiencies

https://youtu.be/iqoCr-h8UWA
Case Study 7

Coffee Bike – Cambridge, UK

- Bespoke built bike (Velopresso - [https://www.velopresso.cc/](https://www.velopresso.cc/))
- Cycle bike to location
- Cycle to grind the coffee and feed water into coffee machine

[https://www.youtube.com/watch?v=71N12tW3ufA](https://www.youtube.com/watch?v=71N12tW3ufA)
Case Studies

Many More Examples!
2. Equipment

Equipment Challenges

a. Bikes manufactured by relatively small organisations – post sales support, delivery costs
b. Lack of thorough user testing
c. Availability of spare parts
d. Use of bike parts to carry heavy loads
e. Evolving products
   a. Continual innovation
   b. Electric assist and batteries
f. Need to add equipment: immobiliser, tracker, box security, etc
g. Maintenance requirements (in-house or bike shop?)
Usage Issues

a. Rider health & safety
   - Appropriate clothing
   - Inclement weather policy
b. Cargo bike rider training
c. Recruitment of riders
d. Resistance from worker Unions and cooperatives
e. Are there any places where a cargo bike/trike is not suitable to ride?
f. Transportation costs – getting the bike to where it can be used!
g. Storage of equipment when not in use
Trade Association for Cycle Logistics Operators

- Help shape the future of urban freight and the use of cycles for delivering services
- Support existing cycle logistics operators and new business or social enterprises
- Engage with various national and municipal authorities and other relevant stakeholders
- Utilise online communications to promote or encourage our work
- Co-operate with and commission research and educational programmes
- Explore partnerships with bodies supportive of our aims and objectives

Eclf.bike
Thank you for listening

Any Questions?
3. Cargo Types – What Can Be Carried?

**Suitable**
- Construction Materials
- Bulky items
- White goods (fridges, ovens, etc)
- Car tyres
- Container loads (e.g. supermarket mass deliveries)
- Carpets & flooring

**Not Suitable**
- Suitable
- Not Suitable

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@CycleLogistics
4. Service Types

a. Ad-hoc/Messenger (point to point delivery)
b. Contracts/Consolidation
c. Last mile
d. First mile
e. Other services
   - Mail
   - Food delivery
   - Bike/Train combination
   - Advertising
Ad-hoc/Messenger (point to point delivery)

**Characteristics:**

a. Suited to standard bicycles and cargo bikes
b. Fast delivery
c. Cargo size dictates capacity
d. Reliant on customer contacting you
e. Difficult to optimise efficient use of available capacity and riders
4. Service Types

Ad-hoc/Messenger (point to point delivery)

**Characteristics:**

a. Suited to standard bicycles and cargo bikes
b. Fast delivery
c. Cargo size dictates capacity
d. Reliant on customer contacting you
e. Difficult to optimise efficient use of available capacity and riders

*May only be sustainable if charging a premium for the service!*
4. Service Types

Contracts

Characteristics:

a. Local – movement of items between local businesses
b. Suited to cargo bikes & trikes
c. Regular daily income
d. Allows loads to be consolidated
e. Efficient use of cargo bike/trike space and rider
f. Extra efficiencies if items delivered to depot
g. During regular delivery run may be able to service ad-hoc deliveries
Last Mile

**Characteristics:**

a. Cargo arriving into the local area from elsewhere  
b. Suited to cargo bikes & trikes  
c. Best suited to high density residential/commercial areas  
d. B2B and B2C  
e. Work either as a sub-contractor for traditional delivery company or direct with supplier  
f. Insurance issues (goods in transit, storage)  
g. Need a secure depot for interim storage  
h. Proof of delivery administration  
i. Physicality of work (electric assist essential)  
j. Extend area serviced using micro-consolidation centres
First Mile

Characteristics:

a. Last Mile in reverse!
b. Suited to cargo bikes & trikes
c. Best suited to high density residential/commercial areas
d. B2B
e. Need to adhere to trunkers paperwork/systems
f. Ability to work with multiple trunking companies
Other Services

4. Service Types

Mail

Food

Advertising

Multi-modal
Consolidation

- Combine deliveries by area
- Target areas where traditional delivery methods are problematic (e.g. restricted access, congestion, pollution, etc)
- Tailor service to allow for consolidation – eg collection by 10am delivery by 5pm
- Increase area covered by using micro consolidation facilities
Lunch & Cargo Bike Try-out
Ice Breaker

Tell Us:

• Your Name
• Where you are from – City/Town, Country
• Experience riding a cargo bike
• What you hope to get out of this workshop
Why the growing interest in Cyclelogistics?
 Agenda

• Cyclelogistics is not new!
• A changing urban landscape
• Setting up and running a cycle delivery business
• Networks & Cooperation
• European Cycle Logistics Federation
• Summary

Workshop format with plenty of audience participation

Opportunity to ride cargo bikes
5. Pricing & Delivery Area

a. Distance Travelled
b. Size or Weight
c. Single or multiple delivery zones
d. Timed delivery
e. Contract rates
f. Sub-contractor rates
## Typical Pricing Model

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Price (1 x A4 box)</th>
<th>Surcharge Price (2 to 3 A4 boxes)</th>
<th>Surcharge Price (4 to 6 A4 boxes)</th>
<th>Surcharge Price (7 or more A4 boxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Bird (ready by 10 – delivered by 5pm)</td>
<td>€4.60</td>
<td>€3.20</td>
<td>€5.50</td>
<td>€7.50</td>
</tr>
<tr>
<td>4 hr</td>
<td>€6.50</td>
<td>€3.20</td>
<td>€5.50</td>
<td>€7.50</td>
</tr>
<tr>
<td>1 hr</td>
<td>€13.00</td>
<td>€3.20</td>
<td>€5.50</td>
<td>€7.50</td>
</tr>
<tr>
<td>Food collect</td>
<td>€13.50</td>
<td>€3.20</td>
<td>€5.50</td>
<td>€7.50</td>
</tr>
<tr>
<td>Contract</td>
<td>From €6.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-drop</td>
<td>From €2.00</td>
<td></td>
<td></td>
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Pricing a Contract (1)

Scenari o:

Local butcher needs to deliver meat to 10 local restaurants every day Monday through to Friday and would like to do it using cargo bikes rather than using their van.
## Pricing a Contract (1)

### Scenario:
**Local butcher needs to deliver meat to 10 local restaurants every day Monday through to Friday and would like to do it using cargo bikes rather than using their van**

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<tr>
<td>a</td>
<td>Estimate how long it will take to do the deliveries from the butcher to the 10 locations</td>
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<tr>
<td>b</td>
<td>Determine rider cost per hour (e.g. payroll and employment costs)</td>
</tr>
<tr>
<td>c</td>
<td>Target income rate per hour required for a rider (rider costs x2)</td>
</tr>
<tr>
<td>d</td>
<td>Calculate daily cost to complete delivery (a x c)</td>
</tr>
<tr>
<td>e</td>
<td>Calculate cost per drop (d/10)</td>
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## Pricing a Contract (2)

### a. Crude approach to pricing a contract
- Estimating time to do deliveries – ride the route or undertake a pilot for a week
- Determining rider costs – based on payroll and employment costs
- Target income needs to take account of all costs (e.g. bike maintenance, depreciation, premises, IT, required profit, etc).
- Understand costing basis - cost per parcel, per consignment or per drop?

### Task | Calculation
--- | ---
| **a** Estimate how long it will take to do the deliveries from the butcher to the 10 locations | 1.5 hrs
| **b** Determine rider cost per hour (e.g. payroll and employment costs) | €15 per hr
| **c** Target income rate per hour required for a rider (rider costs x2) | €30 per hr
| **d** Calculate daily cost to complete delivery (a x c) | €45
| **e** Calculate cost per drop (d/10) | €4.5 per drop
## Pricing a Contract (3)

Understand costing basis - Cost per parcel, per consignment or per drop?

<table>
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<th>Cost Basis</th>
<th>Description</th>
<th>Example</th>
<th>Rate</th>
<th>Income</th>
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<tbody>
<tr>
<td>Cost per parcel</td>
<td>A single parcel</td>
<td>10 boxes to a single location</td>
<td>€4.5 per parcel</td>
<td>€45</td>
</tr>
<tr>
<td>Cost per consignment</td>
<td>A consignment can be made up of multiple parcels</td>
<td>10 boxes split into 2 consignments</td>
<td>€4.5 per consignment</td>
<td>€9</td>
</tr>
<tr>
<td>Cost per drop</td>
<td>A drop can be made up of multiple consignments</td>
<td>10 boxes to a single location</td>
<td>€4.5 per drop</td>
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Considerations when Determining Your Delivery Area

a. Size of delivery area – keep it small
b. Time between extreme points
c. Time/Distance between key points (e.g. Depot to Municipality office)
d. Be aware of natural and man-made obstacles (e.g. rivers, bridges, hills, motorways, etc)
e. Identify off-rod cycling infrastructure
f. Identify alternatives to congestion hotspots
g. Terrain – don’t have your depot at the bottom of a hill!
Extending Delivery Area

a. Locate a container in an area difficult to service
b. Delivery company drops items off in container
c. Cargo bike kept in container over night
"Reminder: Cyclelogistics is about delivering cargo NOT cycling!"
## Creating a Sustainable Business

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### Lessons

- Ensure delivery area can support a sustainable business
- Keep delivery area small
- No large bulky cargo
- Consolidate loads
- Establish contracts – regular work & income
- If providing ad-hoc delivery – charge a premium
Exercise: Identify up to 10:
- General Marketing/Promotion Ideas
- Targetted Marketing/Promotion Ideas
10 General Marketing/Promotion Activities

1. No paid for advertising

2. Develop relationships with local media

3. Simple web site

4. Exploit social media

5. Label for cargo

6. Get involved with local charities

7. Apply for Awards

8. Speak at local events

9. Write articles

10. Attend local business networking events
Targetted Marketing & Promotion Ideas

- Develop target list of organisations you would like to work with
- Establish relationships with receptionists and administrators
- Scan social media for opportunities (eg. new shop opening)
- Visit potential customers with your cargo bike
- New client in a sector – target their competitors
- A customer complaint is a gift
- Be proactive with existing customer base
- Regularly survey your customer base
- Free of charge pilot – prove your service
- Develop a portfolio of written case studies
7. USPs (Unique Selling Points) of Cycle Delivery
7. USPs (Unique Selling Points) of Cycle Delivery

- Cost Effective (but don’t say cheap!)
- Fast & Reliable
- Flexible Delivery Capability
- Secure
- Professional
- Environmentally Friendly – Green
- Positive Image – Fun, Smart, Trendy
- Local
8. Potential Customers

- Professional service firms (e.g. accountants, legal firms, etc)
- Municipalities/Local Authorities
- Businesses with multiple office locations
- Colleges and Universities
- Printers
- International, national and local delivery organisations
- Magazine publishers
- Business offering repair services
- Dry-cleaning and washing operations
- Shops & stores
- Catering operations
- Pharmacies
- Florists
9. Staffing
9. Staffing

- Employed or self-employed staff
- Full time or part-time
- Physicality of the work
- Recruitment
- Training riders
- Management
10. Set-up & Running Costs

Set-up Costs
- Company set-up & registration
- Fleet (cargo bikes & trikes)
- Company image and design
- IT & communication equipment

Running Costs
- Premises/storage rental
- Utilities
- Insurance
- Cargo bike maintenance
- Staff
- IT & communications
- Marketing & promotion
- Professional services
- Funding/cashflow
Common IT Requirements

- Recruitment
- On-boarding/training
- Personnel records
- Operational procedures
- Customer database
- Order taking & assignment to riders
- Customer direct entry of orders
- Proof of delivery
- Customer invoicing
- Accounting (debtors, purchases, p&l, balance sheet)
- Staff scheduling/rostering
- Staff time recording
- Payroll
- Asset register
- Maintenance schedule & repairs
- Web site
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- Web site

Determine priority requirements

Minimise entry of same information into multiple applications

What can be done using Word/Excel

What can be done using Apps/packaged software

Does the software need to be tailored

Get something working

Learn what real requirements are after a few months
Summary – Areas Covered

1. Business Planning
2. Equipment
3. Cargo Types
4. Service Types
5. Pricing & Delivery Area
6. Marketing & promotion
7. Unique Selling Points
8. Potential Customers
9. Staffing
10. Set-up & Running Costs
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Eclf.bike
Summary

- Cyclelogistics is nothing new!
- Our urban landscapes need to change because of congestion, pollution and noise issues
- Citizens want more liveable cities BUT still want easy access to products and services
- 33% of urban commercial delivery could be done by bike
- Various entry levels for cycle based solutions: bikes, trailers, cargo bikes, cargo trikes
- Fun area to work in
- Community of operators across Europe in European Cycle Logistics Federation
Thank you for listening

Any Questions?