Focus on Urban Freight Transport and DATA

Freight TAILS is an URBACT project network of 10 European cities working together to address urban freight transport issues. The network is led by Cross River Partnership (CRP), a public-private regeneration delivery agency based in London, UK.

Cities in the Freight TAILS network.

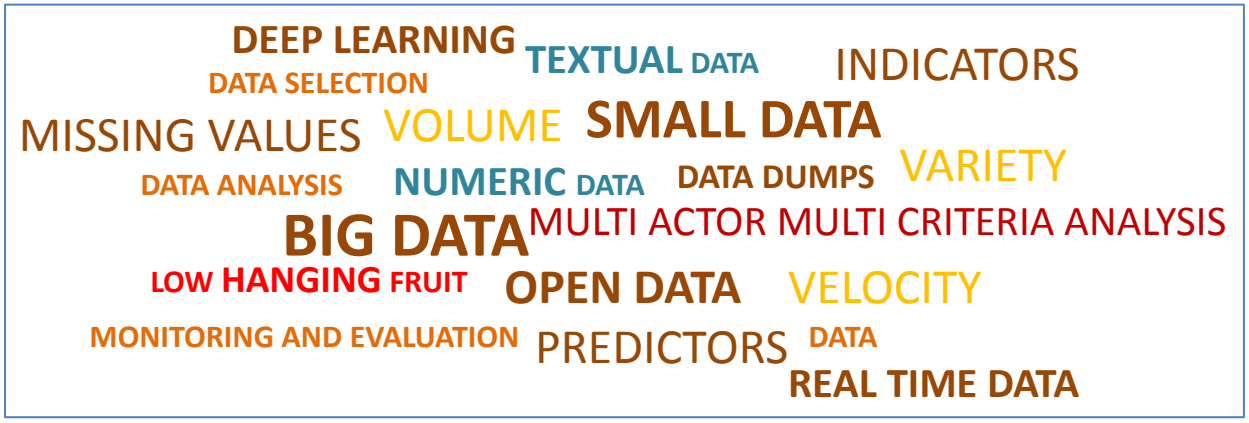
'Freight TAILS Focus on …'is a series of interim reports, sharing the experiences of these 10 European cities in urban freight transport (UFT) organised around six key themes. The six themes are:

1. Stakeholders
2. Data
3. Integration
4. Regulation & Enforcement
5. Voluntary Behaviour Change
6. Procurement

This second interim report is focused on urban freight transport and DATA. The report is structured around the following five questions:

- *Why is Data important for urban freight transport management?*
- *What kind of Data is necessary?*
- *How can Data be harvested?*
- *Who collects, holds, provides and uses Data?*
- *When should Data be collected?*

Finally, some recommendations and a step by step process are provided to assist in the consideration of DATA in urban freight transport.



The Freight TAILS network UFT and DATA key phrases, from Freight TAILS network meeting October 2016.

Traffic surveys in Gdynia, Freight TAILS partner city, March 2017.

Why is Data important for urban freight transport management?

Gathering data on urban freight transport (UFT) is important to help identify the problems associated with UFT, describe UFT trends, understand stakeholder behaviour, test assumptions and validate estimates. Analysis of appropriate data can inform evidence-based decision- and policy-making, support the design of UFT actions, measure impacts and enable the evaluation of results. By understanding the relevant data, cities and other stakeholders can design measures to generate efficiencies in freight journeys which can also deliver environmental, economic and social benefits.

What kind of Data is necessary?

In order to understand urban freight transport, it is essential to gather both quantitative and qualitative data. New technology and the move towards 'smart cities' means there is often a huge amount of detailed data ('big data') already gathered. Access to this data remains an issue, as well as making the best use of it when you can access it.

> "Big data does not fit into an excel sheet" Prof. Wouter Verbeke Mobility Logistics and Automotive Technology Research Centre (MOBI)

Blending different types of data (e.g. traffic counts, stakeholder surveys and measures of area attractiveness); and merging new data with existing data can provide a fuller picture. For example, business engagement research and traffic count surveys can provide a detailed account of what is occurring in a localised freight environment. This can assist policy makers in accurately identifying issues, and provide guidance for policy development that is considerate of business needs, whilst addressing the causes of congestion issues.

CASE STUDY: The Oxford Street West (OSW) business engagement research in Central London has identified that the majority of Oxford Street facing businesses were already staffed outside of regular opening hours and receiving deliveries while the store was closed. This information was supported by the observation study, which suggested that, whilst retail businesses were receiving deliveries during the day, they generally weren't large stock deliveries. This has provided some opportunities for policy makers to consider options for daytime pedestrianisation of OSW, as the impact to businesses may be smaller than what was anticipated prior to the research. This research was carried out by CRP on behalf of Westminster City Council Spring 2017.

Matching data from different sources can help check validity. As collection and analysis is costly and time-consuming, the focus needs to be on gathering the correct data for the purpose; this means starting with identifying the UFT objective, and then considering what kind of UFT data is required.

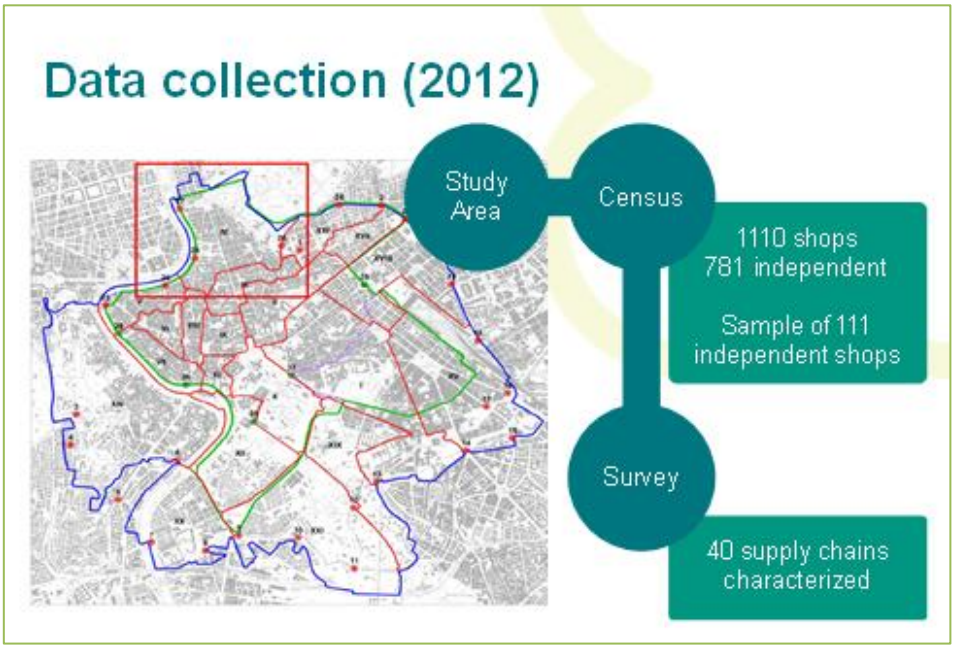
How can Data be harvested?

> "There is need for innovation in data collection" Dr. Sara Verlinde, Mobility Logistics and Automotive Technology Research Centre (MOBI)

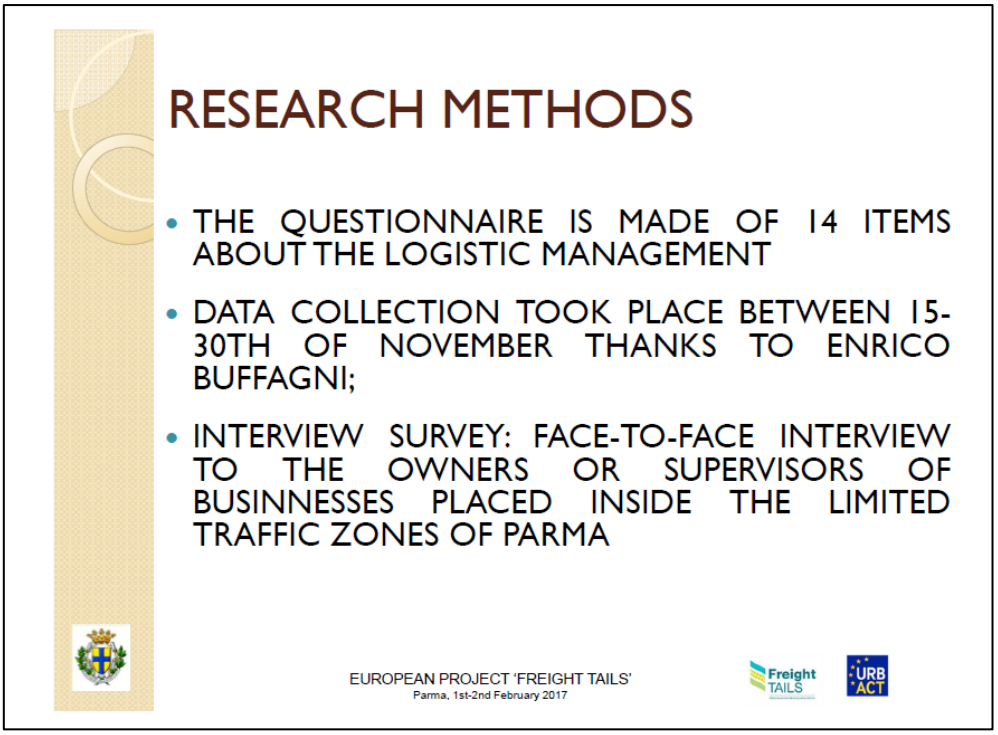
Urban freight transport data collection methods include traffic counts, road incident statistics and locations, and the commission of specific studies and surveys – face to face, telephone, by post etc. Straightforward observation and recording of urban freight transport movements, alongside talking to stakeholders such as delivery drivers, can provide valuable insights.

New technology is rapidly expanding the data that can be collected and communicated. Mobile phone apps that can enable stakeholders to provide their views, the availability of 'big data' as seen in Brussels through their road charging schemes, and GPS resources may all contribute to the overall understanding. However, with both traditional and new methods of data collection accuracy and reliability are still an issue, and commercial confidentiality and data privacy can be an issue with many new tech data collection methods.

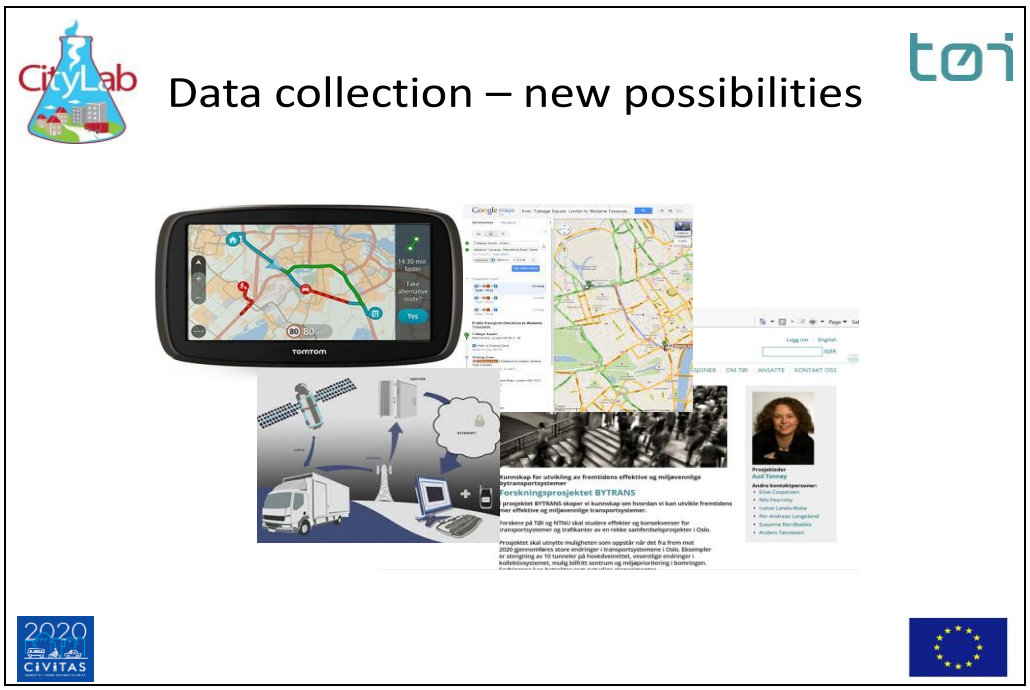
CASE STUDY: CRP's deliverBEST supports businesses to implement changes that improve the efficiency of their deliveries. Beginning with a short online questionnaire, high-level data on a range of factors including a business' location, sector, size and tenancy type, are used to recommend relevant actions. More bespoke data is used to shape 1-to-1 support, including building business cases for change and to measure impacts and inform the preparation of case studies. Data collection is targeted to the areas of action a business is interested in, and wherever possible uses data that is already collected (e.g. procurement, finance and security logs). Purposefully limiting data collection minimises the time and effort required by the business, reducing barriers to participation. See www.deliverBEST.london



Example of data collection in Rome presented to Freight TAILS network meeting, October 2016, by Dr Andrea Campagna, from Sapienza Università di Roma.



Questionnaire undertaken by Municipality of Parma, Freight TAILS partner city, November 2016.



GPS, in-vehicle technology, remote sensing, crowd sourcing present exciting future opportunities, presented by Jardar Andersen, TOI, project co-ordinator of CityLab, at Freight TAILS network meeting October 2016.

Who collects, holds, provides and uses data?

"Existing data has real potential but needs to be used in a more pragmatic way" Freight TAILS network.

City authorities will most likely already collect a wealth of transport data. This will include, data on pollution (both air and noise), information on regulation and infringement, accident statistics and more; but may not include data on freight flows, or data relating to the receivers of goods and services. It is important to consider what types of data are required, and then consider sources outside traditional transport and planning departments. Valuable and relevant data may be available across the city authority, from the economy, trade, tourism and environment departments, partner agencies such as chambers of commerce, other levels of authority (region, neighbouring municipalities, national statistics), and from the broader public sector, including universities, health care organisations, and the police.

Private sector companies involved in the supply chain also hold a wealth of data. However, it is often difficult to access this data due to issues around market competitiveness, and privacy. Cities could seek to resolve privacy issues by entering into freedom of data agreements, or changing legislation; stimulate transparency by considering how the private sector could be incentivised to share data; and require the provision of data under procurement processes.

Logistics Operators will hold information on the type of vehicles (Euro standard), route length, route duration, seasonal variability in length and duration. This data will be useful for different types of freight measures; for example, information on route length is key when looking at the use of electric freight vehicles, as it will determine range needs. Interestingly, many large logistics operators do not necessarily have load fill data but consider 50 per cent load on average throughout the day as a good estimate. For operators, the number of delivery points or overall weight may be more of an issue than load fill.

When considering certain specific freight measures other data held by logistics operators will be required. For example when considering the use of electric vehicles, the state of charge of the vehicles and charging data, as well as vehicle downtime, are important data sets.

> "Don't make it any harder than it is; check availability and applicability of data already held in business systems or transport data banks" Fredrik Lindgren Stockholm Waste Consolidation Initiative, at Freight TAILS network meeting, October 2017

Business associations (such as Business Improvements Districts in the UK) work closely with their business members, and often hold information from this engagement process that is important when looking at initiatives that impact freight movements. This includes businesses specific delivery requirements, the hours that business premises are staffed (important when considering re-timing deliveries), the frequency and content of deliveries, and the location of loading bays and delivery points.

Research institutes also collect relevant data, and have specific expertise in data collection and analysis. Cities can exploit this by working in partnership with relevant institutions.

When should Data be collected?

Data collection can be done at an early stage of addressing an UFT objective. This may help build momentum with stakeholders, as well as help determine the type of UFT measure that will ultimately be introduced. However, data collection should not delay the introduction of UFT measures. Often it is useful to start delivering an action, perhaps as a pilot, and collecting data along the way to inform the development of the actions.

> "Businesses are tired of all the data collection questionnaires and interviews. Please start doing something." Freight TAILS partner city Maastricht.

Once collected, communicating UFT data clearly to key stakeholders will ultimately help decisions to be made in relation to UFT measures.

CASE STUDY: Electric freight vehicles can play a significant role in addressing local air pollution as well as CO2 emissions from road transport but little information is currently available regarding their operational and environmental performance as well as their business case. FREVUE (Freight Electric Vehicles in Urban Europe) is a 4.5-year EU Seventh Framework Programme funded project that is due to be finalised in September 2017. Over eighty electric freight vehicles have been exposed to the day to day rigors of the urban logistics environment and prove that the current generation of electric vans and trucks can offer a viable alternative to diesel vehicles.

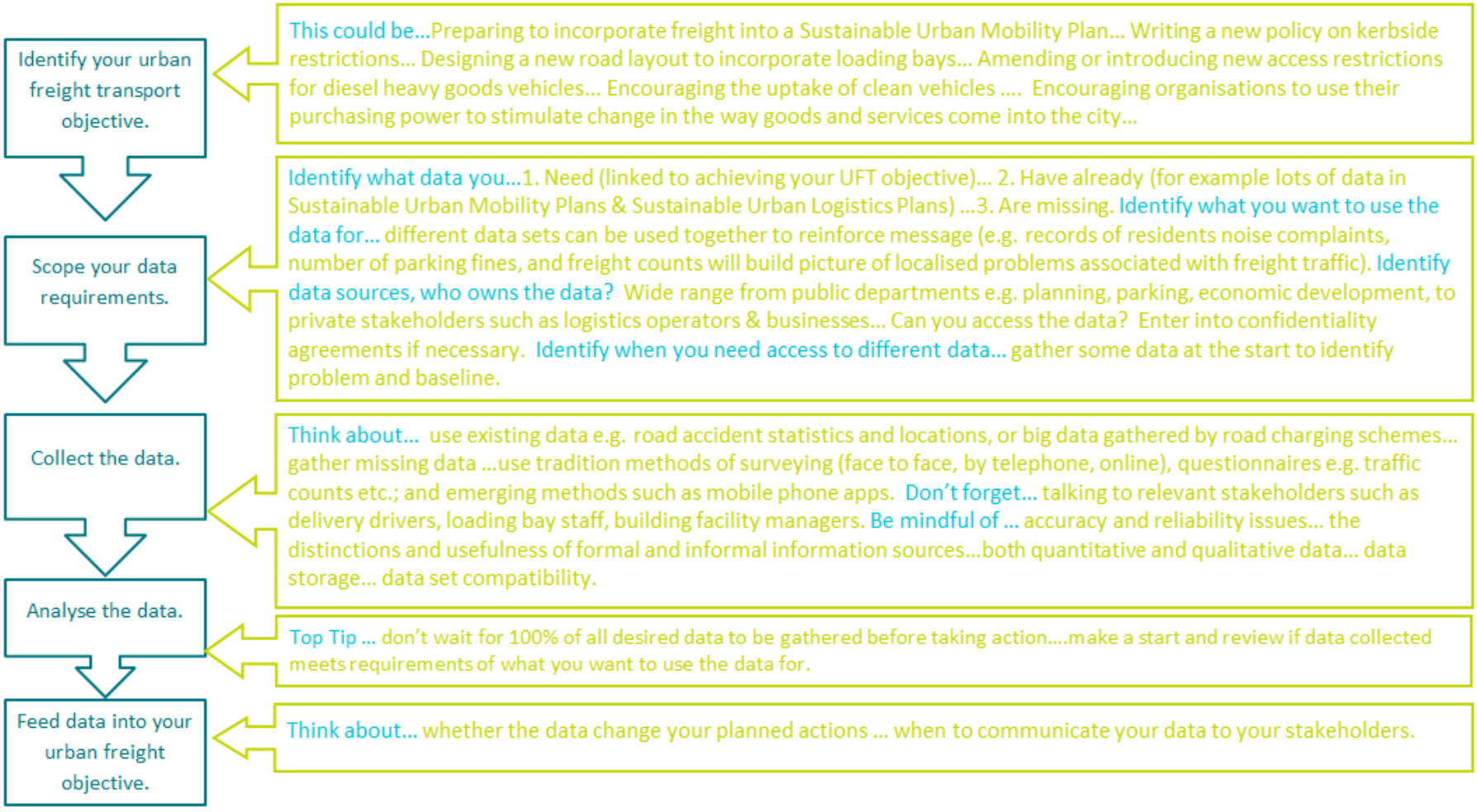
The FREVUE research partners designed and implemented a robust and structured evaluation framework to ensure that the data from each demonstrator is analysed on a common and pan-European basis. Data was received from 105 electric freight vehicles across Europe, covering a total of 757,000 kilometres driven. This data and its subsequent analysis provides, for the first time, a wide ranging evidence base on the technical, operation and environmental performance of electric freight vehicles that will support their future uptake.

In addition, FREVUE partners launched the Declaration of Intent, a joint initiative that aims at clearly communicating the demand for EFVs to supplier. Many vehicle suppliers are not yet convinced of sufficient demand, which results in limited availability and high prices, in turn hindering further uptake. The current signatories of the Declaration represent fleets of over 5,000 vans and 4,000 trucks that could be electrified, providing a first indication of demand. This initiative will continue after the FREVUE project is finalised. For more information, please see http://frevue.eu/declaration-of-intent/.

Recommendations

- Consider the quality and relevance of data, as this is more important than the amount of data collected. A simple but structured and representative discussion with retailers or delivery drivers can often reveal the most useful information to explain behaviour patterns.
- Reduce the number of assumptions in a model, to make the model more accurate. Feed good data into a model to get good results out of the model.
- Foster good cooperation between city departments, public/private stakeholders and the research/academic sector in order to collect and gather relevant information and usefully exploit/fully analyse effective sources.
- Be mindful that politicians can be sensitive to data, but not necessarily reliant on only data to inform decisions; reality suggests that while data may be objective – many other factors also influence decision-making.
- Take advantage of new technology to collect data, when relevant. Build data collection plans around what is required to meet your objectives, rather than restricting methodology to what is "available now".
- Take a targeted approach to innovative data collection on urban freight transport. Innovation means exploiting new real-time, digital and IT opportunities but also simply improving practice – identifying who owns the data, understanding how to store data, ensuring storage in compatible formats so that data comparisons can be easily made, and calibrating different geographical scales.

The Freight TAILS Process: Urban Freight Transport and DATA



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