Bracknell Forest Council

A322 / A329 Corridor Improvements

Birch Hill Junction Upgrade

12-Month Evaluation Report

1. Introduction

1.1 This document presents the 12-month evaluation of the improvements to the Birch Hill junction on the A329/A322 corridor.

1.2 This scheme improves a key junction on the A329/A322 corridor which provides a major strategic link between the M3 and the M4. The intersection at Birch Hill was the last major junction along the corridor within Bracknell that required refurbishment and improvement.

1.3 Bringing these much-needed upgrades to the junction provided greater reliability and resilience by using the latest available technology, known as PLUS+ (Plus Plus). This reduced the required number of new duct-runs and therefore minimised the civils cost element of the project.

1.4 This technology reduces the large number of cables that are normally associated with signal installations and is being adopted by other local authorities. This reflects this civils cost saving as well as a simplified damage repair process following road traffic collisions, as the time vs road-space requirements upon works are reduced accordingly. This is a significant consideration on major high-speed junctions, where lane closures for works can impact heavily on the surrounding traffic network.

1.5 Plus+ has been designed with dedicated failsafe signal heads as well as new smart loop modules to ensure that the overall system is tolerant of individual component and cable damage. This results in higher intersection availability and most significantly, reduced disruption to road users.

1.6 As per the requirements of the Berkshire Local Transport Board, this report assesses the cost and delivery of the project.

2. Scheme Build

2.1 The project was programmed to be undertaken over the course of a three-and-a-half-month period between 8th December 2021 and 22nd March 2022

2.2 Commencing in December 2021, vegetation clearance was undertaken on the western side of the roundabout linked to the installation of the new controller box.

2.3 After a short break at the end of December due to the construction contractors closing over the Christmas period, the works recommenced in January 2022 with the installation

of temporary traffic signals to allow the junction to continue operating for the duration of the upgrade.

2.4 Following the introduction of the temporary signals, the phased installation of the cable ducts and the construction of the cable join chambers were undertaken during January and February, starting with the junction approaches before progressing to the islands, the central area and finishing on the central reservation.

2.5 The installation of permanent traffic signals completed the junction upgrade with their final commissioning taking place on 24th March 2022. The delay to the original programme was only two days.

3. Scheme Costs

3.1 The project commenced in 2021 with an estimated cost based on a contribution of £450,000 of LGF funding, and a local contribution from Bracknell Forest Council of £50,000.

3.2 Upon completion, the project came in just over £454,000, with the small overspend covered by BFC.

3.3 During the construction of the improvements, several ducts were found to be blocked, with the subsequent clearance of the blockages resulting in the minor overspend.

4. Summary

4.1 The improvements to the Birch Hill Roundabout was the final upgrade in the corridor improvements to the A322 / A329 corridor.

4.2 Programmed initially for a period of three and a half months, the project was undertaken to programme with an extension of only 2 days for the commissioning of the signals.

4.3 The improvements came in marginally over budget by approximately £4,000, with the additional cost covered by BFC.

4.4 The upgraded signal infrastructure has been proven to operate well under MOVA and has provided resilience for any fault or collision occurring.

4.5 This resilience has provided improved safety through the lights continuing to operate in the event of an incident.