

Urban Freight Transport Good Practices Database

Panayota Moraiti & Professor Dimitrios Tsamboulas 1-Mar-12 2nd Plenary Knowledge Sharing Workshop
National Technical University of Athens (NTUA)

- Develop **structured** and **manageable repository** of UFT Good Practices identified.
 - Complete, update and extend existing knowledge.
 - Summarize all information collected into one single module.

- List of UFT Good Practices and project applications identified from:
 - State of the Art Integration (SOTA) of related EU projects, studies and initiatives.
 - C-LIEGE Pilots Sites.
 - Plenary knowledge Sharing Workshops.

- Extensive desk research of relevant past and current research projects and studies at EU level based on:
 - key criterion of the energy efficient urban freight transport.
 - coverage of most types of good practices including both soft and hard measures.

Sources of Information



- Transport Research Knowledge Centre (TRKC) website.
- Links with other national and European Networks (ERRIN and Open ENLoCC).
- C-LIEGE consortium own wide experience and data availability in participating in relevant projects.

- Templates designed with the scope to capture the necessary information in accordance with the objectives of C-LIEGE, presented in a clear, intuitive and directly usable format.
- Three types:
 - Template Pilot Site
 - Template Good Practice
 - Template Project/Study

Pilot Sites



- Six EU countries: 7 pilot sites (members of the C-LIEGE consortium)
- **Parma, Leicester, Newcastle, Stuttgart, Szczecin, Montana and Malta**
- Template :
 - City Information
 - Direct Interviews
 - Good Practice

Pilot Site: City Information Template

City Information

1. Your organisation

- Organization name
- type and area covered

2. Your city / municipality

population, area, number of persons employed , description of the city, description of freight transport infrastructures, congested areas, urban deliveries indicators

3. UF Management Policy

- description of the legislation/regulations
- incentives to implement good practices
- planning to implement good practices

Sample Template Pilot City



City Information

1 YOUR ORGANISATION

- a) Organisation name:
- b) Organisation type:
- c) Your post and title:
- d) Area covered by your organisation:

2 YOUR CITY/MUNICIPALITY

- a) Name of the city /municipality:
- b) Country:
Specify if you are talking about: the city the agglomeration, specify areas
- c) Population:
- d) Number of employed persons:
- e) Regional GDP per capita:
- f) Area (km2):
- g) Description of the city:
Description of the urban planning (land use planning, main roads and infrastructures, accessibility in the historical city centers, situation of shopping centres, industrial zones, etc):

h) Description of the freight transport infrastructures:

For each freight hub that exists in 30 km on the periphery of the city centre specify:

Freight hub n°1

- i) Location of the hub and distance from the city centre:
- ii) Ownership of the hub:
 public public-private private
- iii) Type of the freight hub:
 airport seaport rail truck terminal other: Logistic
- iv) Number of loading/unloading slots:
- v) Freight volume per day or month:
- vi) Number of lorries per day or month:
- vii) Types of lorries used:
 articulated lorry: ...% rigid lorry: ...% van: ...% other: 100%
- viii) % of total freight volume going into the city:
- ix) % of the lorries going into the city:
- i) Which are the most freight traffic congested areas of the city? Specify the reasons

Include maps of the city:

j) Indicators related to urban deliveries:

Number of retail stores:

Number of large shopping centres:

% of combined shipments in the city centre:

% of combined shipments outside the city centre:

Daily distribution of goods in the city:

Monday (%):

Tuesday (%):

Wednesday (%):

Thursday (%):

Friday (%):

Saturday (%):

Sunday (%):

Time of good delivery: morning ...% afternoon ...% evening and night

Average travel time to city border from city center (minutes):

Number of deliveries and pick-ups per week:

c) Are there incentives to implement measures addressed to a more energy-efficient and effective freight transport?

d) List of good practices on UFT implanted in the city/municipality:

- Restriction of routes for urban freight transport
- Use of Intelligent Transport Systems
- Areas reserved for freight operations
- Develop Freight Quality Partnerships
- Integrate Urban Freight Strategies in urban plan
- Night deliveries
- Use of environmental friendly vehicles
- Others:
- Implement Urban Freight Consolidation Cent
- Others:
- E-commerce
- Others:

3 URBAN FREIGHT MANAGEMENT POLICY

a) Are there any urban freight management policies/legislation/regulations?

- Yes No

Specify type:

- Local National
 Regional Sector made

b) Provide a description of the legislation/regulations applicable to Urban Freight Transport in the city/municipality. E.g mandatory, enforcement powers

e) Have previous initiatives or measures that finally have not been implemented been analysed?

What are the causes of non implementation?

f) Are you planning to implement good practices on Urban Freight Transport?

Explain your answer

Pilot Site: Direct Interviews Template

Direct Interviews

Information about the interviewee

Name, function, organisation, projects developed related to UFT

Point of view of the interviewee

- main problems concerning UFT in the city
- benefits and constraints of the good practices implemented
- actions that would be implemented to achieve a more energy-efficient and sustainable urban freight transport

Template Good Practice

- Current Status
- Objectives
- Description
- Results achieved
 - Energy savings
 - Environmental, economic and social benefit
 - Output measurement
- Difficulties
 - Technical, financial, political, partnership, etc.
- Finances
 - Cost and financing
- Strategic
 - Target group, motivation, consultation, replication

Sample Template Good Practice



Good Practices



1 GOOD PRACTICE IN URBAN FREIGHT TRANSPORT

a) Name of the good practice:

b) Current status: finished ongoing planned

c) Duration of the action: ongoing

d) Good practice developed by: public authorities
 public-private partner
 private sector

e) Partners involved:

Please specify name of the partners, kind of stakeholder (freight carriers, administrators, etc) and their role

f) Objectives:

g) Description of the good practice implemented:

Specify area covered of the city, resources needed, etc

h) Results achieved:

Please specify qualitative and quantitative energy savings, environmental, economic and social results

i) What has been the energy savings of the action?

- Energy savings achieved (%):
- Reduction of fuel consumption (litres/year):

ii) What has been the environmental benefit of the action?

- Reduction of trip-km:
- Reduction of the number of freight vehicles that cause heavy pollution:
- Freight Vehicles entering in urban areas alternatively empowered
- Increase the number of trips with fully loaded vehicles:
- Emission reduction
 - Reduction CO2: Kg/year
 - Reduction CO: Kg/year
 - Reduction COV: Kg/year
 - Reduction PM10: Kg/year
 - Reduction PM2.5: Kg/year
 - Reduction NOx: Kg/year
- Noise reduction
- Others:

iii) What has been the economic benefit of the action?

- Reduction of transport operation costs: l
- Reduction of average time for each delivery: minutes
- Reduction of average time for each delivery: minutes
- Increase the number of deliveries per day:
- Growth of retail sales: (%)
- Employee growth: (%)
- Business units growth: (%)
- Increase the city attractiveness for residents and tourists
- Others:

Description:

iv) What has been the social benefit of the action?

- Reduction of traffic accidents (%):
- Reduction of congestion charging (%):
- Reduction of congestion charging (%):
- Improvement of the quality of life
- Others:

i) How did you measure the outputs?

(specify which indicators were used and what monitoring tools were used)

j) What were the 3 main successes of the programme

2 DIFFICULTIES

a) What difficulties encountered by the problem and how were they overcome?

- Technical difficulties:
- Financial difficulties:
- Political difficulties:
- Partnership difficulties:
- Other difficulties:

3 FINANCES

a) What was the total cost of the action?

b) How was the programme financed?

Please name source & percentage

to be added

- External funding
- Co-financing
- Other

4 STRATEGIC

a) Who was the programme aimed at?

- Freight companies
- Local businesses
- Other please specify

b) What motivated you to develop/run the programme?

- Legislation/policy
- Economic/financial reasons
- Environmental issues

c) Did you undertake any consultation?

- No
- Yes, please specify how and who with and how successful it was

e) Which modes of UFT did you focus on & why?

- articulated lorry
- rigid lorry
- van
- other

f) Has the programme been replicated elsewhere? If so where?

g) Is there any information available on the particular programme? If so where?

Template Project/Study

- Project background information
- Objectives
- Methodology
- Outputs
- Key Findings
- Pilot applications and results (energy savings, environmental, economic and social benefits)
- Best practices/measures proposed
- Web information source
- Relevance to C-LIEGE objectives

Sample Project/ Study Template

1 PROJECT/STUDY DETAILS:

a) Name-Acronym:

b) Funding:

c) Current status: finished ongoing planned

d) Duration:

e) Lead Partner/Contact Name:

f) Project Website (if applicable):

g) Source (s) of information:

2 BACKGROUND INFORMATION:

a) Context:

b) Objectives:

c) Relevance to C-LIEGE:

3 PROJECT/ STUDY ELABORATION

a) Methodology :

b) Outputs:

c) Pilot Applications (if applicable):

Please specify qualitative and quantitative energy savings, environmental, economic and social results

i) What has been the **energy savings** of the action?

- Energy savings achieved (%):
- Reduction of fuel consumption (litres/year):

Description:

ii) What has been the **environmental benefit** of the action?

- Reduction of trip-km:
- Reduction of the number of freight vehicles that cause heavy pollution:.....
- Freight Vehicles entering in urban areas alternatively empowered
- Increase the number of trips with fully loaded vehicles:
- Emission reduction
 - Reduction CO₂: Kg/year Reduction PM₁₀: Kg/year
 - Reduction CO: Kg/year Reduction PM_{2.5}: Kg/year
 - Reduction COV: Kg/year Reduction NO_x: Kg/year

Noise reduction

Others:

Description:

iii) What has been the economic benefit of the action?

- Reduction of transport operation costs: |
- Reduction of average time for each delivery:..... minutes
- Reduction of average time for each delivery:..... minutes
- Increase the number of deliveries per day:
- Growth of retail sales: (%)
- Employee growth: (%)
- Business units growth: (%)
- Increase the city attractiveness for residents and tourists
- Others:

Description:

iv) What has been the social benefit of the action?

- Reduction of traffic accidents (%):
- Reduction of congestion charging (%):
- Reduction of congestion charging (%):
- Improvement of the quality of life
- Others:

Description:

v) How did you measure the outputs? (specify which indicators were used and what monitoring tools where used)

4 KEY FINDINGS

a) Key Findings :

b) Obstacles/Barriers:

c) Best practices/innovative measures proposed:

d) Policy Implications:

e) Relevance of outputs to C-LIEGE:

5 PROJECT DOCUMENTS

a) List of Key Deliverables:

6 UFT Demand Manager

a) Did the project define a UFT demand manager?

- Yes
- No

b) If yes , please provide a short description on procedures and functions:

7 RELATED PROJECT/STUDIES

a) List of related projects/studies (if applicable):

- Recording of 55 projects:
 - elaborated in the last decade/still on-going.
 - most funded by the European Union and/or national authorities.
- Grouped according to different types of UFT good practices these dealt with.
- 24 different types of UFT good practices.
 - Soft measures
 - Hard measures

UFT Good Practices Typology

Good practices	Number of Projects
Soft Measures	
Access Restrictions	9
Optimization of routes	4
Extending Environmental zones	4
Urban Logistic Plans	2
Freight Quality Partnership	9
Distribution plan/scheme	3
Driver's Behaviour (Eco-driving and on-board computers)	3
Incentives	2
Promotional-incentive campaigns	1
Innovative financing models	1
Advance booking	1
Van-sharing service	1
Mobility credits scheme and electronic passes	1
Alternative delivery systems	1
Freight Exchange	1
Hard Measures	
Use of Intelligent Traffic Management	7
Urban Freight hubs at the edge of the city.	9
Distribution micro-platforms in the inner city	10
Use of environmentally friendly vehicles	14
Use of rail mode as well as suburban rail/metro for delivery and Use of city canals, waterways for delivery (modal shift)	6
IT logistic tools	6
Intelligent Transport Systems	1
Measures to tackle noise	2
Total	99

Soft UFT Good Practices



- Access Restrictions
- Optimization of routes
- Extending Environmental zones
- Urban Logistic Plans
- Freight Quality Partnership
- Distribution plan/scheme
- Driver's Behaviour (Eco-driving and on-board computers)
- Incentives
- Promotional-incentive campaigns
- Innovative financing models
- Advance booking
- Van-sharing service
- Mobility credits scheme and electronic passes
- Alternative delivery systems
- Freight Exchange

Hard UFT Good Practices

- Use of Intelligent Traffic Management
- Urban Freight hubs at the edge of the city
- Distribution micro-platforms in the inner city
- Use of environmentally friendly vehicles
- Modal shift
- IT logistic tools
- Intelligent Transport Systems
- Measures to tackle noise

Pilot Sites GPs (1)

- Local and regional initiatives from the C-LIEGE pilot sites
- The good practices that have been identified are:

Parma	<ul style="list-style-type: none">• Ecologistics project• Urban Distribution Center• Data transmission Platform• Environmental-friendly Light Commercial Vehicles (LCVs)
Leicester	<ul style="list-style-type: none">• Freight Quality Partnership• Intelligent Control of Traffic Lights• Restriction of UFT routes
Newcastle	<ul style="list-style-type: none">• Individual destination maps• Freight Quality Partnership: advice and guidance to local authorities• Tyne and Wear Freight Consolidation Centre (planned action)• Delivery and Service Plans (planned action)

Pilot Sites GPs (2)

Stuttgart	<ul style="list-style-type: none">• Establish a joint truck routing concept by several communities
Szczecin	<ul style="list-style-type: none">• E-commerce (Packstations 24/7)• Urban Mobility Plan (planned action in the Advance IEE project)
Montana	<ul style="list-style-type: none">• Restriction of routes for UFT
Regions of Malta	<ul style="list-style-type: none">• Malta Freeport

UFT Database Features

- Developed in Excel for Microsoft Windows to obtain a directly usable and sustainable database, with high quality multimedia applications.
- List of completed templates integrated into one single module.
- Categorised according to:
 - Soft Measures
 - Hard Measures
 - Identified typology.

- **1st Tab/Worksheet:** GP Directory of Soft Measures
 - 1st Column: GP Code Number (unique for each template).
 - 2nd Column: Name

PROJECT/PILOT SITE (NAME): TITLE-LOCATION

- **2nd Tab/Worksheet:** GP Directory of Hard Measures
- **Tabs No 1-93:** Completed Templates by Code Number

GP Number

Project/Pilot Site Name

SOFT MEASURES	
GP Number	Project / Good Practice
Access Restrictions (AR)	
1	PROJECT START: Promote and facilitate the efficient, economic, safe and sustainable distribution of freight-Bristol,UK
2	PROJECT START: Increasing load factors and the usage of cleaner vehicles to reduce van/truck pollution and traffic congestion-Ravenna, Italy
3	PROJECT START: Short Term Actions to Reorganise Transport of goods- Ljubljana
4	PROJECT START: Freight delivery and waste removal-Riga, Latvia
5	PROJECT CIVITAS SMILE: Priority access for clean goods vehicles- Norwich, UK
6	PROJECT CIVITAS MODERN: Urban Freight Logistics-Vitoria-Gasteiz, Spain
7	PROJECT CIVITAS MODERN: Freight Distribution-Brescia, Italy
8	PROJECT CIVITAS ELAN: Freight Delivery Restrictions-Zagreb, Croatia
9	PROJECT Sustainable Freight Distribution in a Historic Urban Centre (Pilot Transport Research Programme)
10	PILOT SITE: Parma-Regulation
Optimization of routes (OR)	
11	PROJECT CIVITAS MIMOSA: Marking Routes for Smooth Freight and City Logistics-Tallinn, Estonia
12	PROJECT CIVITAS SUCCESS: Freight Partnership, Planning and Routing-Ploiesti, Romania
13	PROJECT INTERACTION
14	PROJECT Urban Truck Navigation System
15	PILOT SITE :Leicester - Restriction of UFT Routes
16	PILOT SITE :Newcastle-Individual destination maps
17	PILOT SITE : Stuttgart-Truck Routing Concept "Filder"
Extending Environmental Zones (EZ)	
18	PROJECT CIVITAS TRENDSETTER: Extending the Environmental Zone-Praha, Czech Republic
19	PROJECT CIVITAS ARCHIMEDES:Environmental zone-Aalborg, Denmark
20	PROJECT CIVITAS CARAVEL: Creating a new goods distribution scheme-Burgos, Spain
21	PROJECT TURBLOG Four measures: Low Emission Zone-Utrecht, Netherlands
Urban Logistic Plans (ULP)	
22	PROJECT CIVITAS SUCCESS: Strategic extension of city logistics-La Rochelle, France
23	PROJECT CIVITAS MIMOSA: Urban Freight Delivery Plan-Bologna, Italy
Freight Quality Partnership (FQP)	
24	PROJECT CIVITAS ARCHIMEDES: Efficient Goods Distribution,Brighton & Hove, UK
25	PROJECT CIVITAS ARCHIMEDES: Efficient Goods Distribution- Iasi, Romania
12	PROJECT CIVITAS SUCCESS:Freight Partnership, Planning and Routing-Ploiesti, Romania
26	PROJECT CIVITAS SMILE: Developing a strategic freight holders club- Norwich, UK
27	PROJECT CIVITAS ARCHIMEDES: Efficient Goods Distribution-Donostia-San Sebastian, Spain
28	PROJECT START: Promote and facilitate the efficient, economic, safe and sustainable distribution of freight-Bristol,UK
29	PROJECT START: Develop logistics solutions that will be sustainable in the long run-Göteborg, Sweden
30	PROJECT START: Reduce pollution and traffic congestion due to urban freight transport-Ljubljana, Slovenia
31	PROJECT ConnectedCities

GP Typology

1st Tab : Directory of Soft GPs

2nd Tab : Directory of Hard GPs

Tabs No 1-93 : Completed Templates

UFT Database Functionality



- Overall summary of related good practices.
- Delivers on-demand access to **valuable performance benchmarks** and **good practice research findings** from relevant applications at EU cities.
- Informative supporting tool for stakeholders.
- Potentially allow stakeholders to adapt each practice and realize success in their own environment.
- Guideline for the optimisation of urban freight transport.

Recommendations

- Collection of best practices and their inclusion in the database is an on-going procedure, which will continue throughout the duration of the C-LIEGE project.
- Feedback from Knowledge Sharing Workshop.
- Enhancing its features into a Decision Support Tool/Handbook:
 - practical and dynamic tool that will enable the user to identify possible solutions among best practices.

Thank you for your attention!