

Post Opening Project Evaluation

M6 Toll



Five Years After Study

October 2009

Document History

JOB NUMBER: 5081587/905			DOCUMENT REF: M6T_FYA_Final.doc			
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date
1	Draft for client review	SB	PW	NM	PR	Sep '09
2	2 nd Draft with HA (POPE) revisions	SB	PW	NM	PR	Sep '09
3	Final Draft	SB	PW	NM	PR	Oct '09

Contents

Section	Page
Glossary of Terms	iv
Executive Summary	vii
Traffic	vii
Safety	viii
Environment	viii
1. Introduction	1
Post Opening Project Evaluation (POPE)	1
Aims of this Study	1
Background to the M6 Toll	1
Scheme Description	5
Scheme Objectives	5
Scheme History	5
Midland Expressway Limited (MEL)	6
Current Economic Climate	6
Fuel Prices	6
Roadworks	7
Contents of this Report	7
2. Long Term Trends in Traffic Volumes	8
Major Roadworks affecting Midlands Motorways	8
Other Important Nearby Schemes	9
Variation in Numbers of M6 Toll Users	9
Annual Change in Average Number of M6 Toll Users	10
Changes in the Number of Electronic Tag Users	11
M6 Parallel to M6 Toll	12
M6 North and South of M6 Toll	13
Key Findings: Long Term Trends in Traffic	16
3. Daily Traffic Volumes	17
Factoring Methodology	17
Locations of Automatic Traffic Count (ATC) Sites on M6 Toll	17
Changes in 24hr Traffic Flows on the M6 Toll since 2004	18
Changes in Directional Flows on M6 Toll	24
Traffic Flows on the M6 and other Motorways and Strategic Routes	25
Key Findings: Daily Traffic Volumes	36
4. Peak Period Flows	38
Introduction	38
Peak Period Flows on the M6 Toll	38
Changes to Peak flows on Mondays to Thursdays	38
Changes to Peak flows on Fridays	40
Peak Period flows on the M6 and other Strategic Routes (Monday – Thursdays)	42
Peak Period flows on the M6 and other Strategic Routes (Fridays)	44

	Key Findings: Peak Period Flows	46
5.	Birmingham Box & the Midlands Area	47
	Introduction	47
	Motorway Box	47
	Analysis of Motorway Box flows	49
	Midlands Area Context	49
	Key Findings: Motorway Box & the Midlands Area	52
6.	Strategic Screenlines	53
	Introduction	53
	Screenline 1 – East of the southern tie-in of M6 Toll	54
	Screenline 2 – West of southern tie-in of M6 Toll	54
	Screenline 3 – Central Screenline	55
	Screenline 4 – east of the Northern tie-in of M6 Toll	56
	Screenline 5 – west of the northern tie-in of the M6 Toll	57
	Key Findings: Strategic Screenlines	59
7.	Classified Data	60
	Introduction	60
	Heavy Goods Vehicles on the M6 Toll	60
	Heavy Goods Vehicles on the M6 and other Key Routes	62
	Comparison of the 5.2m and 6.6m length division	64
	Speed Data	66
	Key Findings: Classified Data	67
8.	Journey Times	68
	Introduction	68
	Automatic Number Plate Recognition (ANPR)	68
	Methodology	69
	Pick-up Rates	69
	Period of Analysis	69
	Analysis of Average Journey Times from the ANPR data	69
	Journey Times on the M6 Toll	75
	Comparing the M6 and M6 Toll average journey time profiles Five Years After	78
	Journeys Times Derived from NTCC ANPR cameras	79
	Summary of Journey Times	83
	Key Findings: Journey Times	84
9.	Safety	85
	Introduction	85
	Data Collection	85
	Accident numbers	86
	Accident severity	87
	Accident Rates	88
	Statistical tests of significant of findings	89
	Number of Casualties	91
	Severity – Killed and Seriously Injured Casualties	92
	Comparison with the Findings from One Year After Study	93
	Key Findings: Safety	94

10.	Environment	95
	Noise	95
	Local Air Quality	95
	Greenhouse Gases	96
	Landscape	96
	Heritage of Historic Resources	98
	Biodiversity	98
	Water Environment	99
	Key Findings: Environment	101
11.	Conclusions	102
	Conclusions on Traffic Volumes	102
	Conclusions from Strategic Screenlines	102
	Conclusions on Journey Times	102
	Conclusions on Vehicle Composition	103
	Performance against Scheme Objectives	103
	Safety Trends at FYA compared to OYA findings	104
	Safety on the M6 Toll	104
	Safety on the Parallel M6 and wider network	104

Appendices

Appendix A	106
A.1	Average Journey Times (2003, 2004, 2009) 106
A.2	NTCC – Average Journey Times (2005 and 2009) 127
A.3	Analysis Methodology of Police ANPR data 148
A.4	Strategic Screenlines 151
Appendix B – Environment Evaluation	153
B.1	Environmental Evaluation 153

Glossary of Terms

Term	Abbreviation	Description where appropriate
Air Quality Management Area	AQMA	Area subject to monitoring by the local authority because national air quality objectives are at risk from not being achieved.
Annual Average Daily Traffic	AADT	Average of 24 hour flows, seven days a week, for all days within the year.
Annual Average Weekday Traffic	AAWT	As AADT but for five days, (Monday to Friday) only.
Automatic Number Plate Recognition	ANPR	A system of cameras which recognise vehicle number plates helping to monitor congestion and journey times.
AM	-	Denoting the morning peak period
Automatic Traffic Count	ATC	An automated method of recording the volume (and sometimes classification) of vehicles passing a particular point on a road.
Active Traffic Management	ATM	A scheme allowing drivers to use the hard shoulder during times of peak congestion using electronic signs above each lane. Together with variable speed limits it helps smooth the flow of traffic.
Average Weekday Traffic	AWT	Average of Monday to Friday 24 hour flows over a particular period.
‘Birmingham Box’	-	The Birmingham Motorway Box (The Box) comprises sections of the M5, M6 and M42 and provides the strategic highway link into and around the West Midlands conurbation
Chi-square	-	A statistical test to determine whether the observed values of a variable are significantly different from those expected on the basis of a null hypothesis. Variables are categorised to determine whether a distribution of scores is due to chance or experimental factors and tests whether one variable is independent of another.
Design Build Finance & Operate	DBFO	Roads built with private capital transferring the risk to the private sector as a part of the Government’s Private Finance Initiative (PFI).
Department for Transport	DfT	A Government department whose objective is to oversee the delivery of a reliable, safe and secure transport system that responds efficiently to the needs of individuals and business whilst safeguarding our environment. The Highways Agency is an executive of the DfT .
Environmental Statement	ES	This must be submitted with the initial planning application and covers all potential significant impacts that the road project may have.

Term	Abbreviation	Description where appropriate
Five Years After	FYA	Relating to a POPE evaluation Five Years After scheme opening.
Heavy Goods Vehicle	HGV	Goods-carrying vehicle over 3,500kg unladen weight.
Highways Agency	HA	An Executive Agency of the Department for Transport (DfT), responsible for operating, maintaining and improving the strategic road network in England.
Inter Peak	IP	The time between the AM and PM peaks
Killed or Seriously Injured	KSI	A term used to describe the number of people killed or seriously injured as a result of PIAs .
Motorway Service Area	MSA	An area on motorways where motorists can stop for refreshments and refuel.
Motorway Incident Detection and Signalling	MIDAS	Inductive loops installed in the carriageway monitoring speeds, vehicle types and flows. The prime aim of MIDAS is to protect the back of queues, which have formed or are about to form, by automatically setting suitable signals to warn approaching traffic.
National Traffic Control Centre	NTCC	A key element of the Government's Transport 2010 Ten Year Plan for developing and modernising the transport system in England. Based in the West Midlands, the purpose-built centre has been designed to collect, analyse and communicate travel information. In this report, journey times have been derived from ANPR cameras operated by the NTCC.
New Approach To Appraisal	NATA	Applied in transport scheme appraisal since 1998, however, not used in relation to this M6 Toll evaluation.
Natural England	NE	The government's advisor on the natural environment, whose remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive.
Non-Motorised User	NMU	A term used to describe pedestrians, cyclists and equestrians.
National Transport Model	NTM	Provided by the DfT. An integrated, multi-modal model developed from the framework of models used for the 10 Year Plan ¹ . Provides a systematic means of comparing the national consequences of alternative national transport policies or widely-applied local transport policies, against a range of background scenarios which take into account the major factors affecting future patterns of travel.
One Year After	OYA	Relating to a POPE study One Year After scheme opening.

Term	Abbreviation	Description where appropriate
Other Goods Vehicle 1	OGV1	Includes 2-axle rigid, 3-axle rigid, 3-axle articulated vehicles.
Other Goods Vehicle 2	OGV2	Includes 4-axle rigid, 4-axle articulated and vehicles with 5 or more axles.
Part 1 claims	-	Claims for compensation under Part 1 of the Land Compensation Act 1973, relating to homeowners affected by road schemes
Personal Injury Accident	PIA	A term commonly used to refer to a road accident where one or more people are injured.
Personal Injury Accidents per million Vehicle kilometres	PIA/mvkm	A term used to express accident rates for a particular link on a road i.e. the number of accidents per million vehicle kilometres travelled.
PM	-	Evening peak period
Post Opening Project Evaluation	POPE	Before & after monitoring of all major highway schemes in England.
Public Right of Way	PROW	PROW are highways that allow the public right of passage, of which England has about 190,000 km.
Screenline	-	An imaginary line intersecting routes on a map to allow easier analysis of vehicular movement across a corridor.
Site of Special Scientific Interest	SSSI	A conservation designation applied to the country's best wildlife and geological sites.
Safety Standards & Research	SSR	A Directorate of the Highways Agency
STATS19	-	Injury accident statistics recorded by police officers attending accidents
Junction	'T'	Junctions are given this abbreviation on the M6 Toll, or known more commonly as 'Toll5' etc
Traffic Appraisal Modelling and Economics team	TAME	The team within the Agency formerly responsible for managing the Traffic Monitoring Contracts. Now used to describe standalone ATC count sites operated by the Agency.
Transport Statistics Bulletin	-	Produced by the DfT presenting information on Traffic in Great Britain
Value of Time	VOT	A monetary value placed on the benefits accrued by a road scheme in terms of vehicle hours.

Executive Summary

Introduction

The M6 Toll motorway is the first toll motorway in the UK. The motorway is a privately-financed, three lane motorway 43 kilometres (27 miles) in length and provides a new strategic route to the north east of the West Midlands conurbation.

The M6 Toll opened in December 2003 and this report provides an evaluation of the impacts of the road in the first five years.

The main aims of this report are to:

- Analyse changing patterns of traffic on the M6, M6 Toll and other strategic routes in the region over the first five years compared to that before the M6 Toll was opened;
- Analyse changes in journey times on the motorways;
- Examine the safety impact over five years; and
- Evaluate the environmental impacts at the five year stage compared to that forecast and that observed at the one year after stage.

Key Influences within Five Years Post Opening

This report takes into consideration a range of important events and trends which have influenced the impacts of the M6 Toll, namely:

- Major roadworks on the M6;
- Toll rate increases on M6 Toll;
- Background growth in motorway and trunk road traffic on a national basis for most of the five years; and
- Economic recession from 2008 onwards.

Summary of Findings of this Study

Traffic

When the M6 Toll opened there were just under 40,000 vehicles using the route on an average workday in Q1 2004. The One Year After (OYA) study identified that this traffic had rerouted from the M6 and other strategic routes within the West Midlands. In the subsequent years there were increases in users, in particular coinciding with major roadworks on the parallel M6. Five years on, the Q1 2009 usage level has reduced to that seen on initial opening.

This Five Year After (FYA) study has identified that there has been some reassignment of this traffic back onto the parallel section of the M6 and other strategic trunk road routes within the West Midlands since 2005, and it is likely that the current economic climate has compounded this.

It has been identified that the recession has impacted almost all routes within the region. The biggest reduction however, has been observed on the M6 Toll where it appears that some drivers who had previously chosen the M6 Toll are now choosing other routes in order to save money. Evidence for this is based on the fact that traffic on the parallel section of the M6 has increased contrary to the regional trends seen on other roads and motorways and that the weekend traffic, normally associated more with recreational trips, has been more affected.

Clearly improvements in journey times and the reduction of congestion on the M6 was a main objective of the M6 Toll. The OYA study showed:

- On the parallel M6, reductions in the congestion previously experienced throughout the day with the biggest journey time savings occurring in the peak periods; and
- Traffic using the M6 Toll experienced faster more reliable journeys than those experienced on the M6.

This FYA study has shown:

- Although traffic flows on parts of the parallel section of the M6 are approaching those experienced before the M6 Toll opened, journey times are still much better than in 2003. However, since 2004 congestion in the peak periods has worsened slightly; and
- Users on the M6 Toll continue to experience reliable journey times throughout the week.

Safety

In the first five years, the M6 Toll has achieved a very good safety record, with an accident rate (by traffic volume) less than half of that on the M6.

There have been significant reductions in both accident rates and the number of people injured in road traffic accidents in the corridor comprised of the M6 Toll, parallel M6 and key parallel A roads. This means a saving of 85 accidents and 136 casualties per year.

Environment

The main focus of the five years after environment evaluation is to examine the aspects recommended for further analysis at the one year after evaluation stage, and revisit the findings of the one year after report, presenting any changes and ongoing impacts.

Environmental impacts are generally as expected, based on the forecasts and findings at the one year after stage. Important differences are:

- Noise and Local Air quality - Based on lower observed traffic flows on the M6 Toll compared to ES forecasts for the tolled scheme, it is likely that local noise and air quality impacts along the route are lower than forecast.
- Landscape – Planting is largely establishing well, although there are some gaps in less well established areas. For various reasons, some specialised areas such as wet woodland, species-rich grassland and marginal pond planting have not developed as expected. Lighting impacts have been reduced by the use of downward directed lighting.
- Biodiversity – limited up-to-date information available to fully evaluate although most impacts are likely to be as expected. Based on the information available, some remedial and management works appear to remain outstanding. Additional mitigation would be needed to meet the requirements of the great crested newt licence.

1. Introduction

Purpose of this Report

- 1.1 The purpose of this report is to identify and quantify where possible, the effects of the M6 Toll motorway five years after (FYA) opening.

Post Opening Project Evaluation (POPE)

- 1.2 The Highways Agency (HA) evaluates all schemes that have opened as part of the Major Schemes Programme to see if the predicted benefits have actually occurred. This evaluation process is termed Post Opening Project Evaluation (POPE). Conventionally, a POPE evaluation of a major scheme consists of an assessment of the scheme's impacts against each of the NATA (New Approach to Appraisal) objectives of Economy, Safety, Environment, Accessibility and Integration, and a comparison between the scheme's forecast impacts and the observed impacts.
- 1.3 The M6 Toll approval pre-dated NATA and was privately-financed outside of the HA's Programme of Major Schemes. However, in view of the importance of this scheme it has been included in the evaluation programme and a more tailored study undertaken.

Aims of this Study

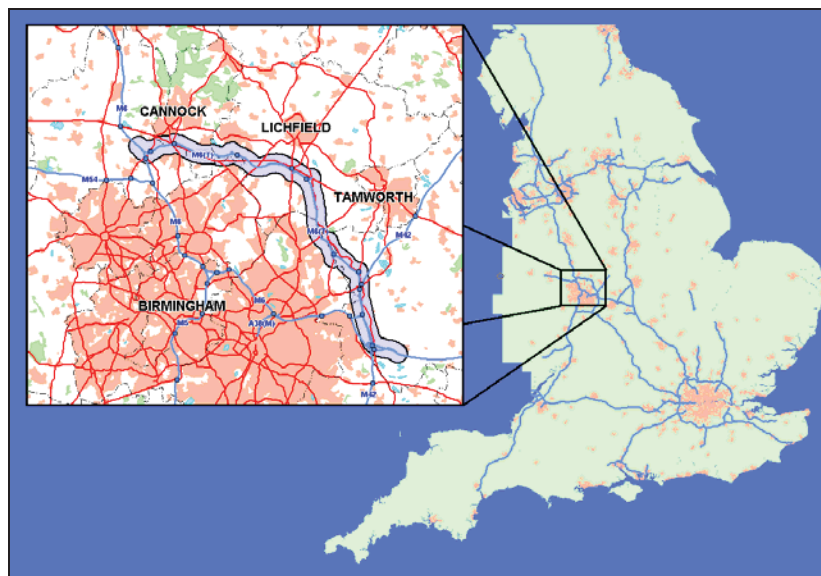
- 1.4 The following objectives of this study were agreed with the HA:
- To provide and update the conclusions documented in the M6 Toll One Year After Traffic Monitoring Study;
 - Identify and explain changes that have occurred in traffic patterns since the M6 Toll One Year After Traffic Monitoring Study;
 - To analyse changing patterns of traffic on the M6 and M6 Toll traffic over the first five years after opening;
 - To provide evidence of and understanding of recent changes in traffic on other strategic routes and on the 'Birmingham Box' motorways;
 - To examine the safety impact over five years; and
 - To evaluate the environmental impact at the five years after stage, the main focus of which will be to revisit those sub-objectives recommended at the one year after stage for further evaluation.
- 1.5 It should be noted that this report presents an operational study of the impacts of the M6 Toll, and in no way attempts to address issues relating to public perceptions of tolling. A separate report was commissioned by the DfT in 2006 which investigates these issues. The principle aim of the study ('A Study of the Impact of the M6 Toll Road: Stage 2') was to understand how toll levels on an interurban trunk road influence travel demand in circumstances where there is a choice between a tolled route and alternative free routes.

Background

Background to the M6 Toll

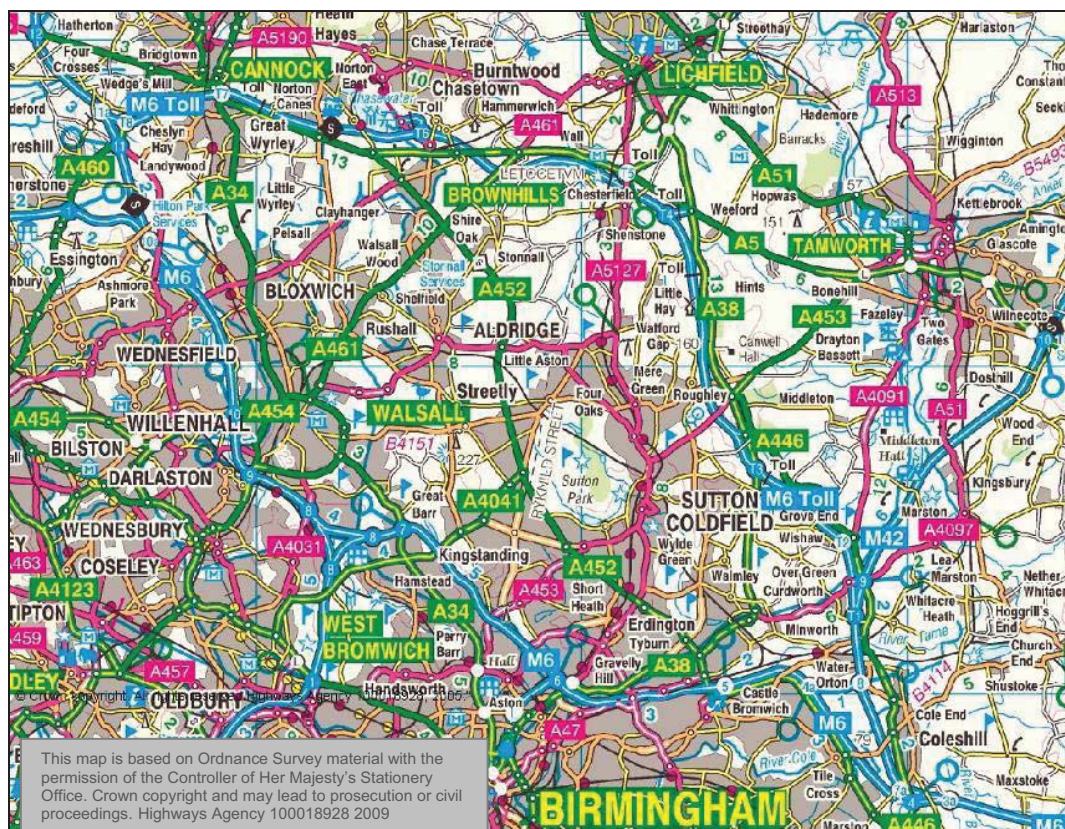
- 1.6 The M6 Toll motorway is the first toll motorway in the UK. It opened in stages over the period 9th to 14th December 2003. The motorway is a privately-financed three lane motorway and provides a new strategic route to the north east of the West Midlands conurbation.
- 1.7 The route is 43 kilometres (27 miles) in length and its location in a national context is shown in Figure 1.1.

Figure 1.1 – Location of the M6 Toll Motorway within England



- 1.8 The M6 Toll offers an alternative long-distance route for traffic which uses the busiest stretch of the M6 motorway between J4 and J11 through the West Midlands metropolitan area. A further aim of the M6 Toll is to provide a distributor to the north and east of the West Midlands conurbation, improving communications to Cannock, Lichfield and Tamworth.
- 1.9 The location of the M6 Toll within the West Midlands is shown in Figure 1.2.

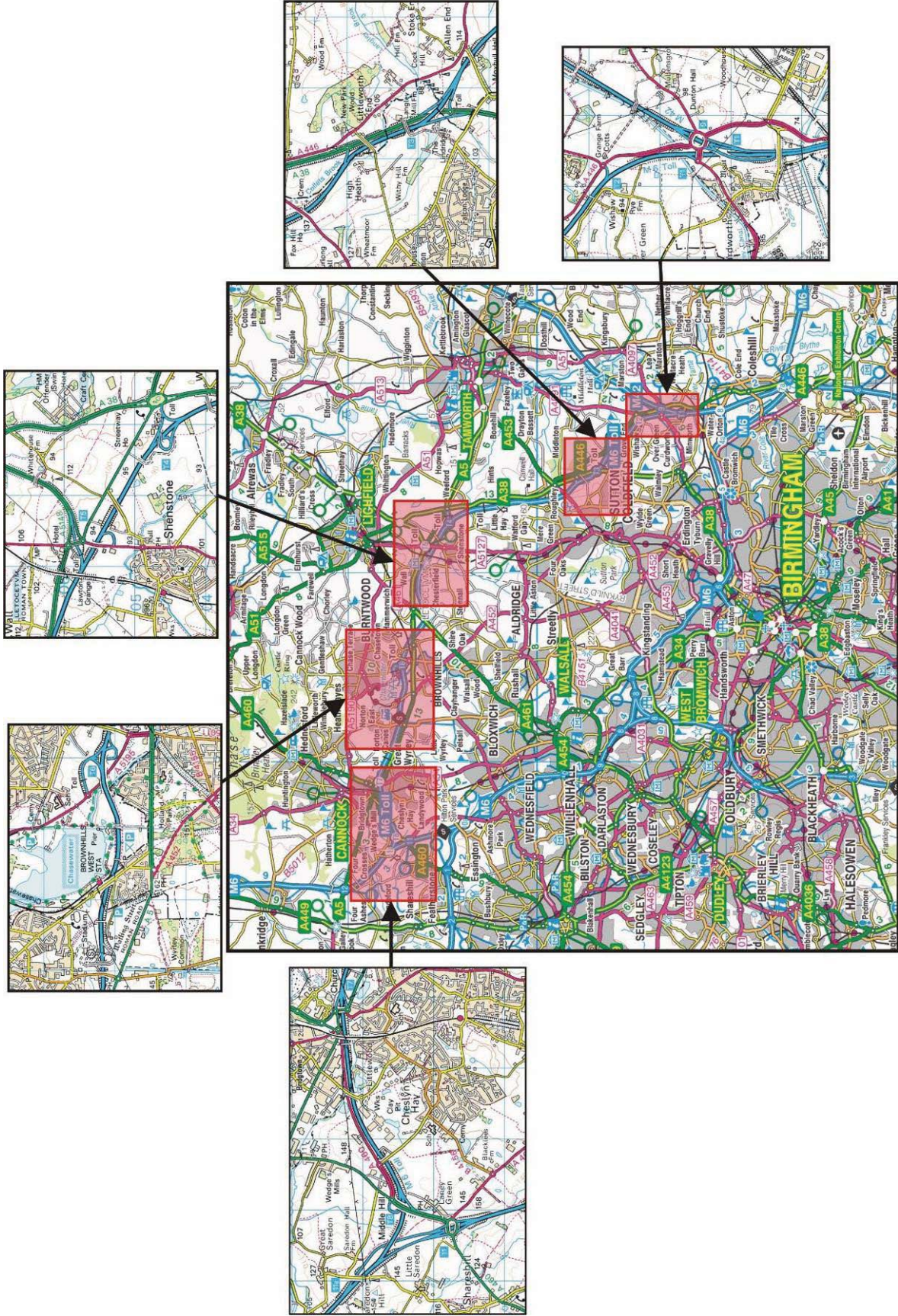
Figure 1.2 – Location of the M6 Toll Motorway within the West Midlands



- 1.10 The route of the M6 Toll follows that of the existing road corridors of the A5, A38 and A46.

- 1.11 The M6 Toll can be joined from motorways to the south, at either junction 3a of the M6 or directly from the M42 just prior to junction 9, or from the north at junction 11a of the M6. Vehicles can also access and exit the M6 Toll at various points along the route. There are 8 junctions (known as tolls) in total, and one Motorway Service Area (MSA) situated at Norton Canes.
- 1.12 The locations of the M6 Toll junctions and the links with the M42, and M6 at either end are shown in more detail in Figure 1.3.

Figure 1.3 – M6 Toll Junctions



Scheme Description

- 1.13 The scheme included the following elements:
- 27 miles of 3-lane motorway;
 - 57 new bridges (including 5 footbridges);
 - 7 interchanges;
 - 6 toll stations involving a total of 28 buildings;
 - Modification of some existing bridges during widening of the M42;
 - Environmental mitigation measures; and
 - Motorway Service Area (MSA) at Norton Canes.
- 1.14 The parallel section of the M6 would remain a high-standard route through the West Midlands conurbation.

Scheme Objectives

- 1.15 The transport objectives of the M6 Toll motorway scheme were:
- To provide a free-flowing motorway as an alternative route for through traffic to avoid the heavily congested section of the M6 between junctions 4 and 11 where it passes through the West Midlands conurbation;
 - To ease congestion and reduce journey times on the bypassed section of the M6;
 - To improve journey time reliability;
 - To reduce traffic on less appropriate local routes;
 - To improve transport links with towns to the north and east of the West Midlands; and
 - To become an integral part of a continual motorway corridor along the backbone of the country.

Scheme History

- 1.16 The key events in the history of the M6 Toll are as follows:
- Proposals for a new publicly funded motorway, originally called the Birmingham Northern Relief Road (BNRR) put forward for consultation: 1980;
 - Preferred route published: 1986;
 - Public inquiry relating to the publicly funded motorway: 1989;
 - Announcement that the road would be built privately: 1989;
 - Midland Expressway Ltd (MEL) announced as winners of the M6 Toll contract, a 53-year concession to build and operate the road: 1991;
 - 2nd Public Inquiry relating to the new scheme: 1994/5;
 - Decision by the Secretary of State for the scheme to proceed: July 1997;
 - Legal challenge made by 'Alliance against BNRR' and cleared: 1998;
 - Site clearance started: 2000;
 - Main earth works began: April 2001;
 - Construction began: Summer 2002;
 - Phase 1 opening, local junctions: 9th Dec 2003;

- Phase 2 opening, from M42 northbound and M6 traffic northbound: 13th Dec 2003;
- Phase 3 opening, from M6 J11a southbound traffic (fully open): 14th Dec 2003;
- M6 Toll announces 10 millionth user: August 2004; and
- 5% discount introduced for M6 Toll users who pay with the electronic Tag system: June 2005

Midland Expressway Limited (MEL)

- 1.17 MEL is the company with the Government concession to design, build and operate the M6 Toll until 2054. The company is responsible for setting and collecting the tolls on the road. For information, a summary of the toll rates over the five years since opening, by vehicle classification, is shown in the table below.

Table 1.1 – Summary of M6 Toll Pricing since December 2003

	Introductory Charge	Standard Charge				
Charge per daytime trip (06:00 – 23:00)	December '03	August '04	June '05	January '07	January '08	January '09
Cars, small vans	£2	£3	£3.50	£4	£4.50	£4.70
Lorries, coaches, large vans	£10	£6	£7	£8	£9	£9.40



Figure 1.4 – Toll Booth at intermediate junction on the M6 Toll

Current Economic Climate

- 1.18 The current economic climate must also be borne in mind throughout this report. According to the Office of National Statistics:

'Economic growth during the fourth quarter of 2008 contracted by 1.5 per cent. This marks the second successive quarter of negative growth so, according to the widely-held technical definition, the UK is now officially in recession. The pace of the downturn appears to be accelerating and broad-based, with the UK expected to remain in recession throughout 2009', (Economic & Labour Market Review, Volume 3, No. 2, February 2009).

Fuel Prices

- 1.19 Traffic levels, and particularly levels of recreational traffic can be sensitive not only to the economic climate, but also to fuel prices. Fuel prices have fluctuated greatly during the period of analysis presented in this report. In 2006 and 2007, prices of Unleaded petrol fluctuated between

85p and 100p per litre, and Diesel between 90p and 100p per litre¹. By July 2008 however, these prices had increased to 118p per litre for Unleaded petrol and Diesel at 132p per litre.

- 1.20 Between July 2008 and January 2009 when the economic downturn began, the price of Unleaded dropped quite dramatically to 85p per litre and Diesel dropped to 98p per litre. In early 2009, fuel prices were again however on the increase, and as of August 2009, the cost of Diesel against unleaded is now at an all time high.

Roadworks

- 1.21 The West Midlands motorway network has also been subject to significant maintenance and improvements since 2003. These works are summarised later in this report, but should be borne in mind when considering strategic changes to traffic around the Midlands network.
- 1.22 To summarise therefore, it should be noted that changes to traffic since the M6 Toll opened, and compared to the situation before the M6 Toll opened have been against a backdrop of national and local changes including the economic downturn, changes in fuel prices, and local roadworks, and cannot wholly be attributed to the M6 Toll.

Contents of this Report

- 1.23 Following on from this introduction, the contents of this report shall include the following sections:
- **Section 2 – Long Term Trends in Traffic** – Analysis of the average number of users on the M6 Toll by quarter since 2004, and average traffic by quarter on the M6 since 2003;
 - **Section 3 – Daily Traffic Volumes** – Analysis of changes in 24hr traffic volumes on the M6 Toll, M6 and other strategic routes on Mondays – Thursdays, Fridays, Saturdays and Sundays, between March 2003, March 2005 and March 2009;
 - **Section 4 – Peak Period Flows** – Analysis of changes in average peak hour flows on the M6 Toll, M6 and other strategic routes on Mondays – Thursdays and Fridays between March 2003, March 2005 and March 2009;
 - **Section 5 – Motorway Box & the Midlands Area** – Analysis of changes in annual average traffic between 2003, 2005 and 2008 around the motorway box, and analysis of changes in traffic on trunk roads and motorways in the Midlands area between 2007 and 2008;
 - **Section 6 – Strategic Screenlines** – Presents changes in traffic flows across strategic screenlines;
 - **Section 7 - Classified data** – Analysis of changes in the numbers and proportions of vehicles classed as 'heavies' on the M6, M6 Toll and other strategic routes and analysis of the changes in vehicle composition on the M6;
 - **Section 8 – Journey Times** – analysis of changes in journey times on the M6 and M6 Toll between 2003, 2004, 2005 and 2009 based on 2 independent sources of Automatic Number Plate Recognition (ANPR) data;
 - **Section 9 – Safety**
 - **Section 10 – Environment;** and
 - **Section 11 – Conclusions** – draws conclusions regarding the emerging impacts of the M6 Toll in relation to traffic, safety and environment from analysis presented earlier in the report.

¹ Fuel prices based on weekly average prices taken from www.whatgas.com

2. Long Term Trends in Traffic Volumes

Introduction

- 2.1 This section provides information on long term trends in traffic volumes on key areas of the network between 2003 and 2009.

Major Roadworks affecting Midlands Motorways

- 2.2 Over the course of the analysis period for this report, between 2003 and 2009 there have been significant maintenance programmes affecting Midlands motorways. These works are likely to have impacted long and short-term traffic patterns in the Midlands area and should be borne in mind when considering changes to traffic presented in this report. The most significant works are listed below in Table 2.1 and have been considered throughout the analysis.

Table 2.1 – Roadworks around Midlands Motorways

Dates affected	Motorway Sections affected	Details
2003		
Jul '02 – May '03	M6 J12 – J13	Contraflow
Jul '02 – May '04	M6 J3 – J4	Contraflow
2004		
Jul '04 – Dec '04	M6 J5 and J6 northbound	Resurfacing
Jun '04 – Sep '04	M6 J7 and J8 southbound	Resurfacing
2005		
May '05 – Jun '05	M6 J12 – J13	Resurfacing
Oct '05 – Dec '05	M6 J10a – J11	Resurfacing
Nov '05 – Dec '05	M6 J11 – J11A	Resurfacing
2006		
Jun '06 – Dec '06	M6 J8 – J9, M6 J5 – J6	Birmingham – Walsall, Potholes Phase 2
Sep '06 – Nov '06	M6 J11A – J13	Resurfacing including contraflow
2007		
Jan '07 – May '07	M6 J12 – J13	Contraflow
Jan '07 – Mar '07	M6 J8	Bridge repairs – lane closures
2008/2009		
Jan '08 – Jul '08	M6 J4A – M42	Lane closures for additional lane construction
Jun '08	M6 J5 – J6	Contraflow
Jun '08 - present	M42 J7 – J9	Various closures for ATM (Active Traffic management)
Jun '08 - present	M6 J4 – J5	ATM works
Nov '08 - present	M42 J9 – J11	Various closures and narrow lanes for ATM
Sep '08 - present	M6 J9 – J12	ATM work

Other Important Nearby Schemes

2.3 Other important schemes which have taken place in the area in the last five years include:

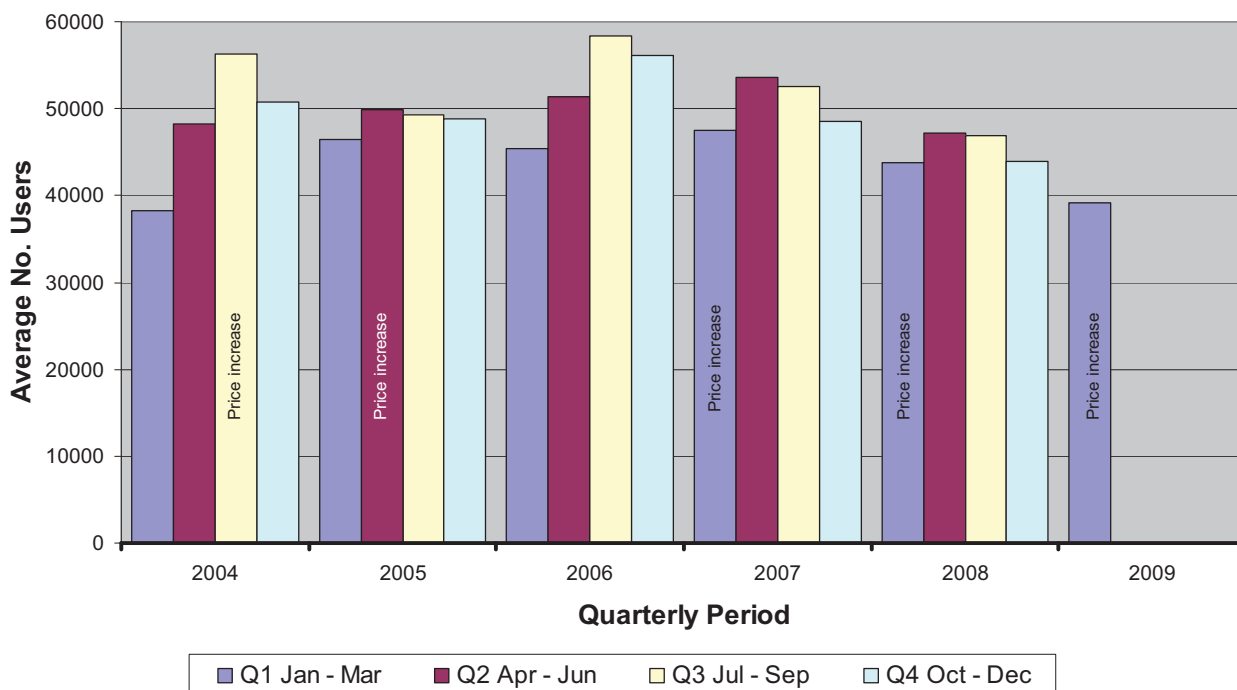
- A5 Weeford to Fazeley improvements – opened 12th October 2005 involving 5km of new dual carriageway; and
- M42 Active Traffic Management controlled motorway pilot scheme was introduced in 3 phases between November 2004 and September 2006 on the section of the M42 south of the M6.

Variation in Numbers of M6 Toll Users

2.4 Figure 2.1 shows the quarterly variation in the average daily number of users per weekday (excluding Bank Holidays) on the M6 Toll since the first full month after its opening. Figure 2.2 shows the variation across weekends/holidays.

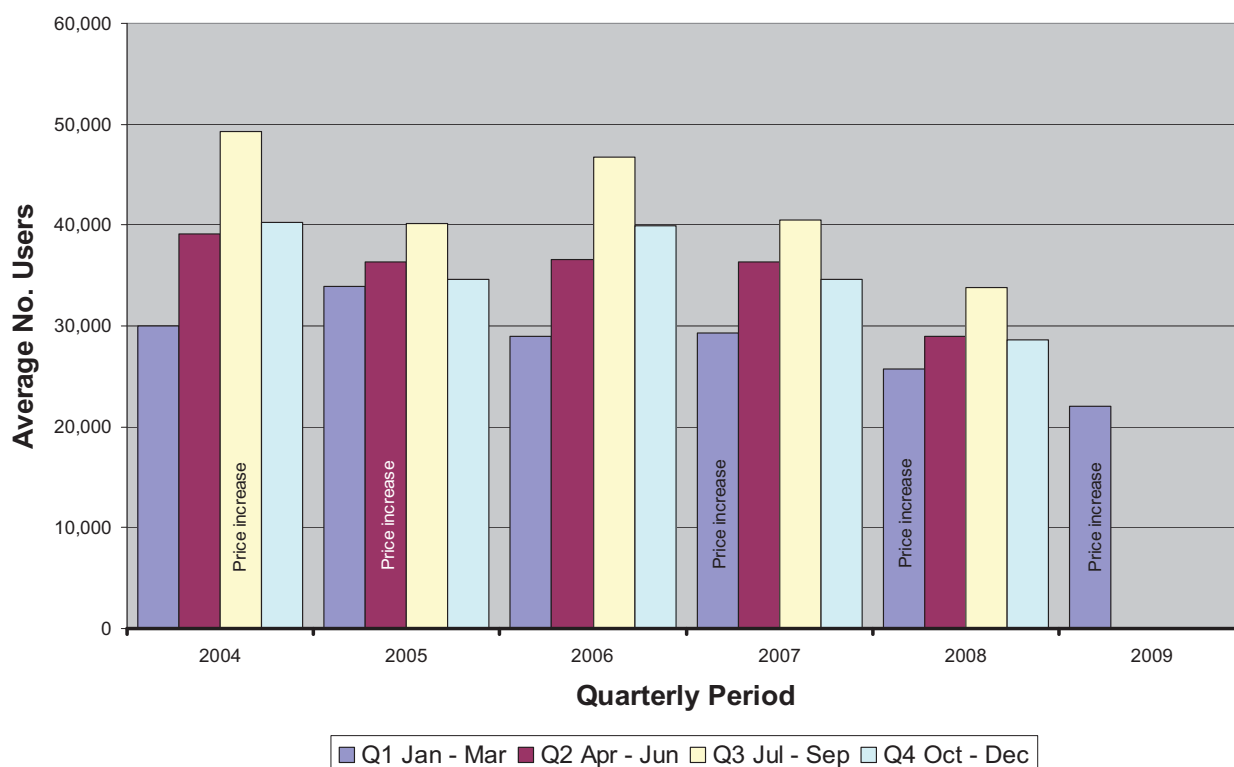
2.5 Note that these figures are produced by MEL and published in Quarterly Traffic Reports provided on the website: www.m6toll.co.uk. These figures include all vehicle trips using the M6 Toll, rather than representing the traffic volume at a particular location, which is presented later in this report.

Figure 2.1 – Quarterly Variation in Average Weekday Users of the M6 Toll



Note: Dates and details of price increases are shown in Table 1.1

Figure 2.2 - Quarterly Variation in Average Daily Weekend and Holiday Users of the M6 Toll



Note: Dates and details of price increases are shown in Table 1.1

2.6 The following observations can be made from Figures 2.1 and 2.2:

- On an average weekday, the average number of users in the first quarter of 2009 is roughly the same (just under 40,000) as observed in the first quarter of 2004, shortly after the M6 Toll opened;
- The number of users of the M6 Toll on weekdays reached its highest (58,300) in the 3rd and 4th quarters of 2006, closely followed by the 3rd quarter of 2004, however both of these periods were affected by significant roadworks on the parallel M6 (see Table 2.1);
- Usage of the M6 Toll on weekdays has shown the same pattern of seasonal variation throughout 2007 and 2008, however the number of users has gradually declined;
- The average number of users on weekends and holidays has also shown a steady decline with more of a noticeable reduction (than for weekdays) if comparing the most recent 4 quarters with the first 4 quarters after opening; and
- Whilst it is difficult to identify correlation between the initial toll price increases in 2004 and 2005 with the number of users during that period due to the 'ramp-up' period for the new road, the effects of the roadworks on the parallel M6, and also general seasonality; the steady decline witnessed in the number of users since 2007 may be more closely linked to the annual increases in toll prices, particularly given the current economic climate.

Annual Change in Average Number of M6 Toll Users

2.7 By using the average numbers of users on the M6 Toll published quarterly by MEL, it has been possible to calculate an annual average daily number of users for each year since opening. This is shown in Table 2.2 below:

Table 2.2 – Annual Average No. Users of M6 Toll 2004 – 2008

Year	Annual Average Daily users (All Days)	Change on Previous Year	Change on Opening Year (2004)
2004	45,700	-	-
2005	44,800	-2%	-2%
2006	48,300	+8%	+6%
2007	45,900	-5%	0%
2008	40,500	-12%	-11%

2.8 It is apparent from Table 2.2 that:

- Following its opening year in 2004, when usage was increased due to the roadworks effecting the parallel M6, the number of users of the M6 Toll dipped slightly in 2005;
- The highest number of users has clearly been in 2006, which coincided with the M6 major roadworks (Birmingham – Walsall, Potholes Phase 2), affecting M6 J8 – J9 and M6 J5 – J6 between June and December 2006; and
- The annual average daily number of users has reduced for the last two successive years in 2007 and 2008. With an average of 40,500 users per day in 2008, this is 11% lower than the opening year figures.

Changes in the Number of Electronic Tag Users

2.9 The M6 Toll operates an electronic payment system known as the 'Tag'. The system works by motorists having the Tag attached to their windscreen. It includes a microchip that is automatically read. Providing there is credit in the motorist's account, the toll barrier will rise, a green light will appear and the motorist can proceed without delay.

2.10 The Tag has a £1 monthly lease fee, and since June 2005, Tag users have a 5% discount per trip.

2.11 Each time the Tag is read it sends information to a database updating the motorist's account. This can provide invaluable information, especially for fleet managers and business motorists.

2.12 As the Tag users are likely to be the most committed and regular users of the M6 Toll, it is useful to review the numbers and proportions of these users. Table 2.3 shows the change in the numbers and proportions of Tag users since 2005.

Table 2.3 – Numbers and Proportions of Tag Users on the M6 Toll (All Days)

Daily Average	Mar '05	Quarter 1 '06	Quarter 1 '07	Quarter 1 '08	Quarter 1 '09
No. Tag Users	9,700	13,400	16,900	19,000	20,100
No. of Daily M6 Toll Users (All Days)	46,000	40,700	42,200	38,100	34,000
Proportion of All Transactions	21%	33%	40%	50%	59%

2.13 Table 2.3 shows that:

- Both the numbers of users with the Tag, and the proportion of those of all toll transactions has increased considerably since 2005;
- The largest increase in Tag users appears to have been between 2005 and 2006 despite the number of M6 Toll users going down in that period, and this may be attributed to the 5% discount scheme which was introduced in June 2005 for Tag users; and

- It is likely, that the Tag users have not declined in the same way as the overall number of users because Tag users consist of motorists who make regular and frequent journeys such as freight and business users who are already committed to using the road. Motorists using the road for recreational journeys only, (and therefore not benefiting financially from using this payment system) are more flexible in travel patterns/likely to react more.

M6 Parallel to M6 Toll

2.14 For comparison with the parallel section of the M6, traffic volume data for two sections of the M6 have been chosen to present long-term trends on the alternative M6 route, namely J4a – J5, and J9 – J10. Quarterly 2-way Average Weekday Totals (AWTs) are shown in Figures 2.3 and 2.4.

Figure 2.3 - M6 J4a – J5 (Average Weekday 2 way flows) by Quarter

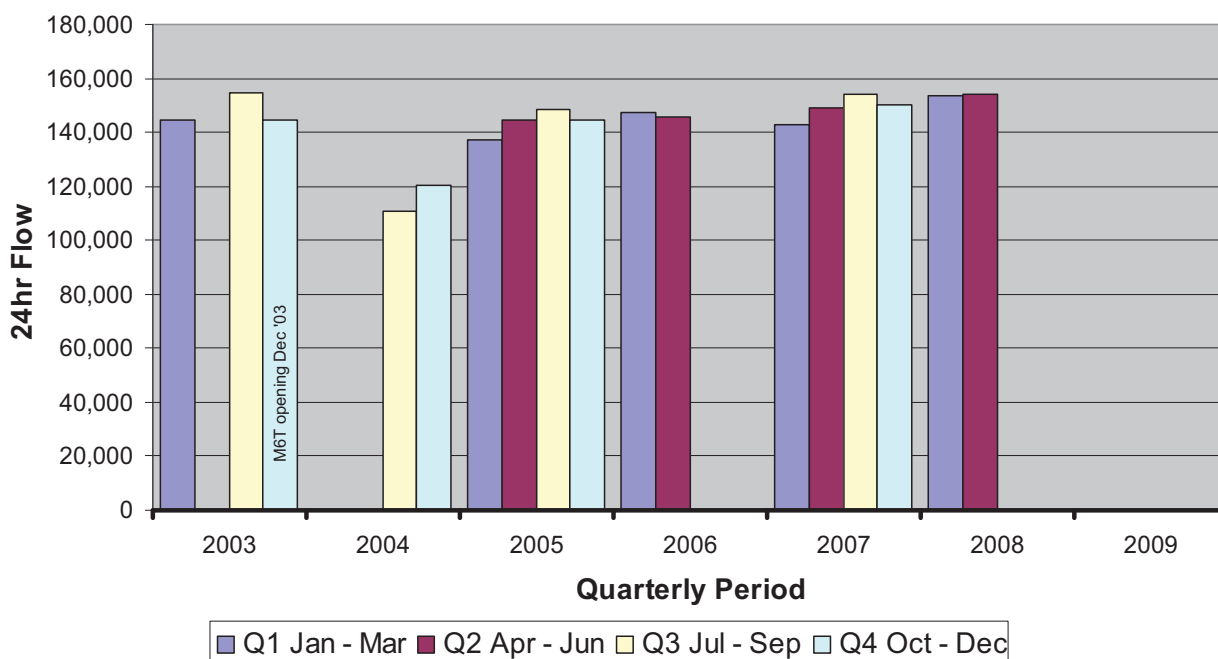
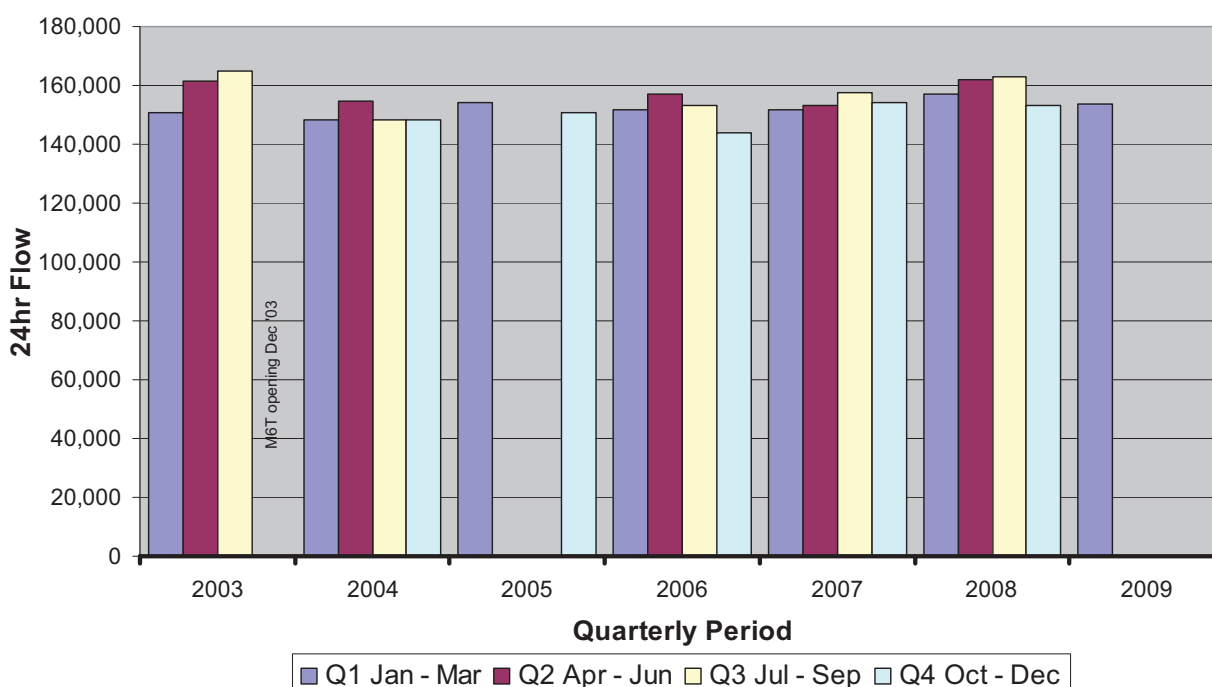


Figure 2.4 - M6 J9 – J10 (Average Weekday 2 way flows) by Quarter



2.15 It should be noted that data is not available for all months for some quarters and directions, however, from the 2-way data that is available, the following observations can be made about long term trends in traffic flow on key sections of the parallel M6 between 2003 and 2009:

- For J4a – J5 of the M6, although it is difficult to determine the initial impacts of the opening of the M6 Toll in early 2004 due to the lack of data, it is clear that flows in the latter half of 2004 were significantly reduced during the maintenance programme, which also corresponds to some of the highest flows observed on the M6 Toll;
- In 2005, flows on J4a – J5 increased again, however not quite to levels experienced in 2003 before the M6 Toll opened;
- Although the roadworks on the M6 in the latter half of 2006 has meant that data is not available for J4a – J5, it is clear that in early 2006 and moving into 2007, that flows were approaching levels previously experienced before the M6 Toll opened, and continued to increase gradually into 2008 before once again, roadworks have made the traffic counting loops unavailable;
- As for J9 – J10 which is the busiest section of the M6 in the West Midlands conurbation and where data availability has been much better, flows were generally at their lowest during 2004 after the opening of the M6 Toll, but have gradually increased through to 2008 to levels almost equivalent to those observed in 2003 before the M6 Toll opened; and
- Flows in the first quarter of 2009 between J9 – J10 have shown a reduction compared to the first quarter of 2008, which may be as a result of the economic climate, however this reduction has been proportionately less than the reduction witnessed on the M6 Toll between Quarter 1 2008 and Quarter 1 2009, suggesting some M6 toll traffic may have transferred to the M6.

M6 North and South of M6 Toll

2.16 In order to assess the long term trends observed on the M6 north and south of the M6 Toll tie-ins at J11a and J3a respectively, AWTs have been calculated by quarter from 2003 to 2009. As data was unavailable until April 2004 for the section immediately north of the M6 Toll tie-in (J11a – J12), data for J12 – J13 has also been provided.

2.17 Figures 2.5, 2.6 and 2.7 show the Average Weekday 2 way flows, by quarter for the M6 J3 – J3a, J11a – J12, and J12 – J13, respectively.

Figure 2.5 – M6 J3 – J3a (Average Weekday 2 way flows) by Quarter

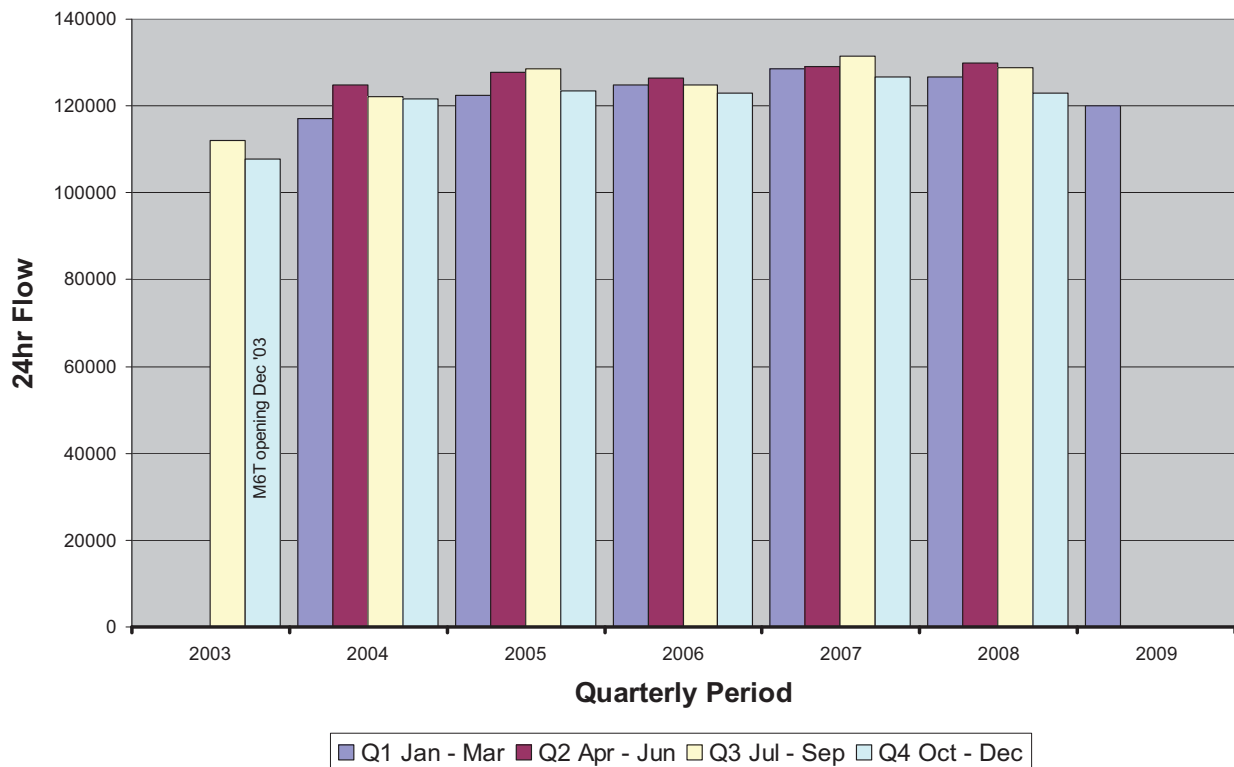


Figure 2.6 - M6 J11a – J12 (Average Weekday 2 way flows) by Quarter

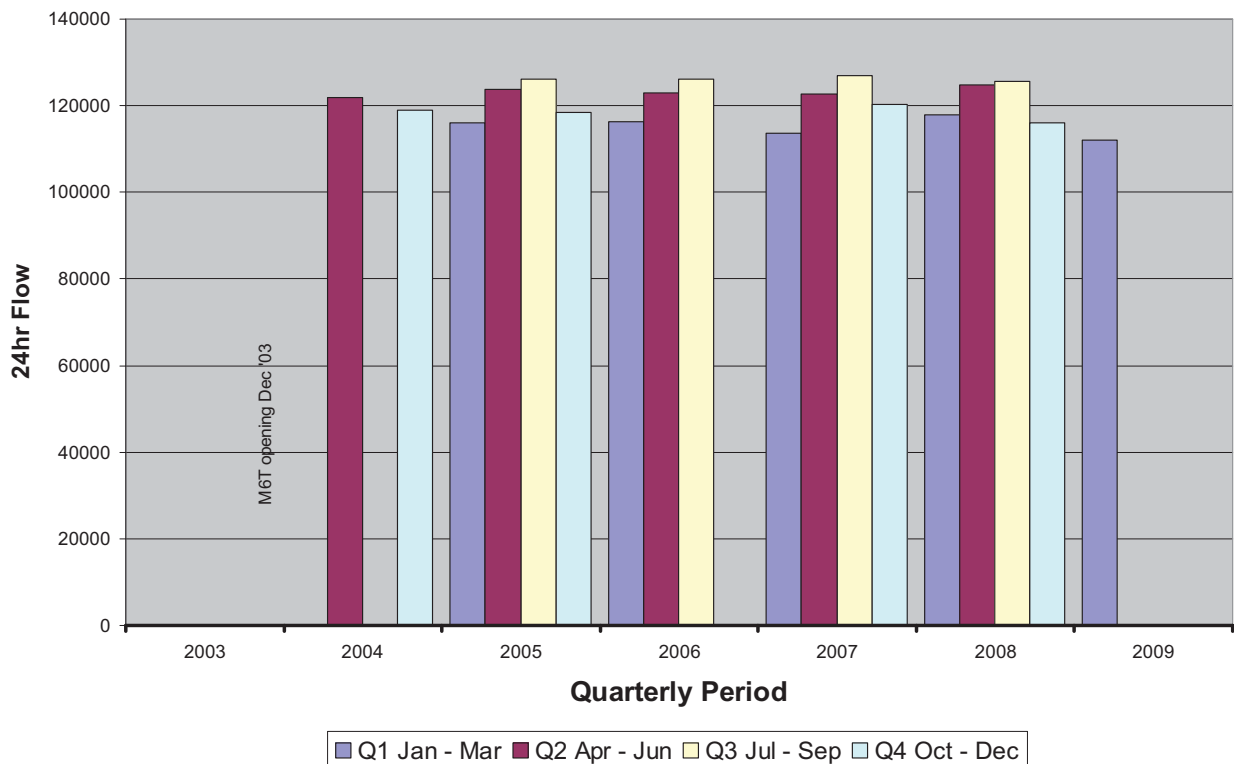
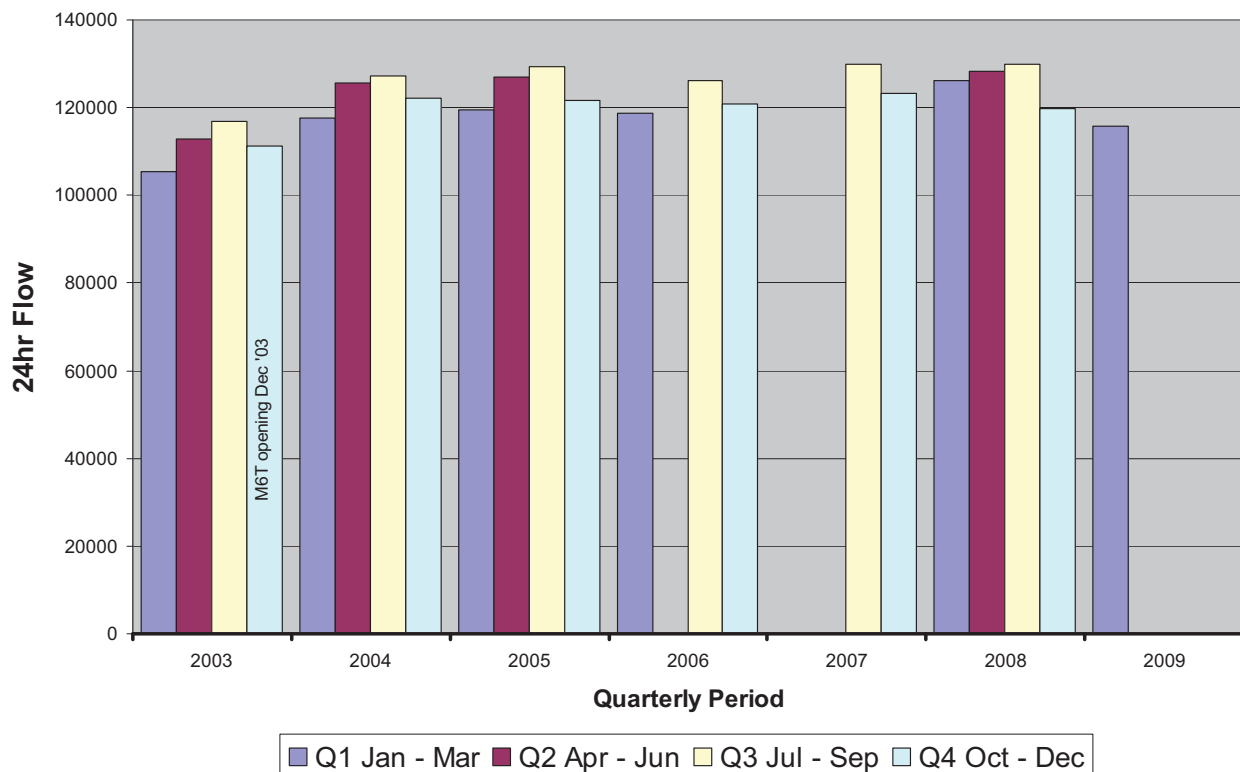


Figure 2.7 - M6 J12 – J13 (Average Weekday 2 way flows) by Quarter



2.18 It can be seen from Figures 2.5 to 2.7 that:

- To the east of the southern M6 Toll tie-in between J3 – J3a, flows were at their lowest during the latter half of 2003 (however this is likely to be related to the M6 Toll tie-in construction, and the contra-flows which were in operation at various times) increasing noticeably in 2004 after the opening of the M6 Toll. The effects of the roadworks in 2004 and 2006 are less noticeable than on other sections of the M6 parallel to the M6 Toll, however flows in 2006 are slightly lower than those in 2005, perhaps showing some knock-on effects of the works;
- Flows north of the northern M6 Toll tie-in between J11a – J12, and J12 – J13 have shown greater seasonal variation across the year than those at the southern end, and have remained fairly consistent between 2004 and 2008;
- Between J12 and J13, flows were higher in 2004 after the opening of the M6 Toll, and remained higher in 2005; and
- All three sections have shown a reduction in the latter half of 2008, and also the first quarter of 2009; perhaps once again, a reflection of the current economic climate.

Key Findings: Long Term Trends in Traffic

Long Term Trends on M6 Toll

- The annual average daily number of users of the M6 Toll was at its highest (48,300) in 2006. This coincided with significant roadworks on the parallel M6;
- Since this time, the average number of users on weekdays has declined, and the average number of weekend users has declined even more noticeably; and
- On weekdays, the average number of daily users of the M6 Toll in the first quarter of 2009 was roughly equivalent to the first quarter of 2004 just after the road opened (just under 40,000).

Long Term Trends on M6

- Traffic on parallel sections of the M6 shows a reduction as expected, during 2004 after the M6 Toll opened, followed by an increase in 2005 before dipping again towards the end of 2006;
- These periods of reduced flows on the M6 coincide with significant roadworks and therefore it is difficult to distinguish this impact from the impact of the M6 Toll;
- By the start of 2008 (before the full impact of the current economic downturn took hold), flows on the parallel M6 appear to have returned to near pre-M6 Toll opening levels; and
- North and south of the tie-in, flows on the M6 since 2004 have generally remained more constant than on sections parallel with the M6 Toll. However, flows have been higher than pre- M6 Toll opening levels and have remained higher towards the end of 2008 compared to the end of 2003, despite the economic downturn.