

**The Yorkshire Tourist Board**  
**Market Intelligence**



## **NRM Economic Model**

### **An estimation of the National Railway Museum's impact on the tourism economy of York**

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## **1 Introduction**

YTB Market Intelligence was commissioned by the National Railway Museum (NRM) to produce a model capable of estimating the economic impact of the NRM to the tourism economy of York.

The model relies primarily on data collected via on-site visitor surveys although also draws from industry data including a number of national surveys, local level data and outputs from the Cambridge Economic Model<sup>1</sup>. The model devised for this study is based on a series of assumptions, such as average visitor spend and trip length, therefore outputs are only indicative of the economic impact to York and should not be considered in real terms.

## **2 Aims**

The aims of the research were to estimate the:

- Amount of additional spend generated by visitors to the museum.
- Number of full time jobs supported by the additional spend
- Overall impact of NRM on the York tourism economy

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<sup>1</sup> The Cambridge Model was developed by Geoff Broom Associates and makes use of parameters derived from previous research studies of tourism projects in England and Scotland, as well as information on visitor spending from national surveys including the United Kingdom Tourism Survey (UKTS), International Passenger Survey (IPS) and United Kingdom Day Visitor Survey (UKDVS).

### **3 Methodology**

Visitor surveys were conducted at the National Railway Museum throughout the months of August and September. The data collected was used to determine the proportion of day visitors, domestic staying visitors and overseas visitors to the museum in each month. The survey was also used to determine the proportion of trips that were motivated primarily by a visit to the museum, as opposed to those visiting York regardless of which attractions were of interest.

By multiplying together these two proportions we were able to establish the percentage of visits that were:

- day trips motivated by the museum
- staying domestic trips motivated by the museum
- staying overseas visitors motivated by the museum

Known visitor numbers to the NRM (provided by the museum) were then multiplied up proportionately over a 12 month period to provide an estimate for the number of visitors falling into each of the above categories. The results from August were assumed to represent a typical 'peak' month and results from 'September' used to represent 'off peak'. By constraining the model to known visitor numbers this ensured that estimates were not over-inflated.

Estimated overall spend per trip was calculated using the Cambridge Economic Model, which employs industry data to measure the volume and value of tourism at a regional and district level. York estimates for 2006 were used in this model, employing separate figures for day visitors, staying domestic visitors and staying overseas visitors. These average spend per trip figures were then multiplied proportionately by the number of visitors to York motivated to visit by the museum, providing an overall estimate of additional spend that the museum has generated.

Turnover figures provided by the NRM were used to estimate the proportion of visitor spend associated with the museum itself, and hence the proportion that was spent outside of the museum.

The number of full time jobs created by this additional spend was approximated using the Cambridge Economic Impact Model. Once the value of turnover generated by visitor spending has been estimated it is possible to estimate the employment

associated with that spending by dividing the amount of business expenditure on wages/drawings by the average employment cost per job in each sector in the local area (provided by the New Earnings Survey).

The final outputs of the model as it stands will show you the amount of additional visitor expenditure and jobs the museum has generated through being located in the region, i.e. spend generated by visitors who may not have come otherwise.

## 4 Findings

Using the average spends, length of stay and percentage of day versus staying visitors, the following estimated value has been derived for each market segment:

- The NRM brought approximately **391,886 additional visitors** into York in the 12 months from October 2006 to September 2007 who may otherwise not have visited. Of this:
  - 71% were day visitors
  - 17% were domestic staying visitors
  - 12% were international visitors
  
- Additional tourism expenditure generated in York by the NRM in the last 12 months was estimated to be **£32,053,541**, 7% of which was spent within the museum itself, and 93% outside of the museum.
  - Day visitors were worth approximately £13 million
  - Domestic Staying visitors were worth approximately £11 million
  - International visitors were worth approximately £7.8 million
  
- Of the £32.1 million additional expenditure generated, approximately 90% can be attributed to visitors from outside of Yorkshire (including both UK and overseas visitors).
  
- The number of FTE jobs supported in the local economy by that spend is estimated to be **686 jobs**, of which 639 represent jobs outside of the museum.

For further details of the model and how spend is estimated throughout the year, please refer to the excel spreadsheet that accompanies this report.

## 5 Conclusions

The NRM has made a significant contribution to the tourism economy of York, responsible for approximately 5% of total income generated by visitor expenditure in the York District.<sup>2</sup>

We feel it necessary to point out that while the model does its best to provide realistic and reliable data, it can only be taken as indicative of the economic impact of the NRM as it is based on a series of assumptions and derived data. Furthermore, the sample sizes in the visitor survey were small, thus limiting the reliability of the results. We would advise carrying out some level of data collection at more regular intervals to keep the model up to date and to record trends. We would advise carrying out some level of data collection at more regular intervals to keep the model up to date and to record trends. The data collection need not be as comprehensive as the current visitor survey, and could just be designed to gather the key data components of the model.

This model is based on leisure visitors only, and does not take into account the business conferencing facilities on offer at the NRM. YTB Market Intelligence have developed a business tourism economic model, based on delegate surveys, and this could be adapted to meet the needs of the NRM.

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<sup>2</sup> Based on the assumption that all trip expenditure was spent within the York District and does not take into account visitors who have travelled to other parts of Yorkshire during their stay. Total visitor expenditure in the York District was estimated at £405 million in 2006 (using Cambridge estimates).