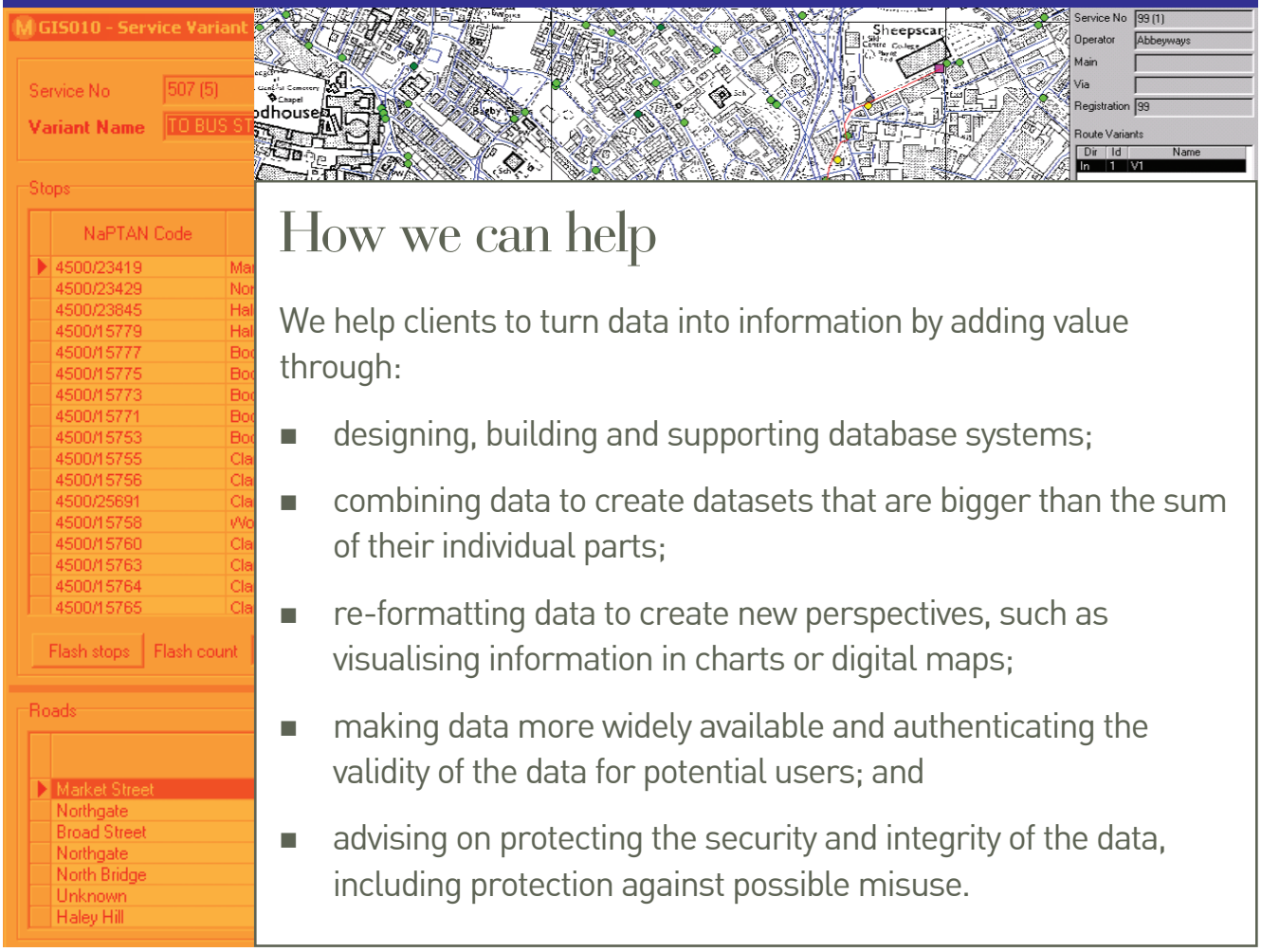
Custom database solutions: adding value to your transport data

We create custom database solutions to help you get more from your data, a critical asset in your organisation.

The challenge

The relentless growth in the volume of data makes it increasingly urgent that organisations make the best use of data they collect for strategic planning, tactical decision making and day-to-day management.



How we can help

We help clients to turn data into information by adding value through:

- designing, building and supporting database systems;
- combining data to create datasets that are bigger than the sum of their individual parts;
- re-formatting data to create new perspectives, such as visualising information in charts or digital maps;
- making data more widely available and authenticating the validity of the data for potential users; and
- advising on protecting the security and integrity of the data, including protection against possible misuse.

mvaconsultancy

Our database management solutions for transport

We use databases extensively in our products and services and have a dedicated team of IT professionals with wide-ranging data management experience:

- database management in Oracle, SQL Server, Access and other databases;
- integration of new databases with clients' existing IT systems;
- design of Geodatabases for Geographic Information Systems;
- requirements specification, database design, database implementation, data migration, testing and reporting.

Case studies

Roadside interviewing processing using TARA

We were commissioned by Transport for London (TfL) to process data collected during Roadside Interview Survey (RSI) programmes in London. These programmes support the development of a range of tranpsort models in London, including the LTS Model, the Central London Sub-Regional Model and the North London Sub-Regional Model. MVA cleaned and processed the RSI data, using bespoke software and output the data in a format that supported TfL's modelling programmes.

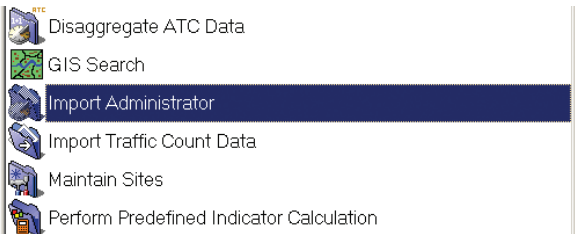
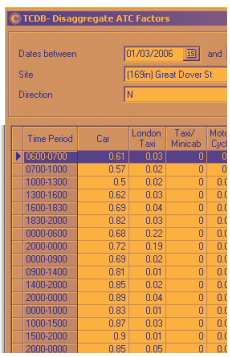
NRTS Database

We developed the first National Rail Travel Survey (NRTS) database incorporating data from the rail Origin and Destination (OD) surveys carried out at stations in the South East in 2001 and equivalent surveys covering the remainder of Great Britain in 2004-05. Data from the two surveys were geo-coded and 'journey edited' using MVA's TARA address coding software. A consolidated database combining both datasets was prepared as the input to the main NRTS database. Outputs included a complex series of data processing procedures to:

- impute survey records (rail journeys) for time periods where passengeres were observered (counted) but there were no postal-return questionnasire returns;
- derive return records using details of the return journey collected on the questionnaire;
- calculate expansion factors using statistical methods to re-weight conventional expansion factors to acheive a balance (within constraints) of flows between station pairs;
- derive a comprehensive set of standard variables to support analysis purposes.

We installed the system at DfT, delivered documentation and training to client users and provided database maintenance services.

PT Insight

We developed an Asset Management and Public Transport Services database system for West Yorkshire PTE (Metro). Our approach is based on a spatially-enabled database, using Oracle and ArcSDE GIS, which provides West Yorkshire PTE (Metro) with a unified view of their public transport environment covering rail and bus. Our Oracle database stores all data for Metro's 13500 bus stops and shelters, routes and services, including Ordnance Survey grid co-ordinates. The software organises and maps damage repair, planned maintenance and information for the bus stops. The system manages all information related to public transport services, including timetables, service registrations, supply of data to electronic information systems, Electronic Bus Service Registration (EBSR), education transport, surveys and reimbursements and modelling of bus mileage. Our system integrates the database with mapping software and reporting tools to give Metro a single, comprehensive system for managing their assets and services.

The system has subsequently been customised for Hertfordshire and Nottinghamshire County Councils.