



# Bracknell Forest **Journey Time Report**

October 2011

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# **1 BRACKNELL BMSTM – 2026 MODELLING ASSESSMENT – JOURNEY TIMES**

## **Introduction**

### **1.1 Journey Times Summary**

1.1.1 The assessment of journey times was carried out using the Bracknell Multi-Modal Transport Model (BMSTM). This analysis identifies issues at key locations in the Borough's road network, both before and after the implementation of any given set of forecast assumptions. Below is a brief summary of the BMSTM which provides a context for the journey time analysis. Details of the journey time report are then summarised.

### **1.2 Bracknell Multi-Modal Transport Model**

1.2.1 The BMSTM is a computer generated simulation of existing and future transport networks and shows the travel demand by car, HGV, bus, rail, cycle and on foot between locations within and beyond the borough. It provides a strategic analysis tool covering all principal routes, and provides inputs to separate, more detailed programs that assess the performance of individual junctions. As well as identifying travel demand patterns, the model can show where pressures exist in the network and predict where new developments or transport schemes will have an impact. It can identify the routes taken by vehicles and where bus passengers will board or alight.

1.2.2 It was developed and validated to represent the transport network in Bracknell Forest in 2007 (base year) during the AM (0800 – 0900) and PM (1700 – 1800) peak hours. It was built using observed data on traffic flows, public transport provision and patronage and journey times on set routes. It includes all major junctions in the borough and, where appropriate, real signal timing data. The model also now represents Wokingham's development in location-specific detail, particularly within the town centre and the areas of Wokingham Borough bordering Bracknell Forest. This follows close partnership working with Wokingham Borough Council. Details of how the base year models were built are in the Bracknell Multi-Modal Transport Model – Model Development and Validation Report (WSP) in June 2011.

1.2.3 In addition to the base year, there are AM and PM peak forecast models representing alternative development scenarios in the year 2026. These show the likely traffic impacts that will result from new developments, infrastructure improvements and changing travel choices within both Bracknell and Wokingham. The Forecast Model Development and Assessment Report (WSP) (August 2011) details two transport modelling scenarios in 2026:

1. Core Forecast. This represents the Core Strategy Development Plan Document (DPD) and includes all known developments (committed and proposed), including the proposed Site Allocations DPD (SADPD) sites in Bracknell. It also incorporates proposed development in Wokingham, including their Strategic Development Location sites.
2. Reference Case. This includes only committed development and thus removes the following developments from the Core Forecast to form the Reference Case:
  - Amen Corner development
  - Warfield – (northern fringe).
  - SADPD sites and infrastructure.

1.2.4 The growth associated with these sites is still included in the Reference Case model, but only as part of the general growth in background traffic, rather than concentrated in these specific locations.

1.2.5 The report highlights where traffic flows are expected to change as a result of the Core Strategy and SADPD proposals. It also identifies the junctions that are likely to require improvements to reduce delays and lower journey times.

### **1.3 Modelling Junction Improvements and Measures**

1.3.1 A set of draft schemes and improvements was developed (detailed in the Junction Improvements and Measures Paper). These improvements were added to the model to provide a third scenario in 2026 called the Final Forecast.

1.3.2 This scenario develops the Core Forecast and includes all proposed developments and network improvements (e.g. Twin Bridges and Coral Reef), adding proposed mitigation measures in Bracknell and the Wokingham area. Mitigation measures included in the Final Forecast scenario, include:

1. Coppid Beech roundabout (signalisation)
2. A329 / Peacock Farm roundabout (signalisation of eastern arm)
3. Twin Bridges (adjustments to signal timings)

4. Coral Reef roundabout (signalised crossroads)
5. Baldocks / Martins Heron roundabout (signalised crossroads)
6. Hanworth roundabout (widening of flares)
7. Maidens Green crossroads (signalisation)
8. Hanworth Road / Ringmead (signalisation)
9. B3348 Bracknell Road / Old Wokingham Road (widening of flares)
10. B3018 Binfield Road / Moordale Avenue (mini-roundabout)
11. B3408 Wokingham Road / Stoney Road (signalisation)
12. A3095 Rackstraw Road / Owlsmoor Road (signalisation)
13. B3034 Forest Road / Binfield Road (signalisation)
14. Golden Retriever / The Hut roundabout (signalisation)
15. Horse & Groom roundabout (widening and signalisation)
16. Duke's Ride / Crowthorne High Street (signalised T-junction)
17. Nine Mile Ride / Heathlands Road (adjustments to signal timings)
18. Duke's Ride / New Wokingham Road (adjustments to signal timings)
19. London Road / Priory Road (adjustments to signal timings)
20. London Road / Fernbank Road (adjustments to signal timings)

1.3.3 Background growth is adjusted to take into account the known developments in each scenario. The resultant overall growth in housing and employment matches the National Trip End Model (NTEM) Version 6.2 dataset forecast for 2026, in all scenarios.

- 1.3.4 This report describes the assessment undertaken using the BMMTM by way of journey time comparisons on key routes across the Bracknell Forest study area.
- 1.3.5 It accompanies the Forecast Model Development and Assessment Report to demonstrate how journey times are affected by each forecast scenario. The model shows cumulative travel times along defined routes, and these are displayed graphically in the report to compare each scenario and identify where delays occur. Seven journey time routes were assessed in both directions and in both peak hours. The journey time assessments covered the major routes through the Borough.
- 1.3.6 The report also includes a tabular summary that compares the overall travel times for each route in the base year, reference case, core forecast and final forecast models. The percentage difference in travel time between the final forecast and the reference case and core forecast scenarios is also shown, together with an overall average difference taken across all routes.
- 1.3.7 This shows the following overall journey time comparisons:
- AM Peak Final Forecast journey times are 19% lower than in Reference Case
  - AM Peak Final Forecast journey times are 9% lower than in Core Forecast
  - PM Peak Final Forecast journey times are 14% lower than in Reference Case
  - PM Peak Final Forecast journey times are 10% lower than in Core Forecast
- 1.3.8 This methodology is a very effective way to demonstrate how the transport network performs given alternative levels of development and mitigation.

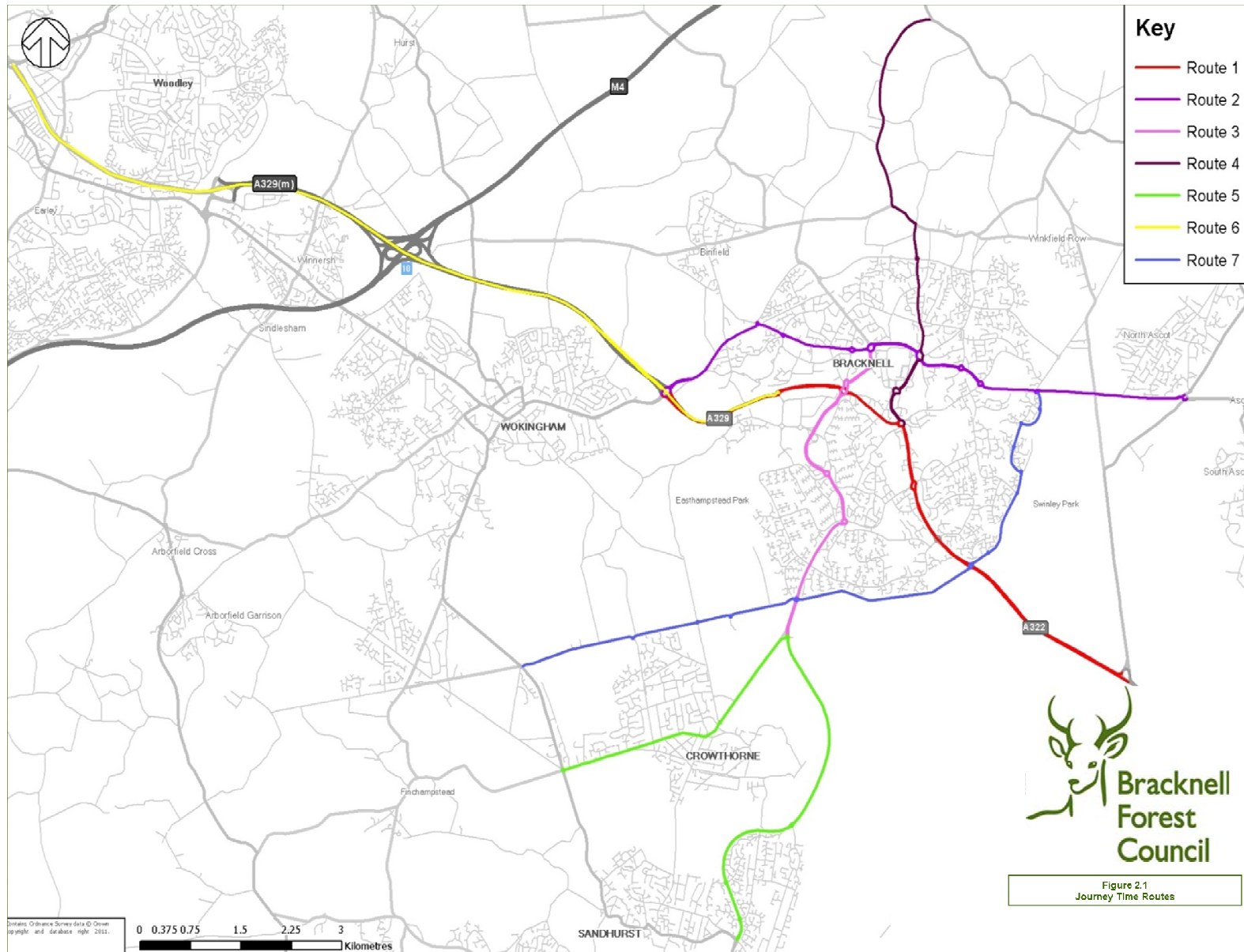
## 2 JOURNEY TIME ROUTES

2.1.1 A number of core journey time routes traversing the Borough's highway network have been identified for assessment in all modelled scenarios, including the 2007 Base Year. A plan of the assessed routes is shown in **Figure 2.1** and they are:

- Route 1: Coppid Beech to Swinley Bottom Gyratory
- Route 2: Coppid Beech to A329 London Rd / A322 Windsor Rd
- Route 3: A3095 Foresters Way / Bracknell Rd to 3M Roundabout
- Route 4: Horse & Groom to A3095 Maidenhead Rd / A330 Ascot Rd
- Route 5: A321 Lower Wokingham Rd / Duke's Ride to A321 Rackstraw junction (via Crowthorne High St / Foresters Way)
- Route 6: A329(M) (Doncastle Roundabout) to A4 Sutton Seeds
- Route 7: A321 Lower Wokingham Rd / Nine Mile Ride to Baldocks Roundabout



**Figure 2.1: Journey Time Routes**



2.1.2 A comparison of the modelled journey times output for each scenario is shown in **Table 2.1** and **Table 2.2** for the AM and PM peak respectively.

**Table 2.1: Journey Time Summary - AM Peak**

Route	Dir	2007 Base Year	2026 Reference Case	2026 Core Forecast	2026 Final Forecast	% Diff Final Forecast - Ref Case	% Diff Final Forecast - Core Forecast
1: Coppid Beech to Swinley Bottom Gyrotory	S	11:10	16:32	13:10	13:39	-17%	4%
	N	13:35	18:50	19:54	12:30	-34%	-37%
2: Coppid Beech to A329 London Rd / A322 Windsor Rd	E	12:34	20:15	18:01	18:02	-11%	0%
	W	13:42	16:59	18:04	15:13	-10%	-16%
3: A3095 Foresters Way / Bracknell Rd to 3M Roundabout	S	06:37	10:18	11:05	10:09	-1%	-8%
	N	07:11	11:02	09:17	09:46	-11%	5%
4: Horse & Groom to A3095 Maidenhead Rd / A330 Ascot Rd	S	09:07	13:01	10:43	08:39	-34%	-19%
	N	09:22	17:31	11:30	11:13	-36%	-2%
5: A321 Lower Wokingham Rd / Duke's Ride to A321 Rackstraw Junction (via Crowthorne High St / Foresters Way)	CW	10:09	12:23	11:18	12:06	-2%	7%
	ACW	10:17	13:06	12:21	12:56	-1%	5%
6: A329(M) (Doncastle Roundabout) to A4 Sutton Seeds	S	18:56	12:40	10:28	10:19	-19%	-1%
	N	15:45	26:47:00	17:54	13:57	-48%	-22%
7: A321 Lower Wokingham Rd / Nine Mile Ride to Baldocks Roundabout	S	16:26	28:42:00	24:29:00	19:27	-32%	-21%
	N	17:02	20:34	24:06:00	20:02	-3%	-17%
<b>Average</b>						<b>-19%</b>	<b>-9%</b>

2.1.3 **Table 2.1** demonstrates that, in comparison with the 2026 Reference Case, the Final Forecast scenario provides an overall reduction in journey time of 19% across the key routes measured in the AM peak, with every route experiencing a reduction. Detailed descriptions of each route are provided with the graphs in **Figure 3.1** to **Figure 3.14** contained in Section 3.

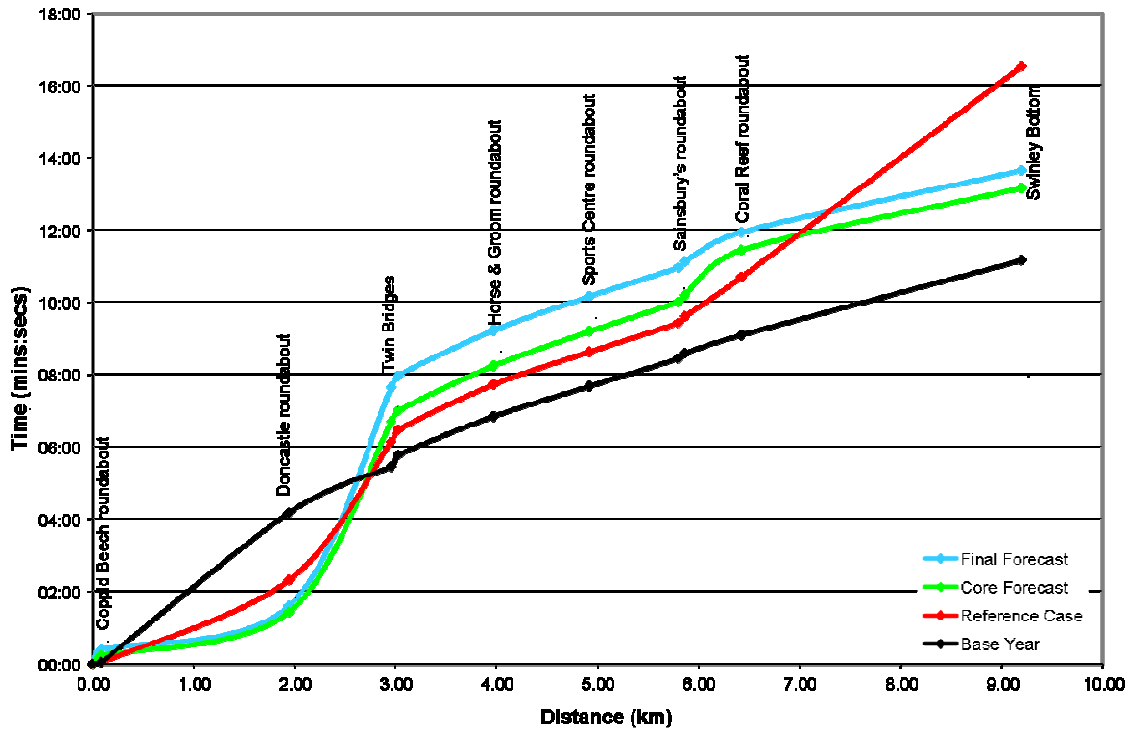
**Table 2.2: Journey Time Summary - PM Peak**

Route	Dir	2007 Base Year	2026 Ref Case	2026 Core Forecast	2026 Final Forecast	% Diff Final Forecast - Ref Case	% Diff Final Forecast - Core Forecast
1: Coppid Beech to Swinley Bottom Gyrotory	S	11:08	13:53	13:11	12:31	-10%	-5%
	N	10:21	16:10	16:48	14:17	-12%	-15%
2: Coppid Beech to A329 London Rd / A322 Windsor Rd	E	12:55	18:37	17:55	16:05	-14%	-10%
	W	13:32	19:21	20:30	18:07	-6%	-12%
3: A3095 Foresters Way / Bracknell Rd to 3M Roundabout	S	09:31	15:21	14:10	13:02	-15%	-8%
	N	05:57	07:41	07:53	07:40	0%	-3%
4: Horse & Groom to A3095 Maidenhead Rd / A330 Ascot Rd	S	10:14	17:52	12:37	10:50	-39%	-14%
	N	08:48	12:09	10:29	08:43	-28%	-17%
5: A321 Lower Wokingham Rd / Duke's Ride to A321 Rackstraw Junction (via Crowthorne High St / Foresters Way)	CW	10:29	13:51	14:10	13:00	-6%	-8%
	ACW	10:15	12:56	13:12	12:55	0%	-2%
6: A329(M) Doncastle Roundabout) to A4 Sutton Seeds	S	17:02	17:44	11:29	12:14	-31%	7%
	N	15:45	13:53	14:27	11:29	-17%	-21%
7: A321 Lower Wokingham Rd / Nine Mile Ride to Baldocks Roundabout	S	19:40	26:57:00	27:14:00	22:01	-18%	-19%
	N	17:18	22:37	22:47	21:24	-5%	-6%
<b>Average</b>						<b>-14%</b>	<b>-10%</b>

- 2.1.4 **Table 2.2** demonstrates that, in comparison with the 2026 Reference Case, the Final Forecast scenario provides an overall reduction in journey time of 14% across the key routes measured in the PM peak, with every route experiencing a reduction. Detailed descriptions of each route are provided with the graphs in **Figure 4.1** to **Figure 4.14** contained in Section 4.
- 2.1.5 It should be noted that adaptive signal control systems such as MOVA and SCOOT are currently delivering proven benefits across many junctions in the UK and can potentially improve the efficiency of junction operation in Bracknell Forest, over and above the modelled results which are based on fixed signal operation. An improvement in delays of around 12% - 27% (over good fixed time plans) could be achieved which would reduce journey times across the Borough further (TAL 4/95).

### 3 AM PEAK ASSESSMENT

Figure 3.1: AM Peak Journey Time - Route 1- Southbound

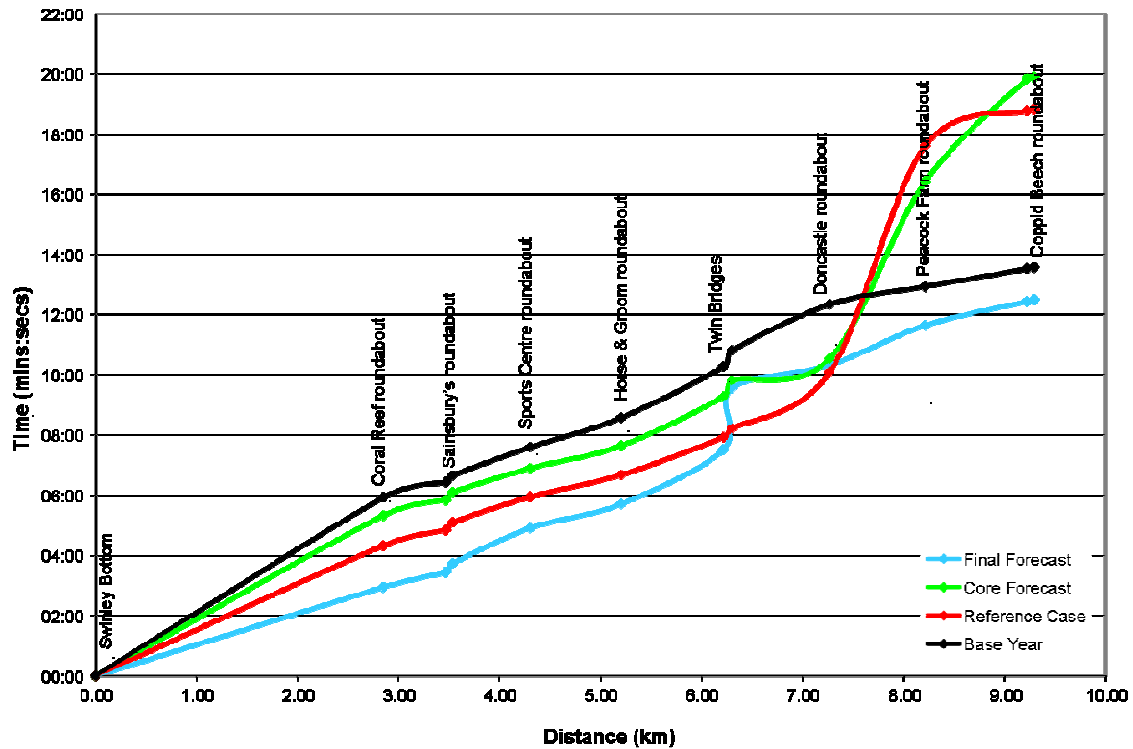


3.1.1 Route 1 southbound shows a reduction in delay at Doncastle roundabout in 2026, compared to the 2007 Base Year, as a result of reduced traffic demand at this junction following the introduction of the new Peacock Farm roundabouts. There is however an increase in delay at the Twin Bridges gyratory in all 2026 forecast scenarios, even more so in the Final Forecast scenario. The primary reason for this is a significant increase in traffic demand through this junction. Whilst the mitigation measures serve to improve the operation of the junction as a whole, the increase in traffic demand creates additional delay.

3.1.2 Comparing the 2026 Reference Case with the Final Forecast scenario, an improvement is shown at Coral Reef as a result of the redesign of this junction from a priority-controlled roundabout to signalised crossroads. A further significant reduction in delay is shown at Swinley Bottom following widening and full signalisation of this junction in the Final Forecast scenario.

3.1.3 The overall resultant journey time from Coppid Beech to Swinley Bottom is 17% lower in the Final Forecast scenario than in the Reference Case, although there are likely to be further delay reduction benefits in implementing SCOOT or MOVA control at several of the signalised junctions along this key corridor – particularly Twin Bridges, Horse & Groom and Coral Reef.

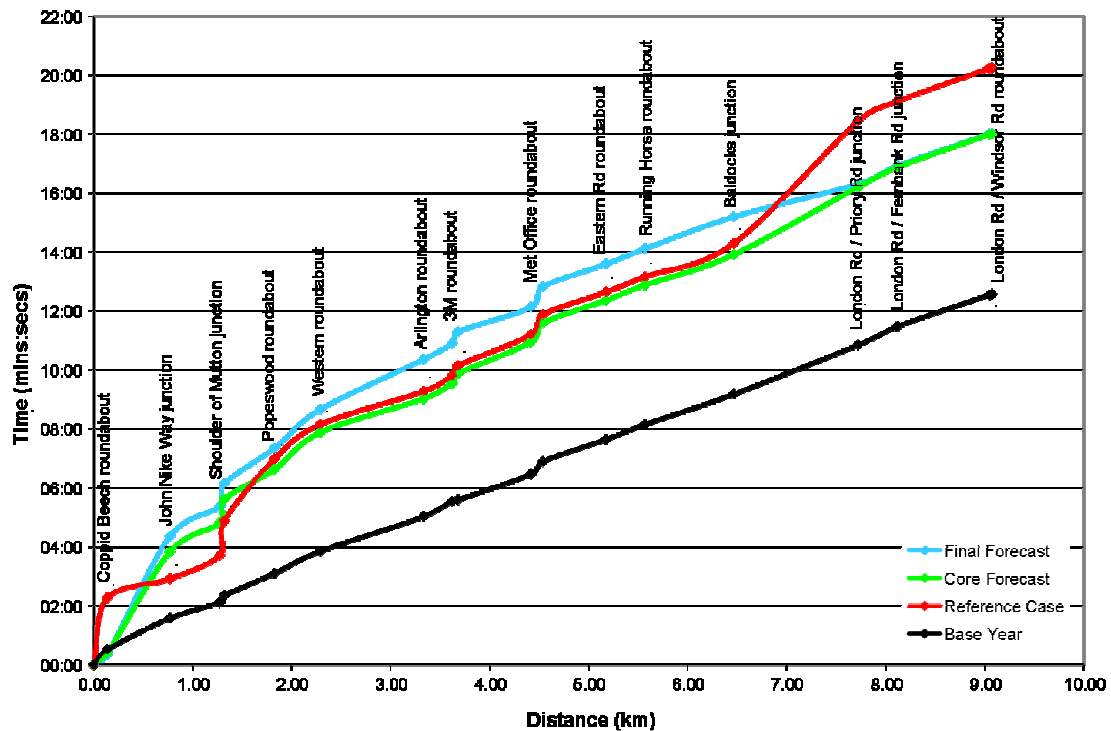
Figure 3.2: AM Peak Journey Time - Route 1- Northbound



3.1.4 Route 1 northbound shows a reduction in journey time from Swinley Bottom up to Doncastle roundabout in the 2026 forecast scenarios, compared to the 2007 Base Year, as a result of improvements at the Horse & Groom and Sports Centre junctions. A further reduction is shown in the Final Forecast scenario at Doncastle roundabout following signalisation of this junction. A significant improvement is subsequently shown at the A329 Berkshire Way / Peacock Farm roundabout with the introduction of signals on the eastern arm in the Final Forecast scenario.

3.1.5 The overall resultant journey time from Swinley Bottom to Coppid Beech is 34% lower in the 2026 Final Forecast scenario than in the Reference Case. As in the southbound direction, further reductions in journey time may be achieved through the use of SCOOT / MOVA at signalised junctions along this corridor.

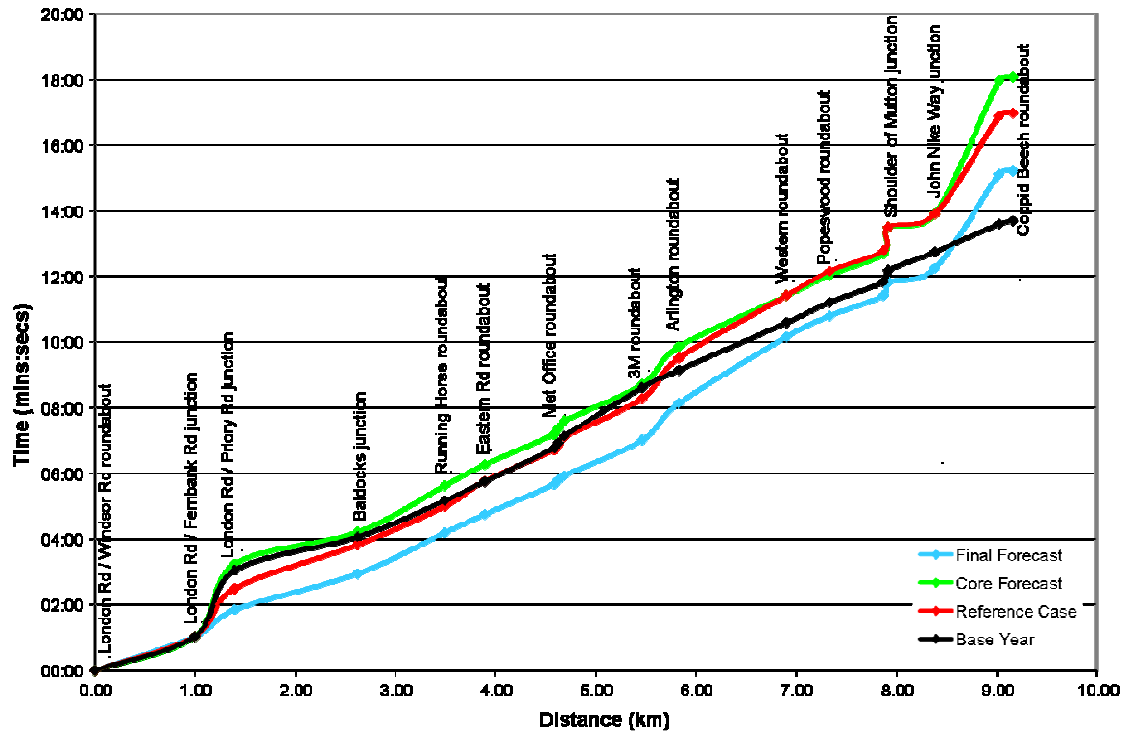
Figure 3.3: AM Peak Journey Time - Route 2 – Eastbound



3.1.6 Route 2 eastbound shows an increase in journey time between Coppid Beech and London Road / John Nike Way in the 2026 forecast scenarios, which is caused by the addition of a signalised junction with the Amen Corner spine road. Although this junction (and therefore delay) is not included in the Reference Case, Coppid Beech roundabout itself creates substantial delay without the proposed widening and signalisation improvements.

3.1.7 Reduced delay at the London Road / Priory Road junction in the Final Forecast scenario, resulting from a reduction in traffic demand, means that the overall journey time from Coppid Beech to London Road / Windsor Road is 11% lower in the 2026 Final Forecast than in the Reference Case.

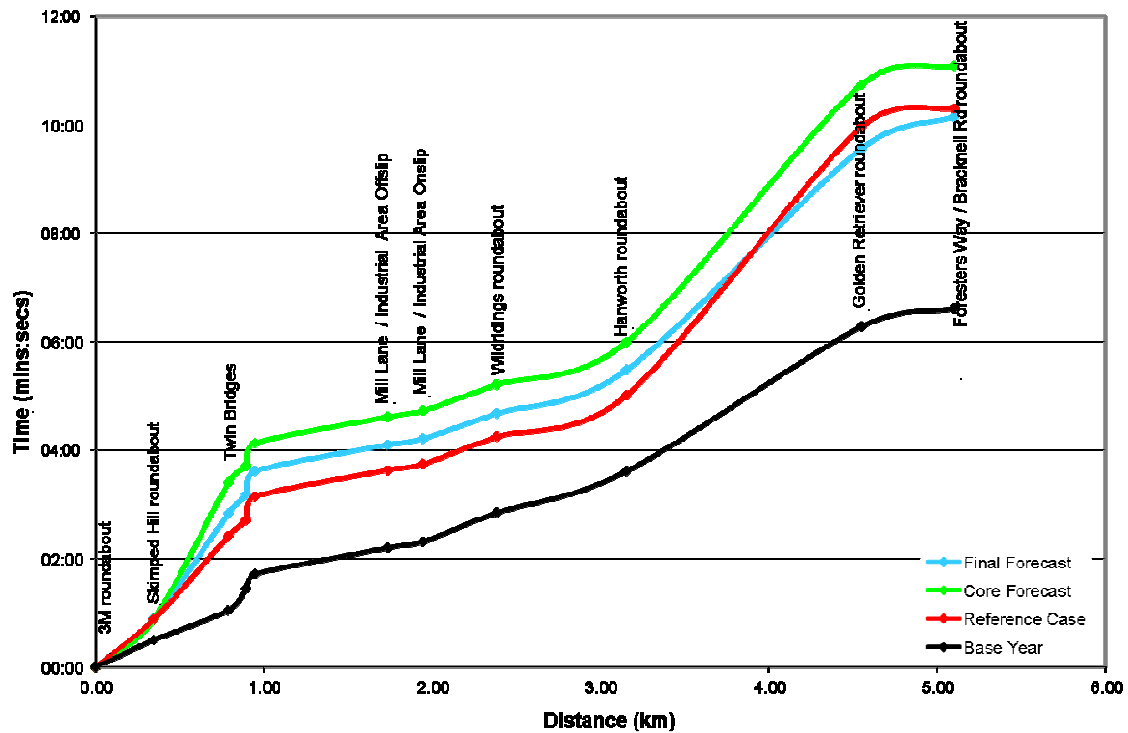
Figure 3.4: AM Peak Journey Time - Route 2 – Westbound



3.1.8 Route 2 westbound shows very little change in journey time between all scenarios from London Road / Windsor Road up to the 3M roundabout. After this point gradual increases in delay are experienced, above the 2007 base year, particularly approaching Western roundabout and Coppid Beech. The delays at these junctions are however reduced in the 2026 Final Forecast, compared to the Reference Case, mainly due to reductions in traffic demand along this westbound corridor.

3.1.9 The overall journey time from London Road / Windsor Road to Coppid Beech roundabout is 10% lower in the 2026 Final Forecast than in the Reference Case.

Figure 3.5: AM Peak Journey Time – Route 3 Southbound

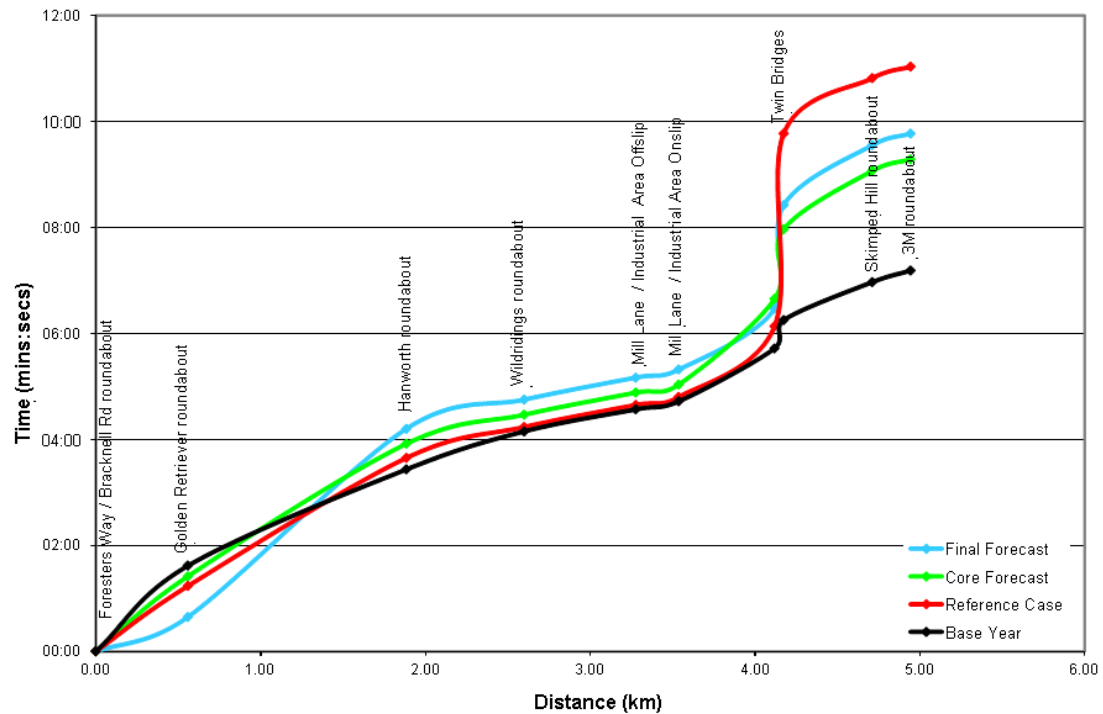


3.1.10 Route 3 southbound shows a slight increase in journey time at the Twin Bridges gyratory, between the 2026 Reference Case and the Final Forecast scenarios, due to an increase in traffic demand through the junction. Small gains are achieved however at the Golden Retriever roundabout, which is signalled in the Final Forecast scenario.

3.1.11 The resultant overall journey time, from the 3M roundabout to the Foresters Way / Bracknell Road roundabout is 1% lower in the 2026 Final Forecast than in the Reference Case. There are likely to be further benefits, in terms of delay reduction, with the implementation of SCOOT or MOVA control at signalised junctions such as Twin Bridges and Golden Retriever, as highlighted in the route 1 analysis (3.1.3).



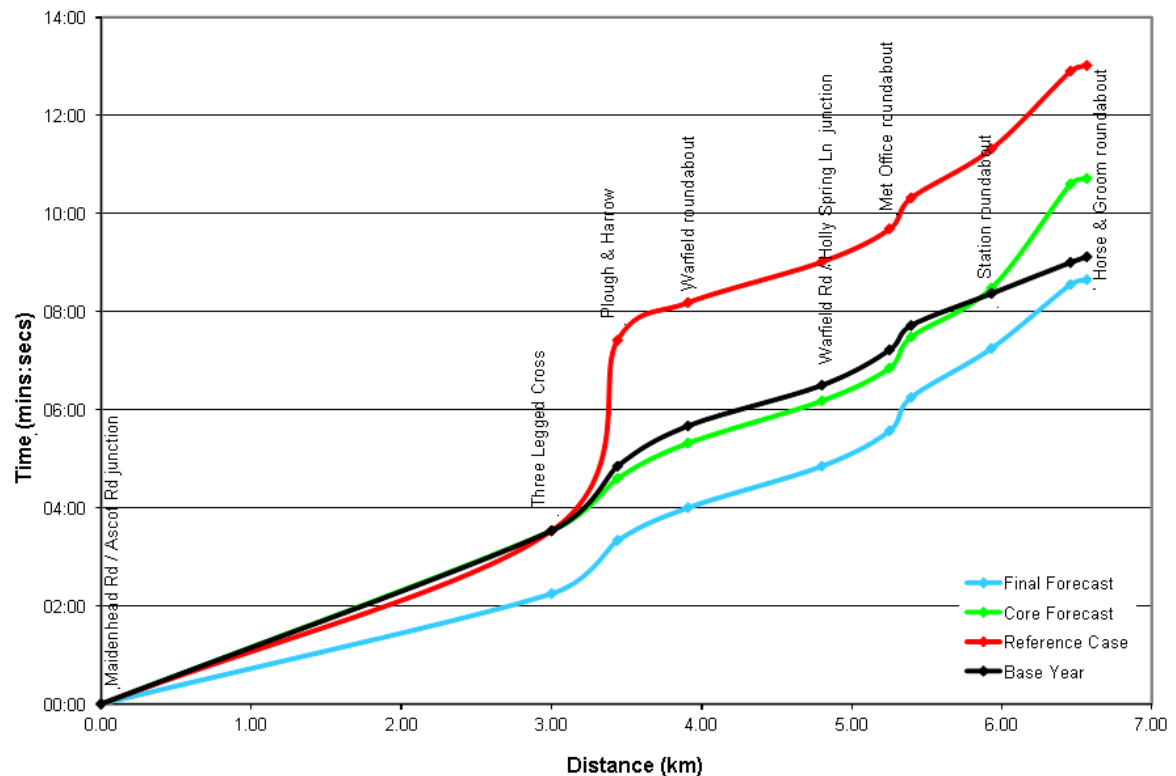
**Figure 3.6: AM Peak Journey Time - Route 3 – Northbound**



3.1.12 Route 3 northbound shows an increase in journey time between the Golden Retriever and Hanworth roundabouts due to increases in traffic demand at the Hanworth roundabout, and also signalisation of the Golden Retriever roundabout. A reduction in delay is achieved however approaching Golden Retriever, as well as at the Twin Bridges roundabout arising from changes in the balance of traffic at the stop-lines, particularly on the circulatory.

3.1.13 The resultant overall journey time, from the Foresters Way / Bracknell Road roundabout to the 3M roundabout is 11% lower in the 2026 Final Forecast than in the Reference Case. As with the southbound direction, the use of SCOOT or MOVA is likely to enhance the efficiency of signalised junctions along this corridor, reducing delays and providing further improvements to journey time reliability.

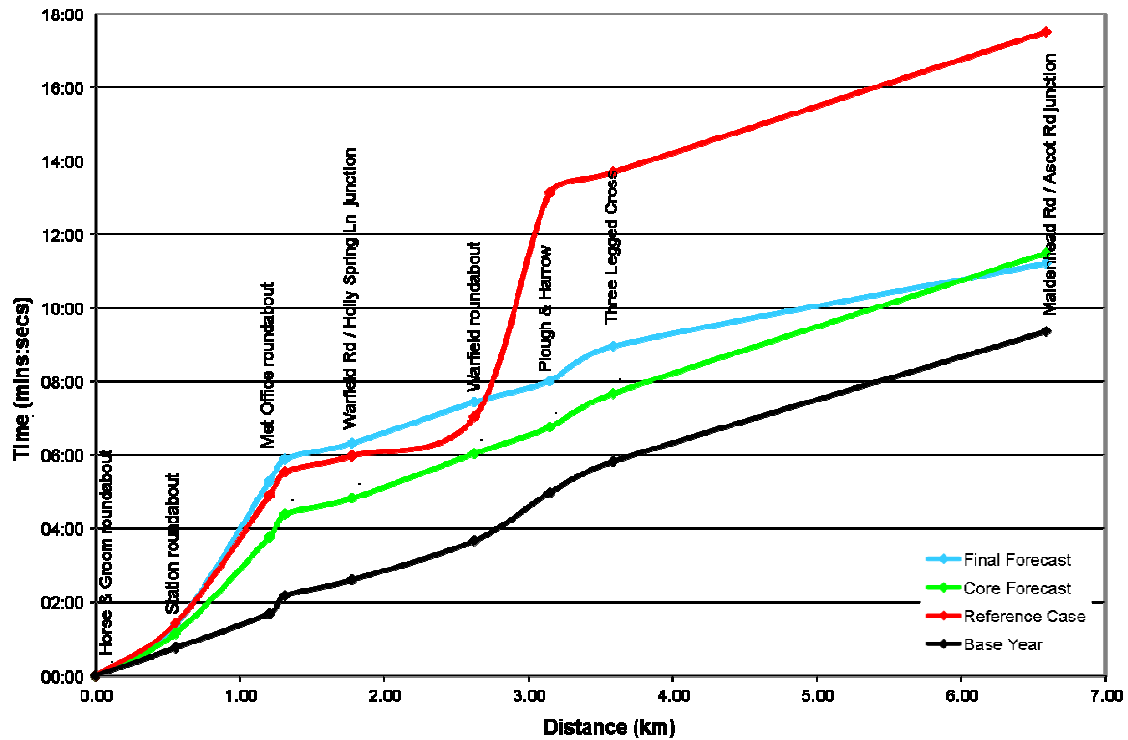
**Figure 3.7: AM Peak Journey Time - Route 4 – Southbound**



3.1.14 Route 4 southbound shows a notable reduction in delay at the Three Legged Cross and Plough & Harrow junctions in the 2026 Final Forecast, compared to the Reference Case. This is primarily a result of the north-south Link Road between Harvest Ride and the Three Legged Cross junction, included as part of the Warfield development, which takes traffic away from the alternative route through the Plough & Harrow junction.

3.1.15 The overall journey time from Maidenhead Road / Ascot Road to the Horse & Groom roundabout is consequently 34% lower in the 2026 Final Forecast than in the Reference Case.

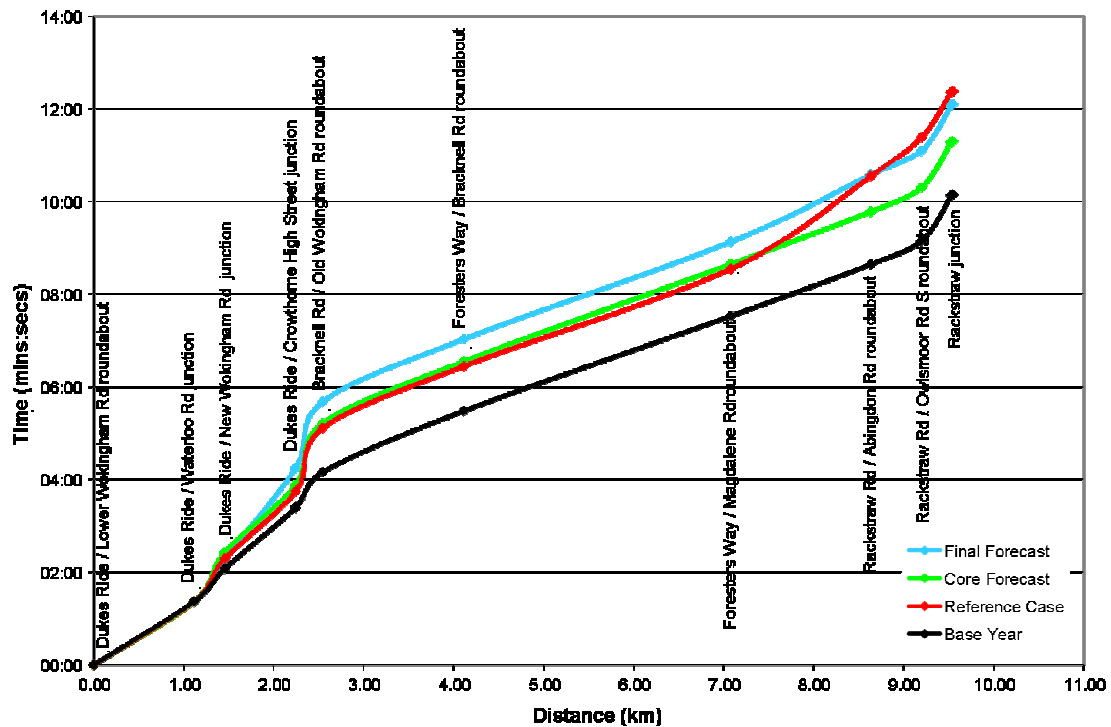
Figure 3.8: AM Peak Journey Time - Route 4 – Northbound



3.1.16 Route 4 northbound shows a slight increase in delay at the Met Office roundabout in the 2026 Final Forecast, compared to the Reference Case, which follows a slight overall increase in traffic demand through this junction. There is however a significant reduction in delay at the Plough & Harrow junction as a result of traffic diverting onto the adjacent Link Road, similar to the southbound AM peak scenario.

3.1.17 The overall journey time from the Horse & Groom roundabout to Maidenhead Road / Ascot Road is consequently 36% lower in the 2026 Final Forecast than in the Reference Case.

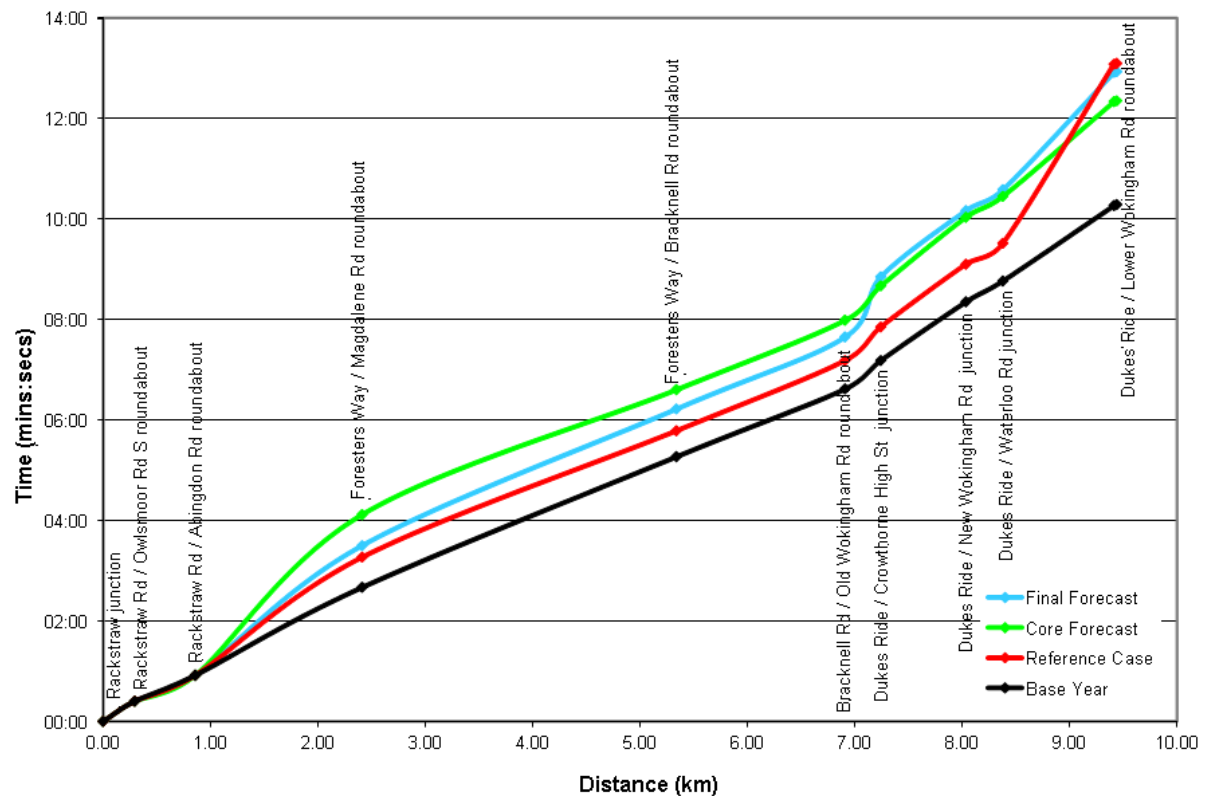
Figure 3.9: AM Peak Journey Time - Route 5 – Clockwise



3.1.18 A slight increase in delay is shown on Route 5 clockwise at the Duke's Ride / Crowthorne High Street junction in the 2026 Final Forecast, compared to the Reference Case. Whilst this is one of the junctions that have been investigated for improvement, currently redesign from a mini-roundabout to a signalised junction in the Final Forecast model, the eastbound delay is marginally increased as a result. Improvements are however shown at several junctions along Foresters Way / Rackstraw Road due to reduced traffic demand on this route.

3.1.19 The overall journey time from Duke's Ride / Lower Wokingham Road to the Rackstraw junction is 2% lower in the 2026 Final Forecast than in the Reference Case. The use of SCOOT or MOVA is likely to enhance the efficiency of signalised junctions along this corridor, reducing delays and providing further improvements to journey time reliability.

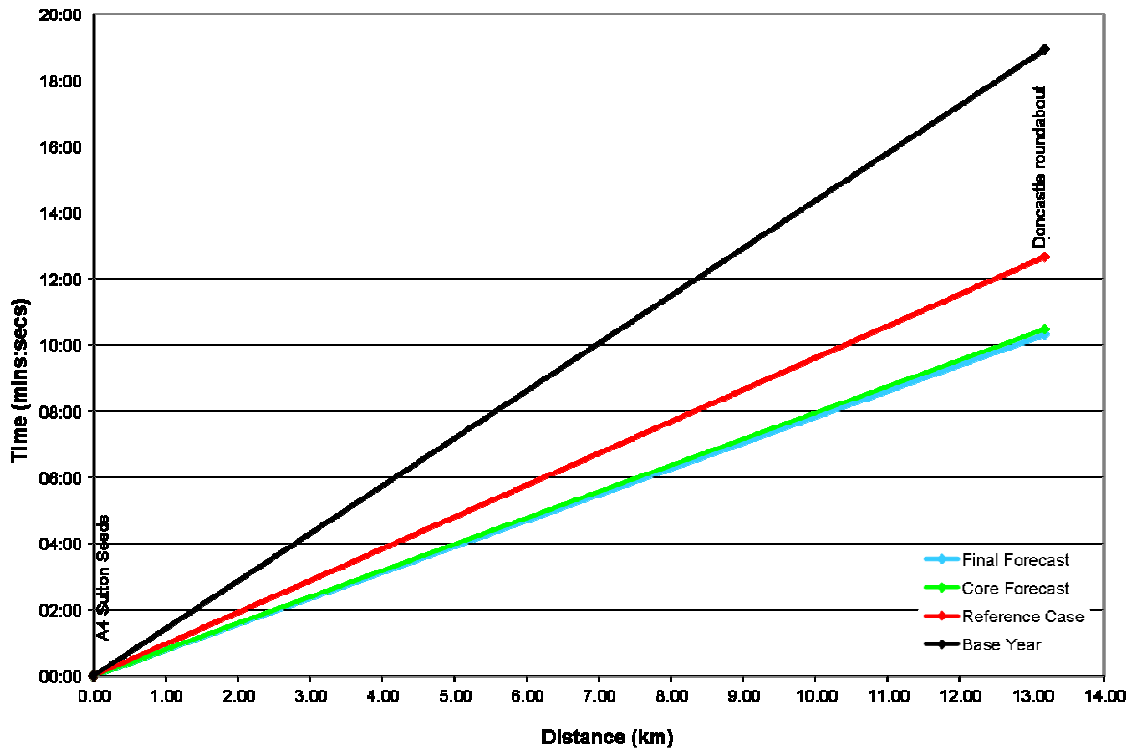
**Figure 3.10: AM Peak Journey Time - Route 5 –Anti-Clockwise**



3.1.20 Similar to the clockwise route, a slight increase in delay is shown on route 5 anti-clockwise at the Duke's Ride / Crowthorne High Street junction in the 2026 Final Forecast, compared to the Reference Case. An improvement is however shown at Duke's Ride / Lower Wokingham Road, primarily as a result of reduced traffic demand on this route.

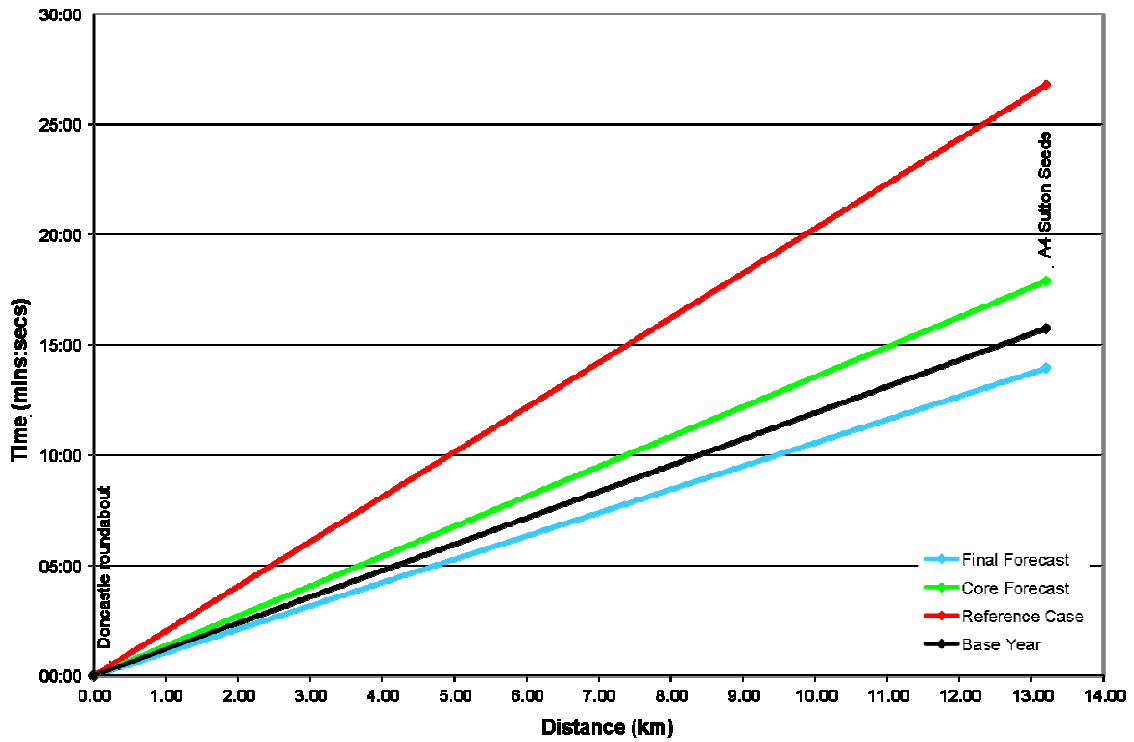
3.1.21 The overall journey time from the Rackstraw junction to Duke's Ride / Lower Wokingham Road is 1% lower in the 2026 Final Forecast than in the Reference Case.

Figure 3.11: AM Peak Journey Time - Route 6 – Southbound



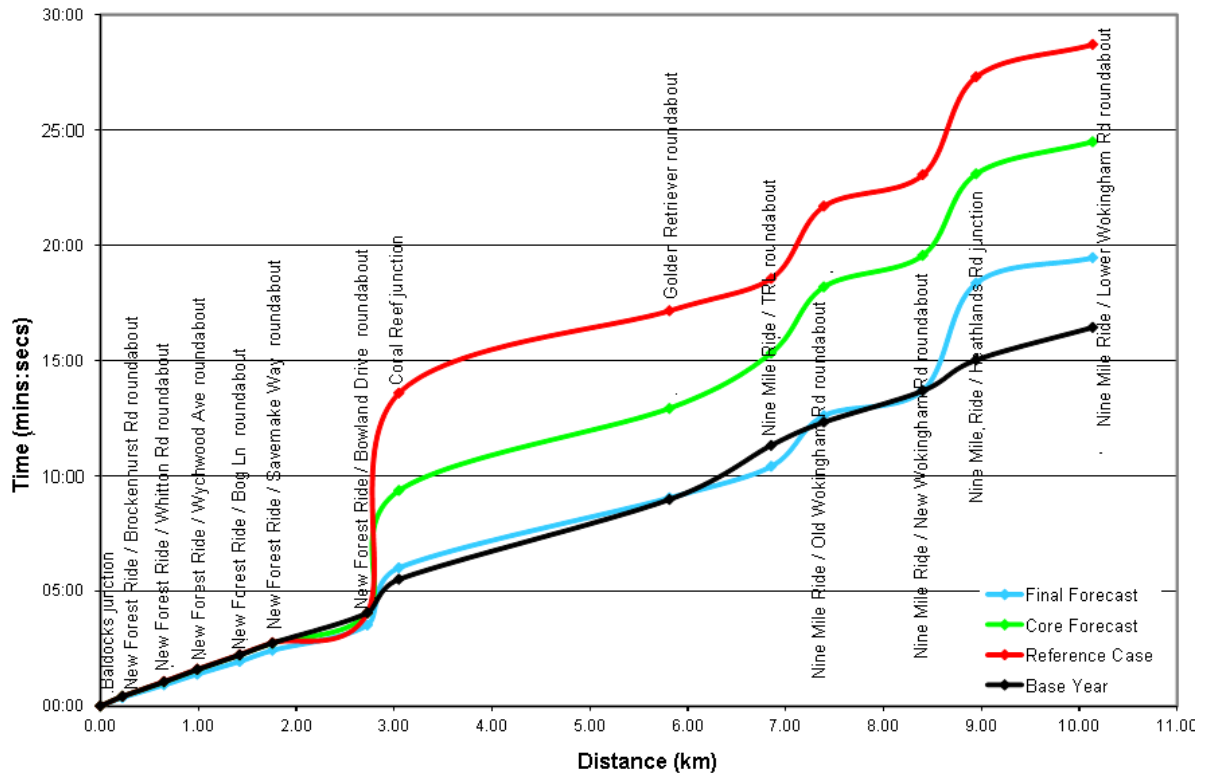
3.1.22 Route 6 southbound shows a 19% improvement in journey time between the A4 at Sutton Seeds and the Doncastle roundabout in the 2026 Final Forecast, compared to the Reference Case. This follows signalisation of Doncastle roundabout and the introduction of the new junction at Peacock Farm which allows for some re-routing of traffic away from Doncastle Junction.

Figure 3.12: AM Peak Journey Time - Route 6 – Northbound



3.1.23 Route 6 northbound shows a 48% reduction in journey time between the Doncastle roundabout and the A4 at Sutton Seeds in the 2026 Final Forecast, compared to the Reference Case, mainly due to signalisation of the eastern arm of the Peacock Farm roundabout which significantly reduces delay at this junction.

**Figure 3.13: AM Peak Journey Time - Route 7 – Southbound**

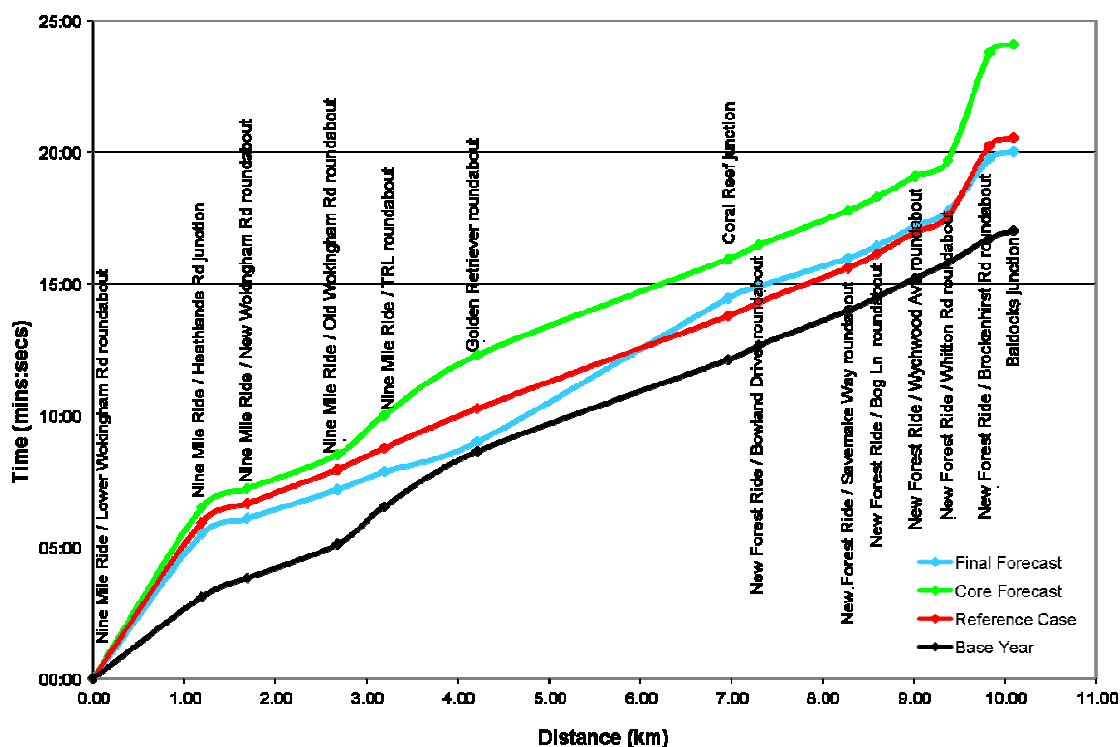


3.1.24 Route 7 southbound shows a significant reduction in delay at Coral Reef in the 2026 Final Forecast compared to the Reference Case. This is due to the redesign of this junction from a priority-controlled roundabout to signalised crossroads.

3.1.25 The resultant overall journey time from the Martins Heron (Baldocks) junction to Nine Mile Ride / Lower Wokingham Road is 32% lower in the 2026 Final Forecast than the Reference Case. As highlighted on other journey time routes there are likely to be further reductions in delay achievable at signalised junctions such as Coral Reef and Golden Retriever, through the implementation of SCOOT or MOVA adaptive signal control.



Figure 3.14: AM Peak Journey Time - Route 7 – Northbound



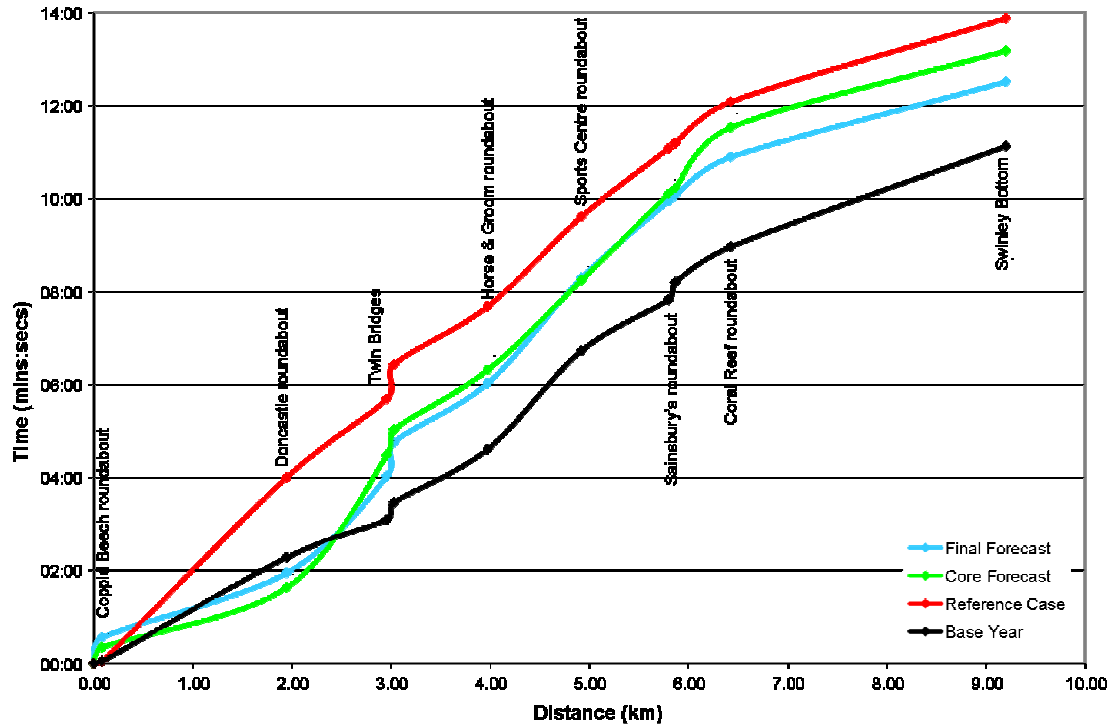
3.1.26 Route 7 northbound shows a slight reduction in delay at the Nine Mile Ride / Heathlands Road junction, following re-optimisation of the signal timings in the 2026 Final Forecast compared to the Reference Case. There is also a reduction at Golden Retriever roundabout following signalisation of this junction. There is however an increase in delay shown at the downstream Coral Reef junction, which has undergone signalisation improvements in the Final Forecast scenario.

3.1.27 This indicates that the introduction of signals at this junction, whilst serving to improve control over queue build up and traffic throughput, may not provide the optimal solution for reducing delays on this particular west-east route. However the implementation of SCOOT / MOVA adaptive signal control, rather than fixed timings, has been shown to provide benefits by way of delay reductions in the order of 12%-27% at signalised junctions. It is likely therefore that such improvements could be achieved at many junctions within the Borough.

3.1.28 The resultant overall journey time from Nine Mile Ride / Lower Wokingham Road to the Baldocks junction is 3% lower in the 2026 Final Forecast than the Reference Case. However significant further reductions in delays at the signalised junctions along this route are achievable through the use of SCOOT / MOVA signal control.

## 4 PM PEAK ASSESSMENT

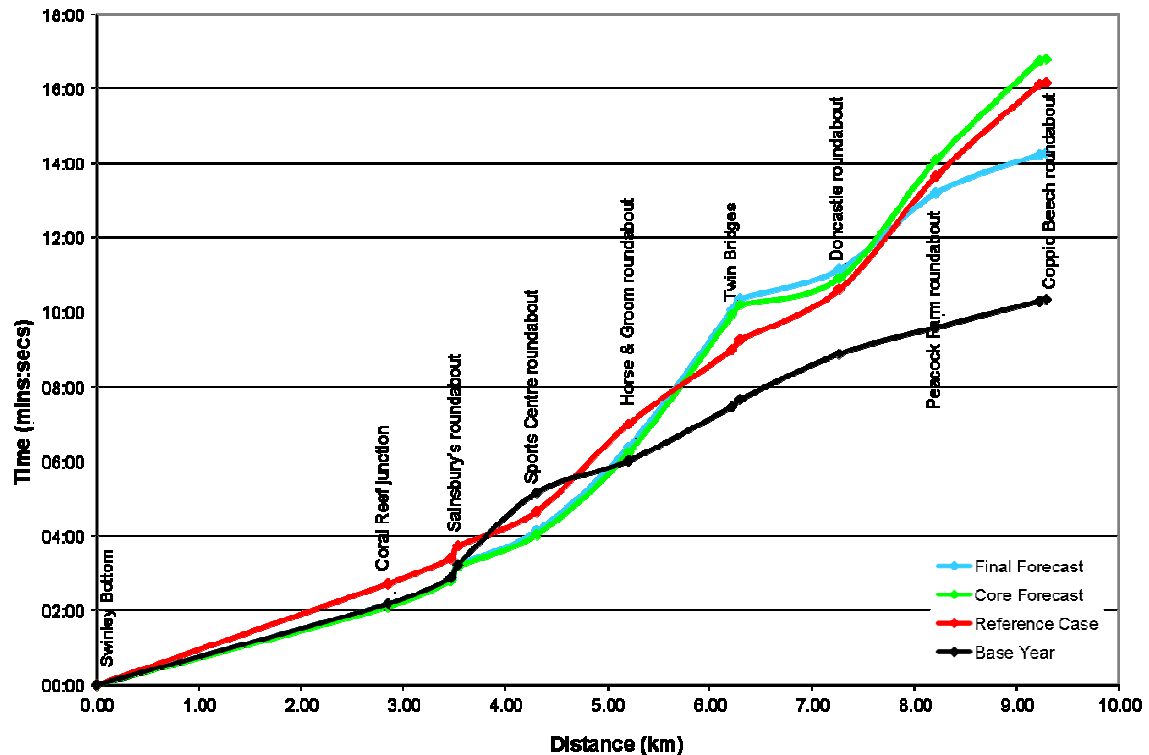
Figure 4.1: PM Peak Journey Time - Route 1- Southbound



4.1.1 Route 1 southbound shows a reduction in delay at Doncastle roundabout in 2026 in the PM peak, compared to the 2007 Base Year, as a result of signalisation at this junction (not apparent in the Reference Case). There is an increase in delay at the Twin Bridges gyratory in all 2026 forecast scenarios, arising from a significant increase in traffic demand through this junction. Whilst the mitigation measures serve to improve the operation of the junction as a whole, the increase in traffic demand creates additional delay.

4.1.2 Comparing the 2026 Reference Case with the Final Forecast scenario, an increase in delay is shown at the Sports Centre and Sainsbury's roundabouts, again due to increased traffic flows on this route. The resultant overall journey time from Coppid Beech to Swinley Bottom however is 10% lower in the Final Forecast than in the Reference Case. As reported in the AM peak assessment, there are likely to be benefits in terms of delay reduction, in implementing SCOOT or MOVA control at several of the signalised junctions along this key corridor – particularly Twin Bridges, Horse & Groom and Coral Reef.

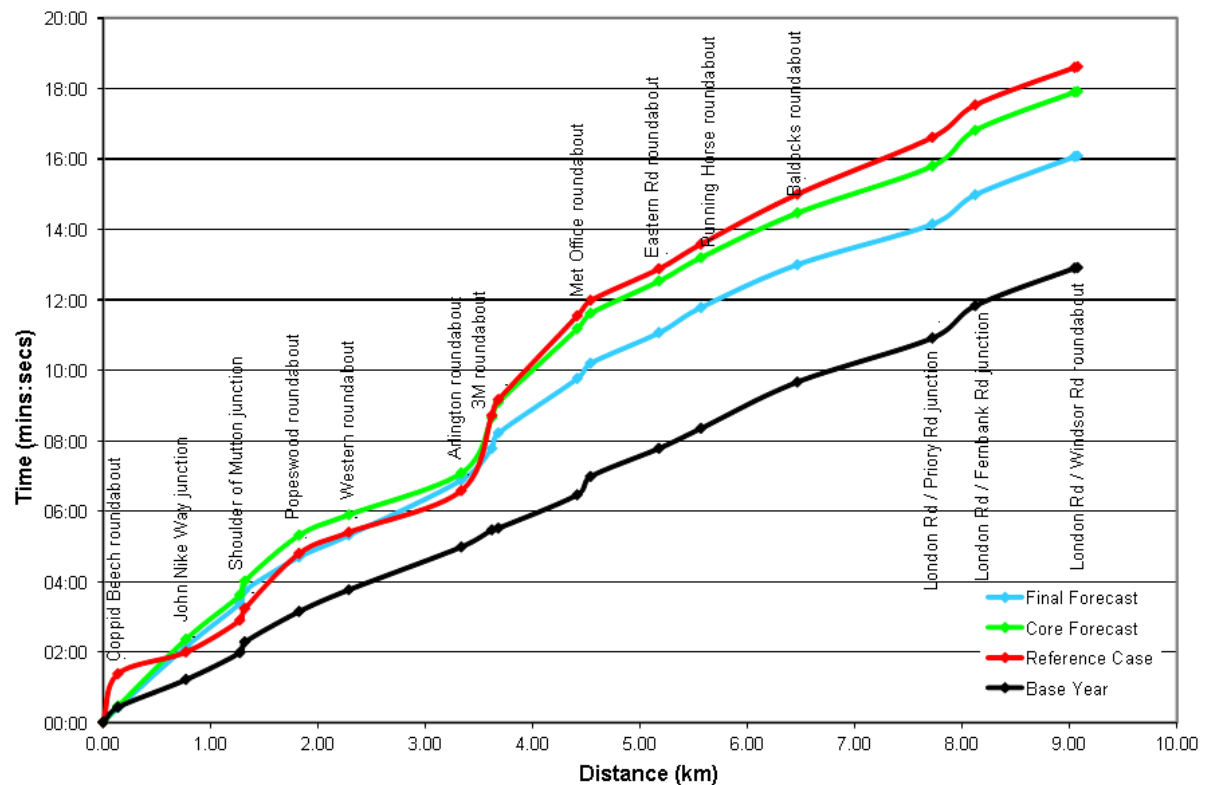
Figure 4.2: PM Peak Journey Time - Route 1- Northbound



4.1.3 There is an increase in delay on the northbound A322 at the Twin Bridges gyratory in 2026, resulting from a significant increase in traffic demand in the Core and Final Forecasts. However there is a substantial improvement at the downstream Doncastle roundabout following signalisation of this junction. There is a further reduction in delay at the A329 Berkshire Way / Peacock Farm and Coppid Beech roundabouts in the Final Forecast, with signalisation improvements.

4.1.4 The overall resultant journey time from Swinley Bottom to Coppid Beech is 12% lower in the 2026 Final Forecast than in the Reference Case. As in the southbound direction, additional gains may be achieved through the use of SCOOT / MOVA at signalised junctions along this corridor, yielding further reductions in journey time.

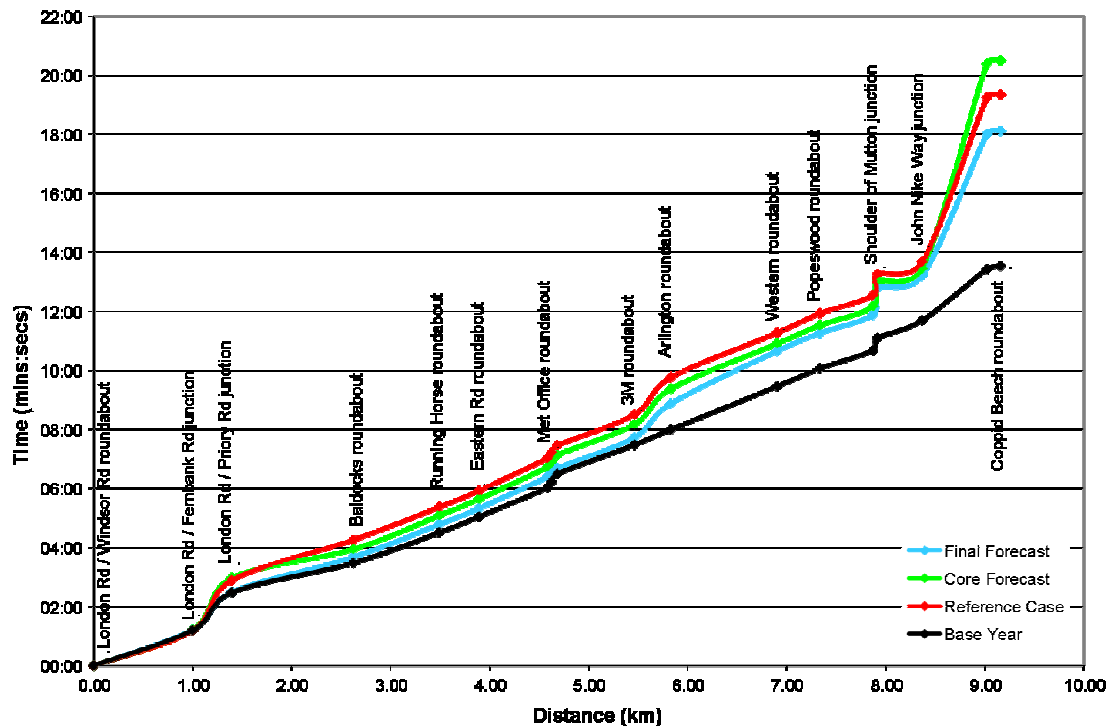
**Figure 4.3: PM Peak Journey Time - Route 2 – Eastbound**



4.1.5 Similar to the AM peak, there is an increase in delay between Coppid Beech and London Road / John Nike Way in the 2026 PM peak scenarios, caused by the additional signalised junction with the Amen Corner spine road. This is not present in the Reference Case, however a greater delay occurs at Coppid Beech roundabout itself in this scenario.

4.1.6 There is a reduced delay at the 3M roundabout in the Final Forecast scenario, resulting from lower traffic demand. Overall therefore, the journey time from Coppid Beech to London Road / Windsor Road is 14% lower compared to the Reference Case.

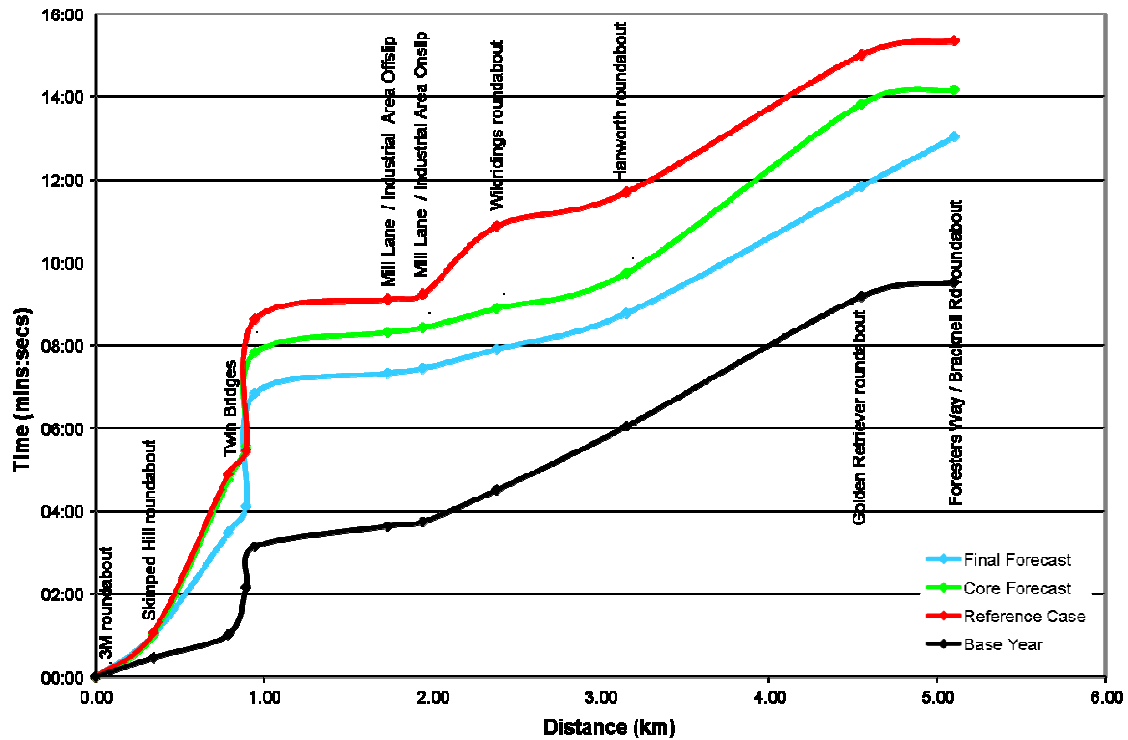
Figure 4.4: PM Peak Journey Time - Route 2 – Westbound



4.1.7 As in the AM peak assessment, route 2 westbound shows little change in journey time between 2007 and 2026 from London Road / Windsor Road up to the 3M roundabout, although there is an increase in delay at London Road / Priory Road. After this point there are gradual increases in delay above the 2007 Base year, particularly approaching Arlington roundabout, Western roundabout and Coppid Beech.

4.1.8 There is a reduction in delay in the 2026 Final Forecast scenario at Coppid Beech following improvements at this junction. The overall journey time from London Road / Windsor Road to Coppid Beech roundabout is 6% lower in the 2026 Final Forecast than the Reference Case.

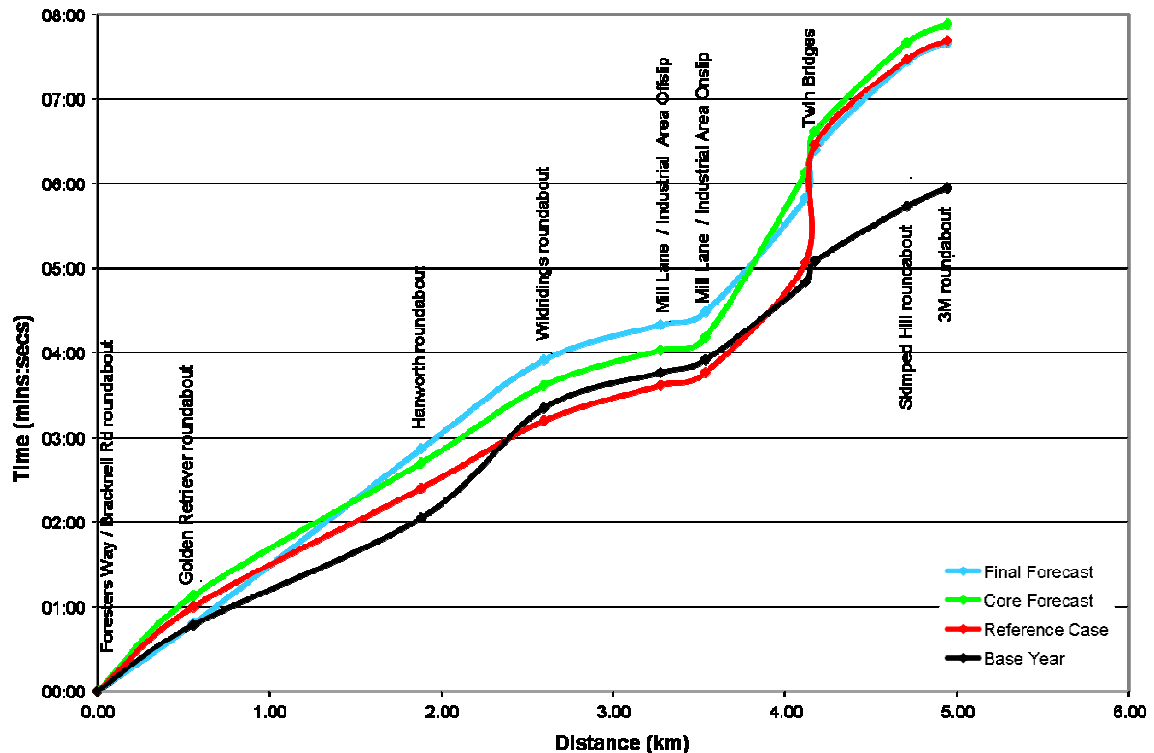
Figure 4.5: PM Peak Journey Time - Route 3 – Southbound



4.1.9 In the PM peak there is an increase in journey time at the Twin Bridges gyratory in 2026 due to a rise in traffic demand on the conflicting A322 route through the junction. An increase in delay occurs travelling across the Golden Retriever roundabout in the Final Forecast scenario, compared to the Reference Case following signalisation of this junction. Significant reductions are achieved however at the Wildridings roundabout, as well as Twin Bridges in the 2026 Final Forecast.

4.1.10 The resultant overall journey time, from the 3M roundabout to the Foresters Way / Bracknell Road roundabout is 15% lower in the Final Forecast scenario than in the Reference Case. However, as in the AM peak assessment there are likely to be delay reduction benefits in implementing SCOOT or MOVA control at signalised junctions along this corridor, particularly Twin Bridges and Golden Retriever.

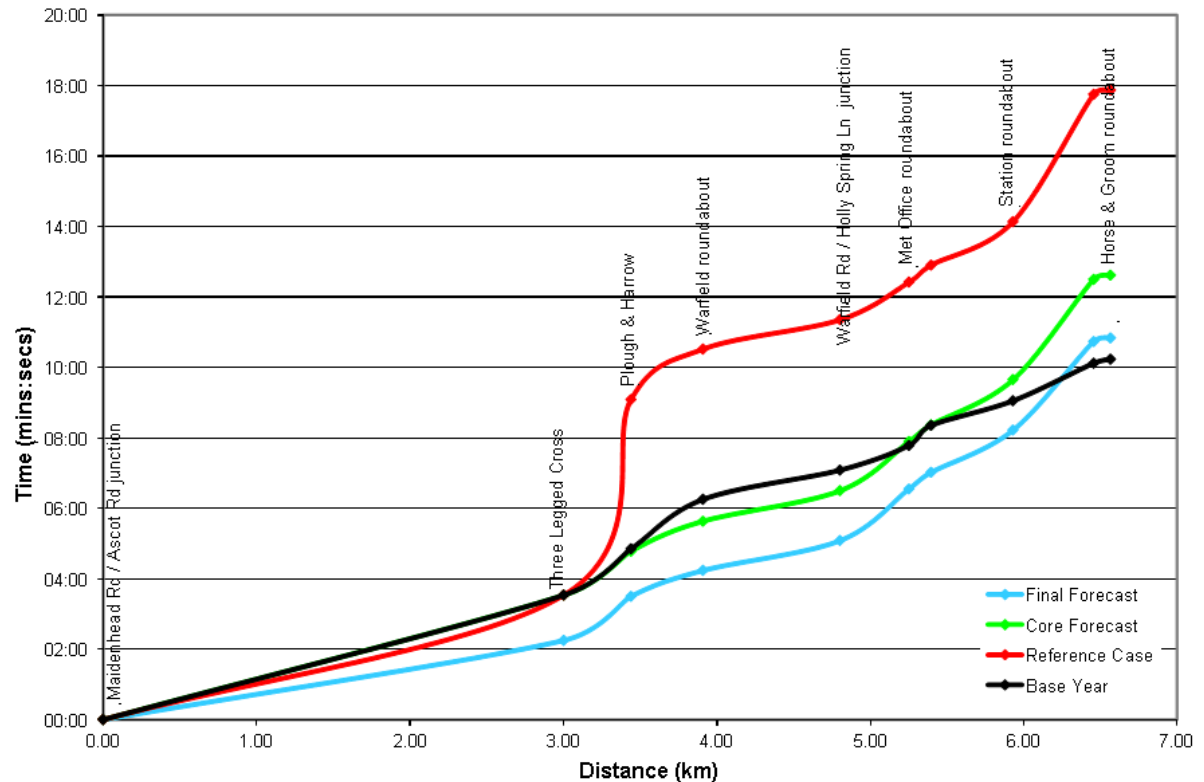
Figure 4.6: PM Peak Journey Time - Route 3 – Northbound



4.1.11 In the PM peak, route 3 northbound shows an increase in delay travelling across the Golden Retriever roundabout in the 2026 Final Forecast compared to the Reference Case, however an improvement is shown at Twin Bridges gyratory.

4.1.12 The resultant overall journey time, from the Foresters Way / Bracknell Road roundabout to the 3M roundabout is virtually unchanged in the 2026 Final Forecast compared to the Reference Case. As with the northbound direction however, the use of SCOOT or MOVA is likely to enhance the efficiency of signalised junctions along this corridor, reducing delays and providing further improvements to journey time reliability.

**Figure 4.7: PM Peak Journey Time - Route 4 – Southbound**

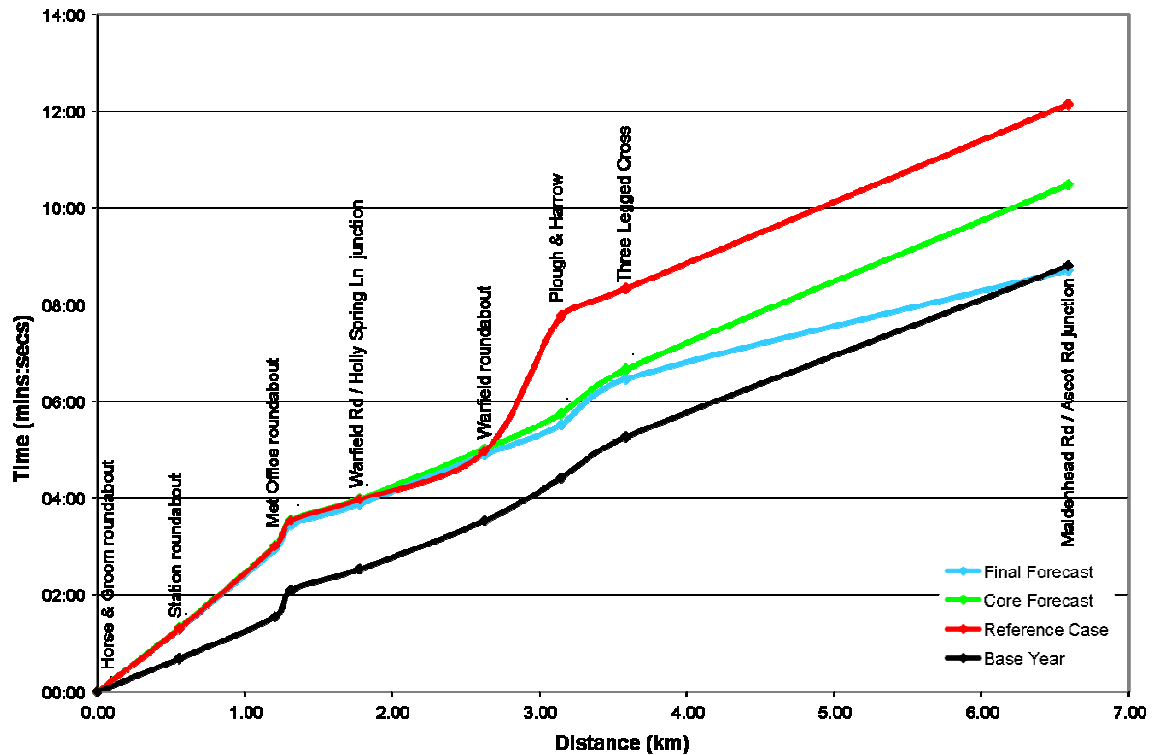


4.1.13 Similar to the AM peak, there is a substantial reduction in delay at the Three Legged Cross and Plough & Harrow junctions in the 2026 Final Forecast, compared to the Reference Case. This is due to traffic diverting onto the adjacent north-south link road through Warfield. Delays are however increased slightly at the Met Office roundabout due to a rise in traffic demand, though overall journey time is still considerably better in the 2026 Final Forecast compared to the Reference Case.

4.1.14 The overall journey time from Maidenhead Road / Ascot Road to the Horse & Groom roundabout is 39% lower in the 2026 Final Forecast than in the Reference Case.



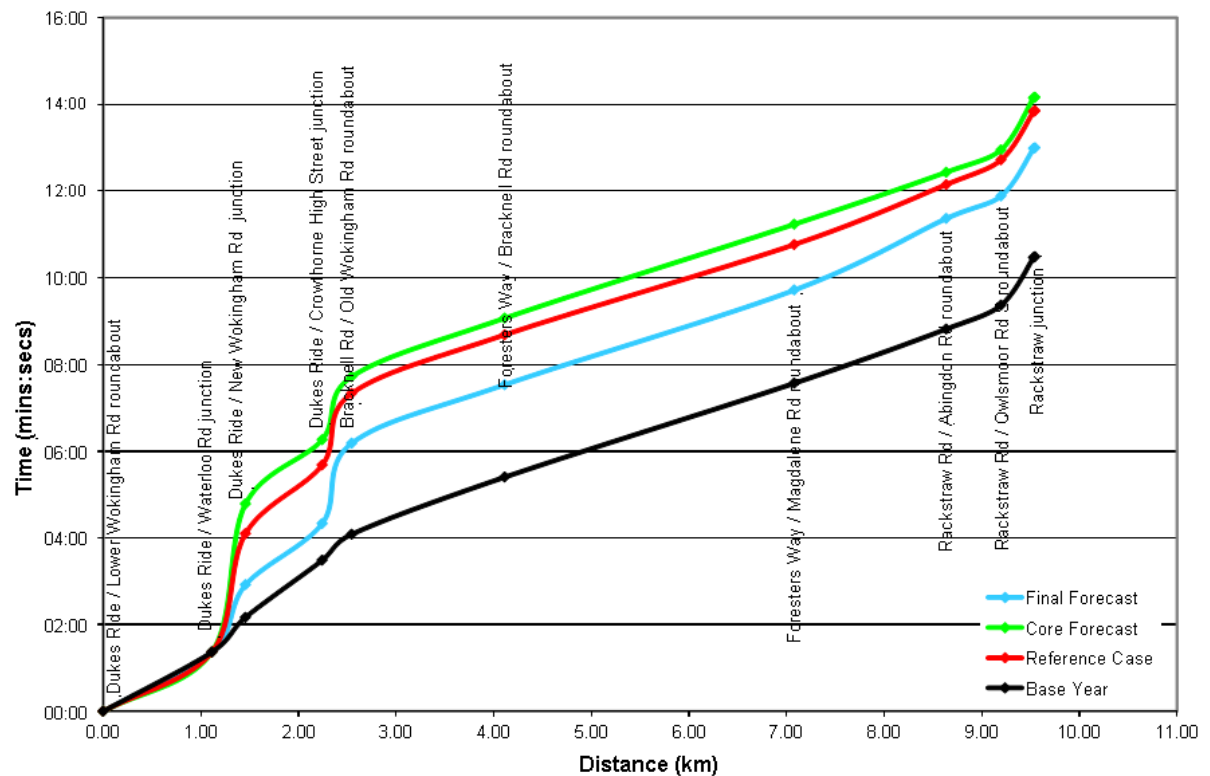
Figure 4.8: PM Peak Journey Time - Route 4 – Northbound



4.1.15 As in the AM peak assessment route 4 northbound shows a significant reduction in delay at the Plough & Harrow junction as a result of traffic diverting onto the adjacent Link Road.

4.1.16 The overall journey time from the Horse & Groom roundabout to Maidenhead Road / Ascot Road is consequently 28% lower in the 2026 Final Forecast than in the Reference Case.

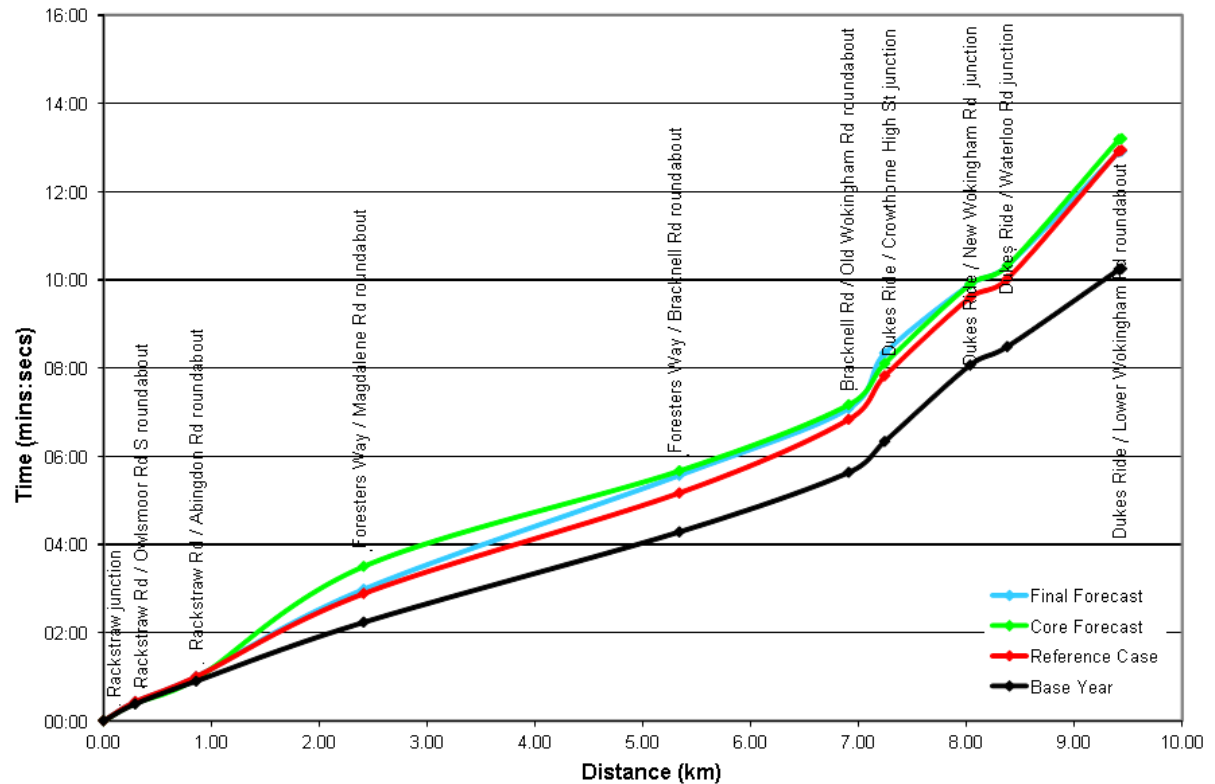
**Figure 4.9: PM Peak Journey Time - Route 5 – Clockwise**



4.1.17 In the PM peak reductions in delay are shown on route 5 clockwise at Dukes Ride / New Wokingham Road, due to re-optimisation of signal timings.

4.1.18 The overall journey time from Dukes Ride / Lower Wokingham Road to the Rackstraw Junction is consequently 6% lower in the 2026 Final Forecast than in the Reference Case.

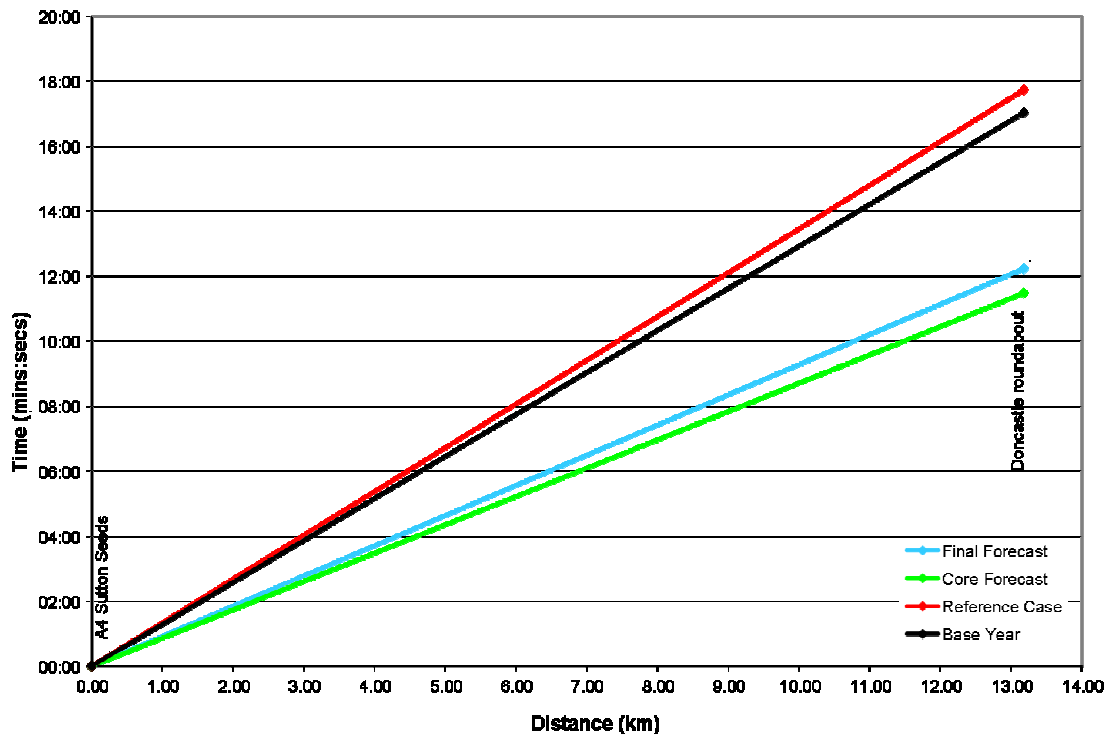
**Figure 4.10: PM Peak Journey Time - Route 5 –Anti-Clockwise**



4.1.19 In the anti-clockwise direction, a slight increase in journey time is shown along Rackstraw Road / Foresters Way as a result of a slight increase in traffic demand on this route and signalisation of the junction with Owlsmoor Road. There are however reductions in delay at the Bracknell Road / Old Wokingham Road and Dukes Ride / Lower Wokingham Road junctions.

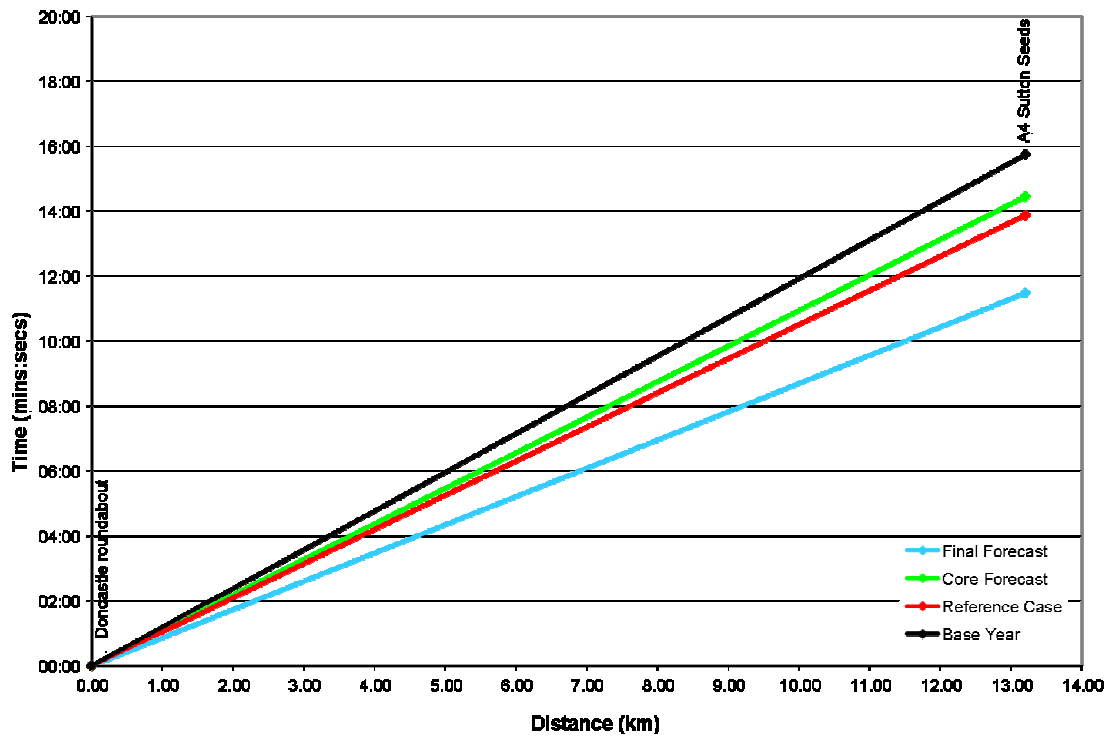
4.1.20 The overall journey time from the Rackstraw Junction to Dukes Ride / Lower Wokingham Road is virtually unchanged in the 2026 Final Forecast the Reference Case.

Figure 4.11: PM Peak Journey Time - Route 6 – Southbound



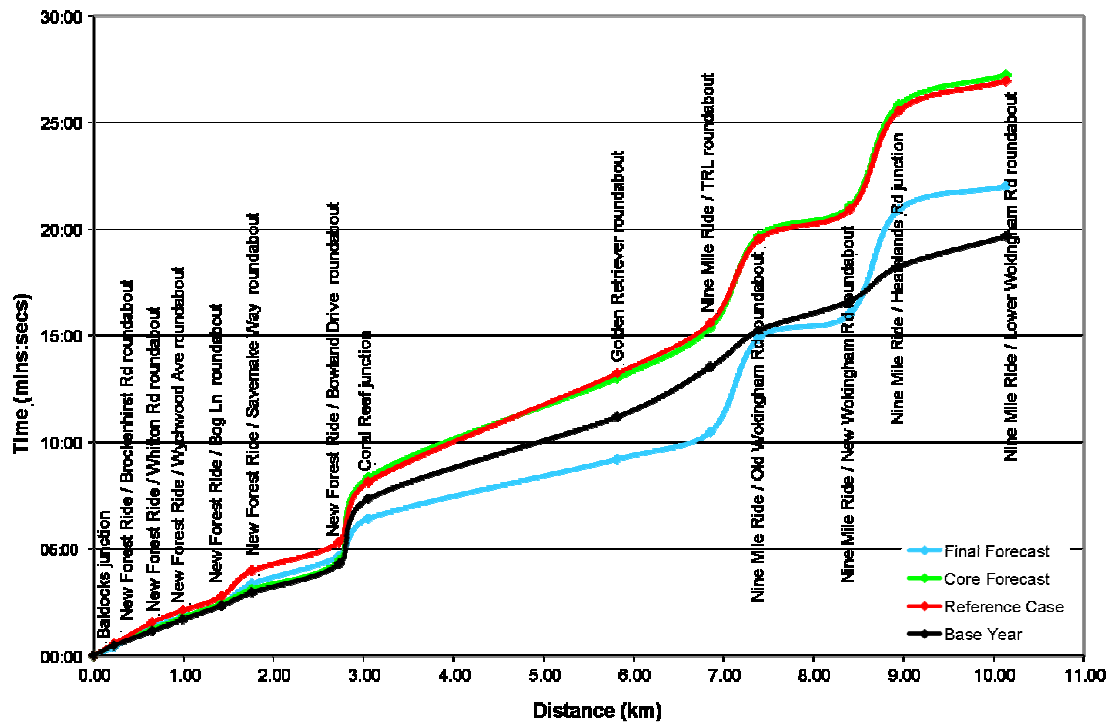
4.1.21 Route 6 southbound shows a 31% improvement in journey time between the A4 at Sutton Seeds and the Doncastle roundabout in the 2026 Final Forecast PM peak, compared to the Reference Case. This is a result of the signalisation of Doncastle roundabout.

Figure 4.12: PM Peak Journey Time - Route 6 – Northbound



4.1.22 Route 6 northbound shows a 17% reduction between the Doncastle roundabout and the A4 at Sutton Seeds in the 2026 Final Forecast PM peak scenario, compared to the Reference Case. As in the AM peak, this is mainly due to signalisation of the eastern arm of the Peacock Farm roundabout as this significantly reduces delay at this junction.

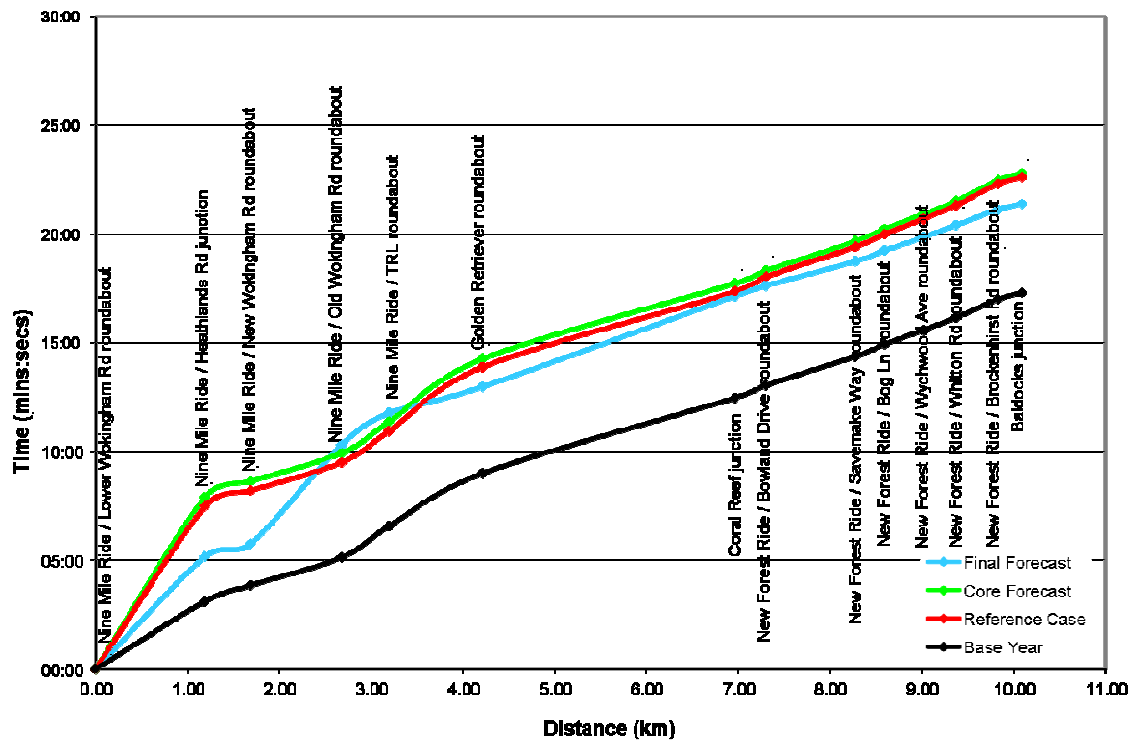
Figure 4.13: PM Peak Journey Time - Route 7 – Southbound



4.1.23 In the PM peak, route 7 southbound shows a significant reduction in delay at the Coral Reef and Golden Retriever junctions in the 2026 Final Forecast scenario, compared to the Reference Case. This follows signalisation of these junctions and also reflects reduced traffic demand on parts of this route.

4.1.24 The resultant overall journey time from the Baldocks junction to Nine Mile Ride / Lower Wokingham Road is 18% lower in the 2026 Final Forecast than in the Reference Case. As highlighted in the AM peak assessment, further reductions in journey time are achievable through the use of SCOOT / MOVA adaptive signal control at junctions such as Coral Reef and Golden Retriever.

Figure 4.14: PM Peak Journey Time - Route 7 – Northbound



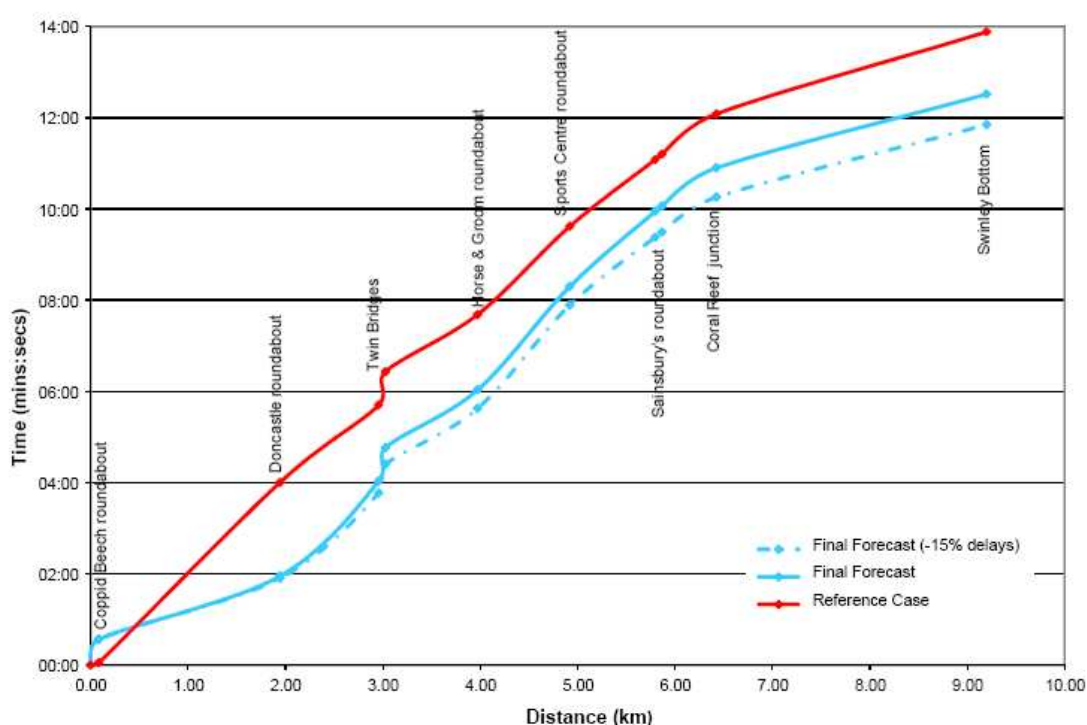
4.1.25 As in the AM peak, route 7 northbound shows a reduction in delay at the Nine Mile Ride / Heathlands Road junction in the 2026 Final Forecast PM peak compared to the Reference Case. This follows the re-optimisation of the signal timings. An improvement is also shown at the Golden Retriever roundabout in the PM peak.

4.1.26 The resultant overall journey time from Nine Mile Ride / Lower Wokingham Road to the Baldocks junction is 5% lower in the 2026 Final Forecast than in the Reference Case. Further improvements in journey time are achievable through the use of SCOOT / MOVA adaptive signal control.

## 5 TEST EXAMPLE – 15% REDUCTION IN DELAYS AT SIGNALISED JUNCTIONS

5.1.1 **Figure 5.1** demonstrates the potential journey time savings in the PM peak on route 1 southbound, between Coppid Beech and Swinley Bottom, if SCOOT or MOVA control were implemented at the signalised junctions along the route. The graph below compares the results of the 2026 Reference Case and Final Forecast modelled scenarios, with the potential Final Forecast scenario result if delays at the signalised junctions along the route were reduced by 15%, as a proxy representation of the benefits of such a scheme.

**Figure 5.1: PM Peak Journey Time - Route 1 - Southbound**



5.1.2 Small but significant benefits are shown at each of the signalised junctions, resulting in a cumulative reduction of around 40 seconds on the entire route. This brings the overall journey time down to 12m 31s, even further below the 2026 Reference Case.

5.1.3 This test case demonstrates the potential improvements that can be achieved in terms of journey times on key routes through the use of adaptive signal control rather than fixed timings.



## 6 SUMMARY

- 6.1.1 The analysis of journey times on key routes across Bracknell Forest in 2026 demonstrates an overall improvement in the AM peak and PM peak, with the developments and initial mitigation measures (Final Forecast scenario) compared to the Reference Case. There is an average reduction in journey time, across the fourteen assessed routes, of 19% in the AM peak and 14% in the PM peak.
- 6.1.2 All of the key routes assessed demonstrate an overall reduction in journey time in both AM and PM peaks. Although there are likely to be increases in delay at particular junctions, gains are achieved at others and thus improvements are shown overall.
- 6.1.3 It should also be noted that, where there is delay shown at signalised junctions, for example at Twin Bridges gyratory, this is likely to be mitigated on site by the implementation of adaptive signal control such as SCOOT or MOVA. These intelligent traffic signal systems are currently delivering proven benefits across many junctions in the UK and can potentially improve the efficiency of junction operation in Bracknell Forest, over and above the modelled results which are based on fixed signal operation. They work by continuously monitoring traffic demand and queue build-up and optimising green times accordingly, thus enhancing the efficiency of the junction by balancing traffic demand and queues, increasing traffic throughput and reducing delays. This will apply to many junctions, in particular Twin Bridges, Golden Retriever and Coral Reef. An improvement in delays of around 12% - 27% (over good fixed time plans) could be achieved which would reduce journey times across the Borough further (TAL 4/95).
- 6.1.4 Furthermore, the modelled scenarios represent a 'worst-case' situation for 2026, as traffic demand levels are generated by the demand model which uses National (NTS) trip rates. The trip rates generated for development sites therefore do not account for any impact from Smarter Choices or Travel Plans, or indeed the improved bus services planned for the north of the Town Centre. Such improvements are likely to reduce the number of car trips generated by the proposed developments, yielding further improvements to journey times and reducing delays on the highway network. It should be noted that traffic volumes on the highway network across the Borough and beyond are predicted to be substantially higher in 2026 than in 2007, even before any proposed development is incorporated. Journey times will therefore inevitably increase.

- 6.1.5 Finally, where some journeys incur slight increases at a particular junction compared to those approaching from a different direction, this is not necessarily a disbenefit to the highway network. There will be a compromise in these cases in terms of where delays are more acceptable, and overall the addition of signals enables control over queue build-up and traffic throughput, thus ensuring delays are minimised on the key routes. The use of MOVA or SCOOT is also likely to improve the operation of junctions further.