

DfT Inception Meeting: Modelling Update Overview

March 2011



Croxley Rail Link - DfT Inception Meeting Modelling Update Overview

Thursday, 7th April 2011

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Summary of proposed modelling refresh

- All modelling updated to 2010 base year
- Highway model refreshed
- New PT assignment model, split Business/Commuting/Other for AM+IP hour
 - Inclusion of new Watford Met and rail demand data
 - Bus data rebased
- Review approach to mode split model
 - Little choice being made now, so difficult to calibrate robust model
 - Propose to use default parameters from WebTAG, with emphasis on sensitivity testing
- Refreshed forecasting using latest TEMPRO, local plans etc
- Appraisal updated using TUBA
 - PT and highway assignment model cost and demand data
- Addressing DfT comments form key driver of this revised process

Refreshed highway model

- Focus of update geographic scope required for ES work
- New count and journey time data obtained
- Calibration exercise highlighted a number of network changes, along with ME2 to update matrix
- Independent count set maintained for peaks flow validation
 - AM Peak 90% links with $geh < 5$
 - PM peak 85% links with $geh < 5$
 - Validation is best closest to the existing and proposed new stations
- IP model validated well against 2006 conditions - decision made not to update
 - Currently amending the IP model to reflect changes made to peak models
 - If changes significantly impact on IP assignments, decision whether or not to update will be reviewed - against benefits that would be gained from having an IP model as part of the appraisal process

Integrated PT network model

- Review PT network model (zoning, scope, coverage, modes etc)
- Update service coding to 2010:
 - Rail/LUL timetable data for 2010
 - Local bus network (ARRIVA)
- Collate fares data for the various modes in 2010
 - Rail, LUL, bus
 - Cash, passes, Travelcards, Oyster
 - Review observed data to derive average fares by period and purpose
 - Treatment of concession fares
- Local parking charges (Watford Met/Junction, Watford High Street)
- General review of model parameters
 - Walk/wait time weights
 - VoTs

Update rail demand data

- 2010 LENNON (station-station trips) data obtained from DfT
- NRTS data has been requested from DfT
 - Data is dated: 2001 (Os), some 2005 (Ds)
 - But focus is on Watford area trip end distribution, not volumes
- Combine LENNON/NRTS data
 - Relate by broad trip pattern (ie to/from London)
 - Ticket type / purpose / period
 - Reduce to AM/IP hour

Update LUL matrix

- Passenger survey at Watford Met June 2010
- Include Croxley LUL data (used previously) as well
- Build matrix consistent with other modes and model segmentation

Update bus matrix

- Bus matrix is 2008 from an O-D survey
- Rebase to 2010
 - Volume data obtained from HCC
- Review original survey data processing - confirm fit for purpose in light of DfT concerns

Create integrated PT demand matrices

- Combine the bus, LUL and rail matrices
- There may be some (limited) double counting
 - Review bus, NRTS, LUL surveys to understand level of multi-mode/leg trips
 - Very unlikely to be LUL-rail trips (need to cross Watford), but may be some bus - rail/LUL trips

Collate PT observed demand data

- Needed for PT assignment model validation
- Station entries and exits are key
 - Watford Met
 - Croxley
 - Watford Junction
 - Watford High Street
- Understanding of directionality/link flows

Validate PT model and reporting

- We now have updated network model and demand matrices
- Validate assignment model
 - Use of mode constants / differential IVT
- Reporting of model development and validation process

Mode split model

- Previously we calibrated car vs PT and intra PT models
 - PT now to be done via assignment
 - Car vs PT
 - Sensible scale parameters
 - But very large mode constants
- But need to review if explicit and true choices are really being made
 - 78% of bus users surveyed had no car available
 - Review LUL/NRTS data for LUL/rail trips
- Proposed alternative approach to explicit calibration:
 - Use WebTAG default values for car => LUL transfer

Addressing DfT modelling comments

Ref	Observation	Addressed by
1, 13	Highways data	Updated highways model
3, 12	Bus surveys	Review processing and rebase to 2010 volumes
5	Age of rail data	Use of 2010 LENNON data, combined with NRTS data
8, 9, 14	Zoning and network	Zoning review and network updates
10, 11	Model parameters and fares	Review and update of parameters and all monetary costs
15-20	Demand model	Updated mode split model, with default WebTAG parameters
21	Forecasting	Updated forecasting with latest TEMPRO and local plans
24, 26, 27, 29	Use of TUBA	Updated appraisal using TUBA using cost and demand data from updated network models
General	All	Reporting will set out the modelling process clearly and seek to address the specific concerns raised

Thank you