SEStran Ferry Toolkit

Section 4: Patronage Evaluation

This document is part of iTransfer, a North Sea Region Interreg programme project, which is funded by the European Regional Development Fund.

iTransfer (Innovative Transport Solutions for Fjords, Estuaries and Rivers) aims to make ferry transport more freely accessible and sustainable, and encourage more people to travel by water. In areas in the North Sea Region (NSR) there are opportunities to replace existing vehicle routes with passenger ferries as a viable alternative. Travelling by ferry is more sustainable, easier and quicker. It can also provide lifeline services to remote communities.

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Section 4: Patronage Evaluation

1. Introduction

1.1. The estimation of likely patronage and as appropriate freight utilisation levels for a proposed new ferry is a fundamental requirement of an appraisal of the impact of the ferry, it's environmental impact and its viability as demonstrated in a business plan. It is also fundamental in developing the appropriate design for the vessel and its terminal facilities.

1.2. This section provides a general overview of available data sources, some guidance on projection of data to future years, some comments on transport modelling techniques and finally some comments on sensitivity analysis.

1.3. It should be emphasised that this does not provide a detailed coverage of the work required for prediction of the utilisation of a new ferry service but simply raises the issues that should be considered.

2. Data Sources

2.1. A number of data sources are likely to be available to assist with the estimation of likely patronage for a new ferry. These range from strategic international data, through national and regional data to very localised data from operators or local surveys. The type of data that will be appropriate depends very much on the type of ferry proposal being developed, its range and whether it is purely passenger or freight.

3. Eurostat

3.1. Eurostat is the statistical office of the European Union situated in Luxembourg. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

3.2. The European Commission publishes extensive transport data on an annual basis covering information from all member states. Flows of passengers and freight are tabulated by mode of travel, inbound and outbound flows by region and country based on the NUTS European zoning. The data feature several different aspects:

- Three different measurement types:

  o Transport of goods – tonnes transported and tonne-kilometres (TKM) – the most complete and accurate dataset

  o Transport of people – number of transported passengers and passenger-kilometres (PKM)

  o Traffic – Stock of vehicles and vehicle-kilometres (VKM)

- Six different transport modes:

  o Road

  o Rail

  o Pipeline

  o Inland waterway

  o Sea

  o Air

3.3. Most of the data collections are based on legislation applied by EU Member States, European Free Trade Association (EFTA) countries and some

candidate countries. Others are based on voluntary agreements. Some data collections go back to 1980, while others start more recently.

3.4. Other available data include:

- **Aggregated statistics** on businesses, employment, infrastructure and means of transport

- **A multilingual glossary of transport statistics**, which aims to provide globally standardised definitions and concepts both inside the EU and beyond, is maintained by Eurostat, the United Nations Economic Commission for Europe (UNECE) and the International Transport Forum (ITF).

3.5. The main tables that are available for Transport are:-

Regional transport statistics
- Victims in road accidents by NUTS 2 regions (
- Maritime transport of passengers by NUTS 2 regions
- Maritime transport of freight by NUTS 2 regions
- Air transport of passengers by NUTS 2 regions
- Air transport of freight by NUTS 2 regions

Transport, volume and modal split
- Volume of freight transport relative to GDP
- Volume of passenger transport relative to GDP
- Modal split of passenger transport
- Modal split of freight transport

Railway transport
- Total length of railway lines
- Rail transport of passengers

- Goods transport by rail

Road transport

- Total length of motorways
- Motorisation rate
- Goods transport by road
- People killed in road accidents

Inland waterways transport

- Goods transport by inland waterways

Maritime transport

- Sea transport of goods

Air transport

- Air transport of passengers
- Air transport of goods

4. National Data

4.1. Generally member states within the EU publish national transport statistics that can be more detailed than the statistics published by Eurostat and these can provide a useful source for estimating traffic on a proposed ferry service.

4.2. For example the Department for Transport in the UK publishes Transport Statistics Great Britain on an annual basis with intermediate on line updates as data becomes available.

4.3. Typical tables that are available are:-

Maritime

UK ports and traffic

Freight

UK international sea passengers

UK domestic sea passengers

UK international short sea passengers

Accompanied passenger vehicles

GB international and domestic sea passengers

Roads and traffic

Flow weighted vehicle speeds

Road construction and taxation

Road lengths (miles)

Road lengths (kilometres)

Vehicle speeds

Traffic by road class and region (miles)

Traffic by road class and region (KMs)

Forecasts of traffic

Aviation

Air traffic at UK airports

Activity by UK airlines

Major airports and airlines worldwide

Aviation accidents and incidents

5. Regional Data

5.1. In some cases Regional Authorities will hold date that can be useful in estimating ferry patronage. Typical types of data that can be used includes:-

- Population data

- Economic data
- Travel patterns by mode
- Projected land use patterns
- Projected population and employment

6. Operator's Data

6.1. In the circumstances where the ferry route under consideration would represent an extension of an existing service data held by the current operator could be sufficient for a first stage estimate of patronage provided it can be made available without breaching commercial confidentiality. This could potentially include:-

- Patronage figures
- Fare structures
- Cost structures

7. Local surveys

7.1. In some instances local survey data may be available or required. These may include:-

- Origin destination surveys
- Stated preference surveys (note attitude surveys should not be relied on as they consistently over estimate likely patronage for a new service)
- Local economic data including business surveys

8. Patronage Projection

8.1. Trends analysis

8.1.1. The simplest method of projecting patronage is by using historical trends as the basis and projecting forward to future years on the basis of the historical growth trends. This is only appropriate where reliable historical data is available and where the population and economy expectations for future years is similar to the historical trend.

8.1.2. While this is useful in most cases as a first stage order of magnitude analysis it is unlikely that a significant investment in a new service would depend on this level of projection alone.

9. Population projections

9.1. The potential usage of a new service is fundamentally dependent on the population within the travel catchment of the service. This applies equally to either end of the proposed new service. National and regional projections can provide a good basis for projection of population within the catchment area for the present day and future design years.

9.2. Population projections should not only take account of total numbers but should be broken down by age and socio-economic indicators to obtain a better estimate of the sectors of the population likely to use the service.

9.3. Finally, an estimate of likely fare structures combined with the socio-economic data will give a guide as to the affordability of the service and its likely attractiveness to passengers.

10. Employment data

10.1.   The level and trends in employment within the ferry catchment area can be as important as basic population statistics especially where the dominant flow of passengers is likely to come from commuting. Again national and regional statistics can provide a useful guide in this area but depending on the nature of the service specific employment statistics from major employers within the area can prove invaluable.

10.2.   In circumstances where tourism is a significant employer within the area, it is important to include statistics not only on the number of employees in the sector but also on the number of tourists likely to use the service. Again, while national and regional statistics are useful, specific data fro tourist outlets can prove invaluable.

11. Modelling

11.1.   The use of transport modelling to predict the potential level of use of a new ferry is very much dependent on the level of complexity of the choices available to the potential user. In circumstances where a ferry is the only practical solution, complex modelling will not be required and considerations of cost and potential market are likely to be sufficient. In circumstances where the proposal is for a ferry across an estuary where there may well be alternatives by road or rail, a full four stage transport model may be appropriate covering trip generation, distribution, mode choice and economic analysis.

11.2.   Consequently, the level of modelling that would be appropriate for a particular proposal is very much dependent on the complexity of the proposal

itself. Careful consideration should be given to the level of modelling required and expert advice taken as necessary.

12. Sensitivity analysis

12.1.   The prediction of patronage on a new transport facility is notoriously difficult especially when projections are required into the future. It is therefore advisable to carry out sensitivity analysis. This will involve the variation of key assumptions in the analysis by percentages reflecting their degree of certainty and analysing the impact such variations are likely to have on the final answer.

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