



Mersey Gateway

Technical Note 116 - Update of the Forecasting Assumptions with Post
April 2011 Guidance

October 2011
Halton Borough Council



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1. Introduction

1.1 Background

Since the Mersey Gateway Public Inquiry, WebTAG Guidance has been updated initially in 2010 as Draft and Final in 2011 concerning TEMPRO growth and values of time. This short technical note outlines the main changes in assumptions made in the forecasting undertaken based on the Final Post April 2011 WebTAG Guidance published by Department for Transport (DfT).

An addendum to this short technical note will be provided which will contain outputs from the new forecast as well as comparison against the Programme Entry.

1.2 Report Structure

Following this introductory section, the document continues as follows:

- Section 2 explains the new assumptions resulting from the new post April 2011 Guidance which have been adopted for the revised forecasts;
- Section 3 will list the outputs that will be provided in the Addendum to this technical note.

2. Changes as a Result of Post April 2011 Guidance

2.1 Changes in Forecasting Assumptions

This section sets out the changes to the forecast assumptions which result from the application of the Final Post April 2011 guidance.

The traffic and revenue forecasts presented at Programme Entry and Public Inquiry were based on:

- A traffic model validated against 2006 traffic flows and journey times for am peak, inter-peak and pm peak periods on weekdays;
- Willingness to pay tolls based on local values of time for car commuting and car other, and WebTAG values for other purposes and vehicle types;
- Forecast years of 2015 and 2030;
- Car traffic growth constrained to TEMPRO V5.3 trip ends, goods vehicle growth based on National Road Traffic Forecasts 1997;
- Forecast values of time increased using WebTAG elasticities of VoT to forecast increases in GDP/Capita; and
- Variable demand modelling to allow changes in trip frequency, destination and mode in response to changes in highway capacity and introduction of tolls.

Since the forecasts presented at Programme Entry and Public Inquiry were produced, there have been changes to key forecasting assumptions as published Final Guidance by DfT. These are:

- Fuel costs (historic to 2009 and forecast);
- GDP and GDP/Capita growth (historic to 2009 and forecast), which affects values of time;
- TEMPRO car traffic growth updates; and
- Goods vehicle forecast updates.

The Post April 2011 Guidance forecasts use growth from National Trip End Model (NTEM) forecasts version 6.2 in conjunction with the current version of the software, TEMPRO 6.2.

Advice on the use of the new guidance is set out in the DfT website at <http://www.dft.gov.uk/webtag/documents/>. Changes relating to each parameter shown above are set out in Tables 2.1 to 2.4.

The updated growth assumptions on fuel costs contained in Table 2.1 forecast lower rises in fuel costs between 2010 and 2020 compared to the previous 2007 guidance, which will lead to a decrease in cost of travel. Beyond 2020, the revised forecast show increases of about 1% pa compared to no growth predicted in the 2007 guidance. The growth in fuel prices is only predicted up to 2030 in both versions of the guidance. For the revised forecast, no growth has therefore been assumed in fuel cost beyond 2030.

Table 2.1: Growth in Fuel Cost

Range of Years	WebTAG – February 2007		WebTAG –Post April 2011 Guidance	
	Petrol (%pa)	Diesel (%pa)	Petrol (%pa)	Diesel (%pa)
2008-2009	-8.06	-7.91	-22.41	-28.67
2009-2010	-6.93	-6.79	28.15	19.60
2010-2015	0.80	0.78	-0.26	0.043
2015-2020	0.86	0.84	0.36	0.4
2020-2025	0	0	0.99	1.02
2025-2030	0	0	0.95	0.96

Table 2.2 shows the impact of the economic downturn on GDP and thus working and non-working values of time. Whilst the guidance in 2007 was forecasting a growth in GDP of 2.25% for the period between 2009-2010, the new post April 2011 Guidance show a negative growth of about 5% for the same period. After 2010, the new guidance forecasts higher growth than the previously used 2007 guidance.

Table 2.2: Growth in GDP and Values of Time (VoT)

Range of Years	WebTAG – February 2007		
	GDP Growth (%pa)	Work VoT Growth (pa%)	Non-Work VoT Growth (pa%)
2006-2007	2.75	2.46	1.97
2007-2011	2.50	2.20	1.76
2011-2021	2.25	1.94	1.55
2021-2031	1.75	1.55	1.24
2031-2051	2.00	1.99	1.59
2051-2061	1.75	1.81	1.45
2061-onward	2.00	2.00	1.60
WebTAG – Post April 2011 Guidance			
Range of Years	GDP Growth (%pa)	Work VoT Growth (pa%)	Non-Work VoT Growth (pa%)
2006	2.85	2.18	1.74
2007	2.56	1.97	1.57
2008	0.55	-0.09	-0.07
2009	-4.90	-5.53	-4.43
2010	1.30	0.57	0.45
2011	1.70	0.96	0.77
2012	2.50	1.78	1.42
2013	2.90	2.18	1.75
2014	2.90	2.19	1.76
2015	2.80	2.10	1.68
2016	2.75	2.05	1.64
2017-2021	2.35	1.67	1.34
2022-2031	2.25	1.67	1.34
2032-2051	2.39	1.97	1.58
2052-onward	2.25	1.97	1.53

TEMPRO v6.2 software associated with the current NTEM 6.2 has been used for the revised forecast whilst TEMPRO 5.3 was used for the Programme Entry and Public Inquiry forecasts. The process for applying the TEMPRO growth factors is set out in the Mersey Gateway Forecasting Report.

There have been no changes to the assumptions about the location of specific developments which were included for the core scenario at Programme Entry and subsequently at the Public Inquiry. The differences in growth arising from NTEM 6.2 (TEMPRO 6.2) against TEMPRO version 5.3 used for Programme Entry are shown in Table 2.3 for the main study area. There is generally lower growth to 2015 predicted by NTEM6.2 (TEMPRO 6.2), but higher growth is forecast in the new guidance by 2030 which is continued to 2041.

Table 2.3: Comparison of Growth in TEMPRO Versions 5.3 and 6.2

Area	TEMPRO 5.3		NTEM 6.2 (TEMPRO 6.2)	
	Origin	Destination	Origin	Destination
	2006-2015 Factors		2006-2015 Factors	
	2006-2030 Factors		2006-2030 Factors	
Halton (Authority)	1.076	1.076	1.049	1.049
Knowsley (Authority)	1.066	1.066	1.066	1.066
Liverpool (Authority)	1.086	1.086	1.056	1.056
St. Helens (Authority)	1.049	1.049	1.094	1.094
Warrington (Authority)	1.064	1.064	1.024	1.024
Wirral (Authority)	1.042	1.042	1.029	1.029
	2006-2030 Factors		2006-2030 Factors	
Halton (Authority)	1.138	1.138	1.16	1.16
Knowsley (Authority)	1.119	1.119	1.147	1.147
Liverpool (Authority)	1.168	1.168	1.122	1.122
St. Helens (Authority)	1.083	1.083	1.162	1.163
Warrington (Authority)	1.128	1.128	1.118	1.118
Wirral (Authority)	1.094	1.094	1.032	1.032
	2006-2041 Factors		2006-2041 Factors	
Halton (Authority)	1.172	1.172	1.233	1.233
Knowsley (Authority)	1.154	1.154	1.216	1.216
Liverpool (Authority)	1.215	1.215	1.168	1.168
St. Helens (Authority)	1.096	1.097	1.224	1.224
Warrington (Authority)	1.165	1.165	1.205	1.205
Wirral (Authority)	1.127	1.127	1.042	1.041

The forecast of growth in goods vehicles using the National Transport Model 2009 (NTM09) as shown in Table 2.4 is significantly different to the NRTF1997 predictions which were used in developing the Programme Entry model. Whilst the growth in LGVs is predicted to be higher in the new guidance, the predicted growth in HGVs is significantly reduced from about 17% in 2015 to about 6%, from about 51% in 2030 to about 19% and in from about 81% to about 30% in 2041.

Table 2.4: Goods Vehicle Growth in NRTF 1997 and NTM 2009

Modelled Years	LGV Growth (%)		OGV Growth (%)	
	NRTF 1997	NTM09	NRTF 1997	NTM09
2006-2015	21.9	21.75	16.6	5.80
2006-2030	66.0	70.77	50.8	18.97
2006-2041	103.9	118.58	81.4	29.95

3. Further Information for the Addendum

The addendum which will accompany this technical note would provide key outputs from the revised forecasting enabling comparisons to be made between the Do-Minimum (DM) and Do-Something (DS) scenarios of the revised (Post April 2011) forecasts as well as comparisons against the Programme Entry (PE)/Public Inquiry forecasts.

Comparisons of the revised forecasting DM and DS scenarios contained in the addendum will include:

- 1 - Growth in Trip Matrices
- 2 - Changes in Travel Demand Matrices to include:
 - 2.1- Base Year v Revised Forecast Reference Case Demand Matrices
 - 2.2 - Reference Case v Do-Minimum Variable Demand Modelling (VDM) Matrices
 - 2.3 - Do Minimum v Do Something VDM Matrices
- 3 - Impact on Traffic Forecasts to include:
 - 3.1 - Traffic Flows Crossing River Mersey
 - 3.2 - Traffic Flows on Key Links
 - 3.3 - Journey Time Routes
- 4 - Revenue Forecast
- 5 - Impact on Economics

In addition, the following key outputs would also be provided in the addendum for comparisons of the revised and PE forecasts:

- Difference in demand (base and forecast trip matrices)
- Mersey River crossing flows
- Traffic flows across key locations
- Journey time routes
- Revenue forecasts