

Coral Reef Signalised Junction

Five Year Evaluation Report



1.0 Introduction

1.1 Background

1.1.1 The Coral Reef junction is located on the busy A322 / A329 corridor. This route provides a key strategic link between the M3 and M4 motorways, and runs through the centre of Bracknell, linking Surrey and Hampshire in the South, to Berkshire and Oxfordshire in the North.

1.1.2 This report builds on the analysis undertaken in 2017 that informed the 12-month evaluation report and discusses the performance of the junction five years post-implementation.

1.1.3 Section 2 of this report summarises the findings of the 12-month evaluation report, whilst section 3 outlines the five-year findings at the junction.

1.1.4 It is noted that the journey times recorded below encompass improvements along the length of the corridor. The improvements along the corridor were as follows.

- Jennett's Park Roundabout
- Twin Bridges Roundabout
- Downshire Way dualling
- Horse and Groom Roundabout
- Sports Centre Roundabout
- Birch Hill Roundabout
- Coral Reef Roundabout

1.1.5 Note that this report had been delayed by the residual impacts of COVID on travel demand during 2021 and 2022.

2.0 12 Month Evaluation Report Summary

2.1 Introduction

2.1.1 This section summarises the findings of the 12-month evaluation report published in 2016.

2.2 Analysis of Journey Times

2.2.1 Journey times were recorded along the A329 / A322 corridor in 2013 during the AM and PM peak periods (0700 – 1000 and 1600 – 1900) as part of the Bracknell Multi Modal Transport Model refresh that year. These were then repeated in June 2016 as part of the post implementation assessment of this junction.

2.2.2 Tables 2.1 and 2.2 summarise the journey times recorded in the listed time periods for both the AM and PM peaks. They also show the percentage improvements between 2013 and the one year post-implementation survey undertaken in 2016.

Table 2.1 – AM peak Journey Time Comparison

AM Peak	Northbound	Southbound
2013	00:14:29	00:15:52
2016 June	00:13:48	00:12:15
change from 2013	-4.7%	-22.8%

2.2.3 Table 2.1 shows the improvements resulted in a significant improvement in journey times in both the northbound and southbound directions during the AM peak period. This was particularly noticeable in the southbound direction, resulting in an improvement of almost 23%.

Table 2.2 – PM peak Journey Time Comparison

PM Peak	Northbound	Southbound
2013	00:14:27	00:15:46
2016 June	00:13:53	00:14:20
change from 2013	-3.9%	-9.1%

2.2.4 Again, the journey times recorded post-implementation demonstrate how these were reduced by the improvements to the corridor in both the northbound and southbound directions.

2.3 Analysis of Traffic Flows

- 2.3.1 Analysis of the A329 / A322 corridor was undertaken, specifically looking at Automatic Traffic Count (ATC) site 180 which is situated just to the south of the Coral Reef junction. This showed that between 2013 and 2017 there was a 5.1% decline in Annual Average Daily Traffic (AADT) over the time period.
- 2.3.2 Counts undertaken at the Coral Reef junction during the peak periods also indicated that the overall junction was carrying similar levels of traffic, but with significant improvements on the Nine Mile Ride and New Forest Ride arms in terms of queuing and delay.

3.0 Five Year Evaluation

3.1 Introduction

3.1.1 This section details the five-year evaluation of the Coral Reef junction Improvements.

3.2 Analysis of Journey Times

3.2.1 This junction was the location for the first in a series of improvements along the A322 / A329 corridor, so metrics such as journey times now encompass the completed programme of improvements across the corridor.

Table 3.1 – AM peak Journey Time Comparison

AM Peak	Northbound	Southbound
2016	00:13:48	00:12:15
2023 April	00:13:33	00:11:18
change from 2016	-1.81%	-7.69%

Table 3.2 – PM peak Journey Time Comparison

PM Peak	Northbound	Southbound
2016	00:13:53	00:14:20
2023 April	00:13:02	00:09:49
change from 2016	-6.12%	-31.45%

3.2.2 It is noted that the average journey times across the corridor as a whole show a significant improvement because of the modifications, particularly those at the Coral Reef junction.

3.3 Analysis of Traffic Flows

3.3.1 ATC site 180 was again interrogated to identify the level of traffic travelling in the vicinity of the Coral Reef junction as noted in section 2.3

3.3.2 Data from the 12-month evaluation report in 2017 were compared to figures retrieved in 2023 to understand how flow levels currently associated with the corridor have changed.

Table 3.1 – AM peak Traffic Flow Comparison

	AM Peak	PM Peak	AADF
2017	10286	11071	47156
2023	9937	9201	45985
change from 2017	-349	-1870	-1171

3.3.3 It is noted that whilst the traffic flows are marginally lower in 2023, they are not low enough to explain the significant improvements in journey time along the corridor.

3.4 Observations

3.4.1 Since the upgrade to the junction, it has operated efficiently, providing resilience to the network. The improvements allowed all movements at the junction to proceed equally with minimal queuing and delay. In contrast, the previous junction form naturally generated queueing on the minor arms of the roundabout due to the dominant north / south and south / north movements along the A322.

3.4.2 The upgrade of the junction allowed route flexibility to be provided, particularly when improvements were being made to an adjacent corridor that required diversions through this junction. It would not have been possible with the junction in its previous form.

4.0 Summary

- 4.1.1 This analysis has shown that despite similar levels of traffic throughput, the junction now performs more efficiently in terms of queuing and delay on the side arms of the junction.
- 4.1.2 Journey times on the corridor have continued to improve because of the modifications to the junctions.
- 4.1.3 It has been observed that the improvements have added resilience to the network, particularly when diversions are required due to works being undertaken on adjacent corridors.