national highways

A453 Widening (M1 junction 24 to A52)

Five-year post-opening project evaluation

This document has been prepared by National Highways with assistance from its consultants (where employed). The document and its accompanying data remain the property of National Highways.

While all reasonable care has been taken in the preparation of this document, it cannot be guaranteed that it is free of every potential error. In the absence of formal contractual agreement to the contrary, neither National Highways nor its consultants (where employed), shall be liable for losses, damages, costs, or expenses arising from or in any way connected with your use of this document and accompanying data.

The methodology used to generate the data in this document should only be considered in the context of this publication. This methodology, and its subsequent outputs may differ from methodologies used in different analyses at different points in time. This is due to continuous improvements of data mapping, capture, and quality. As these factors evolve over time any comparison with earlier data or data from other sources, should be interpreted with caution.

Foreword

National Highways is the government-owned company that operates, maintains, and improves England's motorways and major A roads. Our roads help our customers get to their destination safely – and in the time they expect to. Road safety is, and will always be, our number one priority. We are committed to reducing the number of people killed or seriously injured on our roads.

As Chief Customer and Strategy Officer, I want to know that developments on our network are meeting their objectives and are putting the needs of drivers first. Post Opening Project Evaluations (POPEs) are a vital part of that assessment. POPEs are undertaken for all our major projects to understand how traffic changes, due to a project being in place, the environmental and safety impacts and how a project supports the economy.

We work to a five-year funding cycle, a radical new approach to road investment first introduced in 2015 which saw the government committing £15.2 billion in the period from 2015 to 2021. The A453 widening project was officially opened during this period, in July 2015.

This report gives an initial indication of the project's performance in the fifth year of its operation. The project involved the widening of a seven-mile section of the A453 from the M1 junction 24 to the A52 in Nottingham. The original single lane section suffered from a poor safety record and congestion.

The additional lane including the extra capacity it provided was designed to tackle the congestion that existed and to improve safety and journey time reliability. In the first five years of the project being operational, there had been a reduction in the number of personal injury collisions on both the project extent and the surrounding network.

We expect that the extra lane, grade separated junctions and speed limit increase to 70mph will have had a beneficial impact on customer's journey times. However, data limitations meant we were unable to quantify the improvements.

An additional benefit of the extra capacity is that the A453 now provides a viable diversion route in the event of accidents on the M1 between J24 and 25. This has improved the resilience of our network in this area.

Measures were implemented to help manage the environmental impacts of the project including new landscape planting, wildlife habitats and drainage features.

Elliot Shaw

Chief Customer and Strategy Officer

March 2025

Table of contents

1. Executive summary

The A453 Widening project opened in July 2015. It comprised the widening from one to two lanes of a seven-mile (11.5km) section of the route between the M1 junction 24 and the A52 in Nottingham. The additional lane including the extra capacity it provided was designed to tackle the congestion that existed and to improve safety and journey time reliability.

This five years after evaluation was originally programmed for 2020 but its timing was revised to avoid the effects Covid had on traffic patterns. Our traffic analysis intended to use traffic data for 2019 but unfortunately, data quality and availability meant that we did not have confidence in it[1]. This meant that quantitative traffic analysis was not possible and so we were unable to evaluate traffic flows, journeys times or journey time reliability along the route. This also meant that we were unable to complete those aspects of our evaluation reliant on that data.

This project added substantial extra capacity, and the route is now able to accommodate more traffic. Although we cannot quantify it, we expect that the extra lane, grade separated junctions and speed limit increase to 70mph will have had a beneficial impact on customer's journey times. We also consider that the extra capacity that the project provided, enables the A453 to act as a viable diversion route in the event of accidents on the M1 between J24 and 25. This has improved the resilience of our network in this area.

Our analysis for the project extent suggest that the safety objective had been met. The number of personal injury collisions, severity of collisions and FWI[2] had all reduced since the opening of the project.

Our evaluation found that at five years after, landscape and the water environment impacts had occurred broadly as expected and the proposed mitigation had been provided. Maintenance issues were identified but provided these are addressed the long-term outcomes should be met. For Heritage of historic resources our findings were consistent with those reported at one year after. Impacts for historic buildings and landscapes were as expected but construction activities adjacent to Glebe Farm were likely to mean impacts for buried archaeology were worse than expected.

During our site visit we found mitigation planting along the urban section of the A453 to be in poor condition. These included examples of dead and failed planting. The mitigation was intended to reduce the visual impacts of the widening on nearby residential areas and so we concluded that townscape impacts were worse than expected. Remedial measures such as new and replacement planting could remedy this issue.

Mitigation including new and replacement habitats and wildlife crossing were provided but the absence of the proposed monitoring reports means that we cannot confirm if the design was successful. Without the supporting evidence we conclude that the outcome was worse than expected. We were unable to evaluate

[1] Issues encountered included: traffic counters which had not functioned correctly; problems with how data had historically been processed and stored; changes in data suppliers; and data retention periods.

[2] The FWI weights collisions based on their severity. A fatal collision is 1, a serious collision is 0.1 and a slight collision is 0.01. So, 10 serious collisions, or 100 slight collisions are taken as being statistically equivalent to one fatality.

noise, air quality and greenhouse gas impacts as the required traffic data was not available.

Due to data limitations, we have been unable to reforecast any of the monetised benefits presented as part of the original business case. We are therefore not able to confirm whether the projects ‘high’ value for money has been achieved or not at this five-year evaluation. Our analysis did however confirm that the project had delivered beneficial impacts for both road user safety and customer journeys.

2. Introduction

What was the project and what was it designed to achieve?

The A453 links Nottingham to the M1 at junction 24 and comprises two broad sections. A rural section from the M1 east to Mill Hill and an urban section from Mill Hill through Clifton to the junction with Farnborough Road. Before the project, the route was congested particularly at peak times of the day and this was attributed to the large number of at grade junctions[3] along the route. In the urban section, delays were attributed to pedestrians and cyclists using the signal-controlled crossing points especially near Nottingham Trent University. In the more rural section, several bridleways and footpaths met and crossed the A453 and high traffic volumes meant pedestrians, cyclists and equestrians found it difficult to cross.

The project involved the widening from one to two lanes of a seven-mile (11.5km) section of the A453 to tackle the congestion that existed and to improve safety and journey time reliability.

The rural section of the project involved a combination of online and offline widening. Between the M1 and Thrumpton, the A453 was widened on the south side of the existing alignment and new grade separated junctions[4] were constructed to replace the existing at grade junctions at Parkway and West Leak. From Thrumpton to the new Mill Hill roundabout, the route of the A453 was moved to the south of the existing route, bypassing the villages of Barton in Fabis and Thrumpton. The existing route was detrunked[5] and left to provide local access. Barton lane, between the A453 and south to A52 Nottingham Road was closed to traffic to provide a public bridleway and private access. A new footpath cycleway was constructed adjacent to the A453 between Long Lane in the rural section through to Farnborough junction in the urban sections. This included a combination of new and replacement routes adjacent to the A453 along with the use of existing detrunked road.

In the urban section, between Mill Hill roundabout, which provides access to the NET[6] Park and Ride, and the Crusader roundabout, the route was widened along the northern side of the existing alignment. Improvements to the Crusader roundabout were also undertaken. Between Crusader roundabout and the Green Lane junction the route was widened along the southern side to avoid the Village Green and the junction was signalised. From Green Lane junction and the end of the project at Farnborough junction roundabout, the route was widened on the northern side. Farnborough junction was signalised, and various improvements were made to the access points to Nottingham Trent University.

The project began construction in January 2013 and was open for traffic in July 2015.

[3] A road junction where two or more roads cross each other at the same level.
[4] A road junction where two or more roads or paths cross each other at the same place but at different levels. This separation allows users to pass each other without directly impacting each other.
[5] The process by which responsibility for a road passes from National Highways to the local highways authority.
[6] Nottingham express transit system https://www.thetram.net/

Project location

The A453 widening project is in the East Midlands and links the M1 at junction 24 with the A52 in Nottingham. The project passes through rural agricultural landscapes to the west before entering urban area of Clifton and Nottingham in the east. The location of the project is shown in Figure 1

Figure 1 A453 widening M1 junction 24 to A52 Nottingham

Source: National Highways and OpenStreetMap contributors

How has the project been evaluated?

Post-opening project evaluations are carried out for major projects to validate the accuracy of expected project impacts which were agreed as part of the business case for investment. They seek to determine whether the expected project benefits are likely to be realised and are important for providing transparency and accountability for public expenditure, by assessing whether projects are on track to deliver value for money. They also provide opportunities to learn and improve future project appraisals and business cases.

A post-opening project evaluation compares changes in key impact areas[7] by observing trends on a route before a project is constructed (baseline) and tracking these after it has opened to traffic. The outturn impacts are evaluated against the expected impacts (presented in the forecasts made during the appraisal) to review the project's performance. For more details of the evaluation methods used in this study please refer to the post-opening project evaluation (POPE) methodology manual on our website.[8]

[7] Key impact areas include safety, journey reliability and environmental impacts.
[8] https://nationalhighways.co.uk/media/pq2jb142/pope-methodology-note-2024-v2.pdf

This five years after evaluation builds on the evidence originally presented in the August 2017[9] one-year post-opening project evaluation report. The five years after analysis had been programmed to start in 2020 but it was proposed that 2019 traffic data would be used to avoid the effects Covid had on journeys on the road network. Environmental analysis was unaffected and took place in the summer of 2021 as planned. As the traffic analysis progressed, data quality issues were identified which are discussed in Section 4 Customer Journeys. This meant most of the traffic analysis could not be done and some of the safety and environment analysis, which is reliant on traffic flow data, was affected too. Evaluation of value for money has also been limited as it too, is reliant on traffic analysis such as traffic flows, journey times and journey time reliability.

[9] https://www.gov.uk/government/publications/pope-of-major-schemes-a453-widening

3. Delivering against objectives

How has the project performed against objectives?

Our major projects have specific objectives which are defined early in the business case when project options are being identified. The project had 15 objectives including four key objectives, primarily related to improving customer journeys, improving safety for road users, and protecting the built and natural environment. These objectives are appraised to be realised over 60 years and the evaluation provides early indication on whether the project is on track to deliver the benefits.

Table 1 summarises the project's performance against each of the four key objectives, using evidence gathered for this study. The full list of objectives is listed in Table 5 and Table 6 in Appendix A. Our evaluation was affected by data limitations which meant that some elements of our usual evaluation methodology could not be followed. Those project objectives influenced by traffic and value for money, or which did not form part of our evaluation were not re-evaluated at five-years after. However, for completeness we reproduce the one year after project outcomes as they were reported in the one year after evaluation report.

Table 1 Objectives and Evaluation summary

Objective	Five-year evaluation
Provide maximum value for money against its whole life costs in accordance with the Department's WebTAG Guidance (BCR adjusted for non-monetised impacts should be greater than 2).	Due to data limitations, we were unable to reforecast any of the monetised benefits presented as part of the original business case. We were therefore not able to confirm whether the projects 'high' value for money had been achieved at this five-year evaluation.
Address the safety problems identified and should significantly reduce current accident levels for all road users including non-motorised users.	The results for the project extent suggest that the objective had been met. The number of personal injury collisions, severity of collisions and FWI[10] had all reduced.
Provide an additional lane in each direction to reduce traffic congestion, reduce frequency of incidents and improve journey time reliability.	Substantial extra capacity has enabled the route to accommodate more traffic and we expect that this would have improved both journey times and journey time reliability. However, data limitations prevented us from demonstrating this.
Protect the built and natural environment through mitigating the potentially adverse impact of adding additional capacity, meeting current environmental standards and taking opportunities to enhance poor environmental features where appropriate and taking into account value for money.	Measures were implemented to help manage the impacts of the project including new landscape planting, wildlife habitats and drainage features. However, it was not possible to determine the performance of all the mitigation due to the absence of the expected monitoring reports.

[10] The FWI weights Collisions based on their severity. A fatal collision is 1, a serious collision is 0.1 and a slight collision is 0.01. So, 10 serious collisions, or 100 slight collisions are taken as being statistically equivalent to one fatality.

4. Customer journeys

We have encountered severe data limitations when trying to evaluate the traffic outcomes of this project. The amount of flow data was very limited and the journey time information available was incomplete and inconclusive. Issues encountered included: traffic counters which had not functioned correctly; problems with how data had historically been processed and stored; changes in data suppliers; and data retention periods. Given the lack of confidence we can have in the available data, it has not been presented here.

This project added substantial extra capacity, and the route is now able to accommodate more traffic. We expect that the extra lane, grade separated junctions and speed limit increase to 70mph will have had a beneficial impact on customer's journey times.

An additional benefit of the extra capacity is that the A453 now provides a viable diversion route in the event of accidents on the M1 between J24 and 25. This has improved the resilience of our network in this area.

5. Safety evaluation

Summary

The safety objective for this project was to address the safety problems identified and significantly reduce current accident levels for all road users including non-motorised users. The number of accidents were analysed to identify a trend over time. The evaluation concluded that the project had met its safety objective.

In the first five years of the project being operational, there had been a reduction in the number of personal injury collisions on both the project extent and the surrounding network.

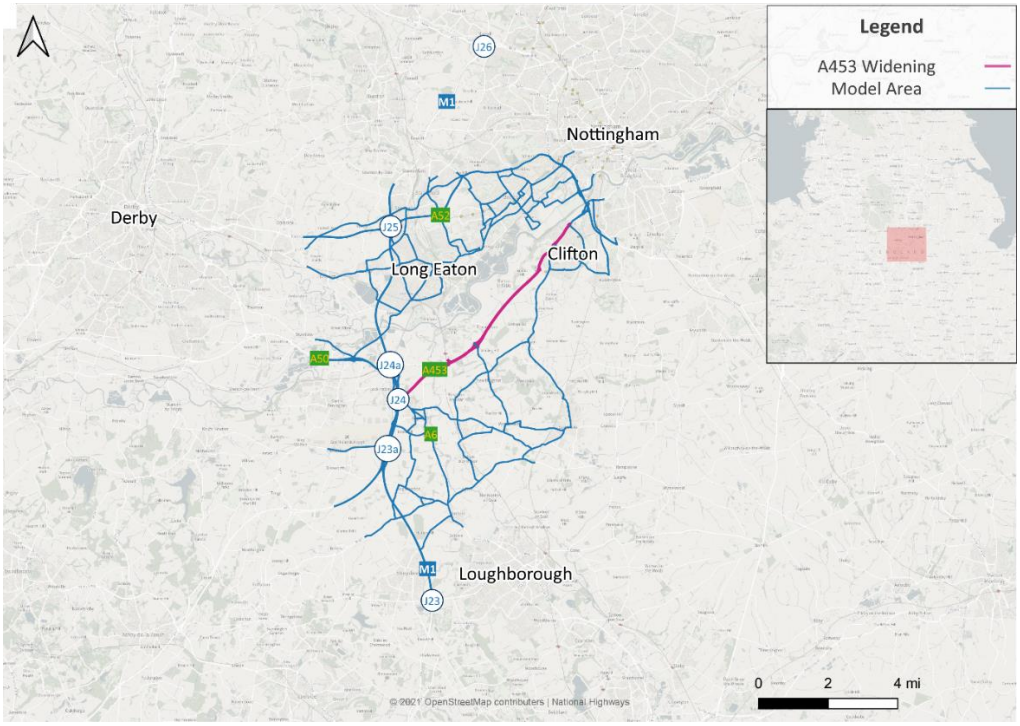
On the project extent there had been an annual average reduction of 15 personal injury collisions, which is higher than the appraised business case for the project. This is based on an annual average of 10 personal injury collisions after the project was operational compared with 25 before the project.

There was an average reduction of 167 personal injury collisions per year in the wider safety study area. (based on an annual average of 242 personal injury collisions observed after the project had opened compared with 409 before the project). If the road had not been widened, we estimate that the number of personal injury collisions would have increased to between 198 to 284.

Safety study area

The safety study area, shown in Figure 2 was defined as the project extent on the A453, and a wider area including adjacent roads on the local road network. This area has been considered to allow us to determine the impacts on safety that the project has had on both the project extent and the wider area.

Figure 2: Safety study area



Source: National Highways and OpenStreetMap contributors

Road user safety on the project extent

What impact did the project have on road user safety?

Safety data was obtained from the Department for Transport road safety data.[11] This records incidents on public roads that are reported to the police. This evaluation considers only collisions that resulted in personal injury via this dataset.

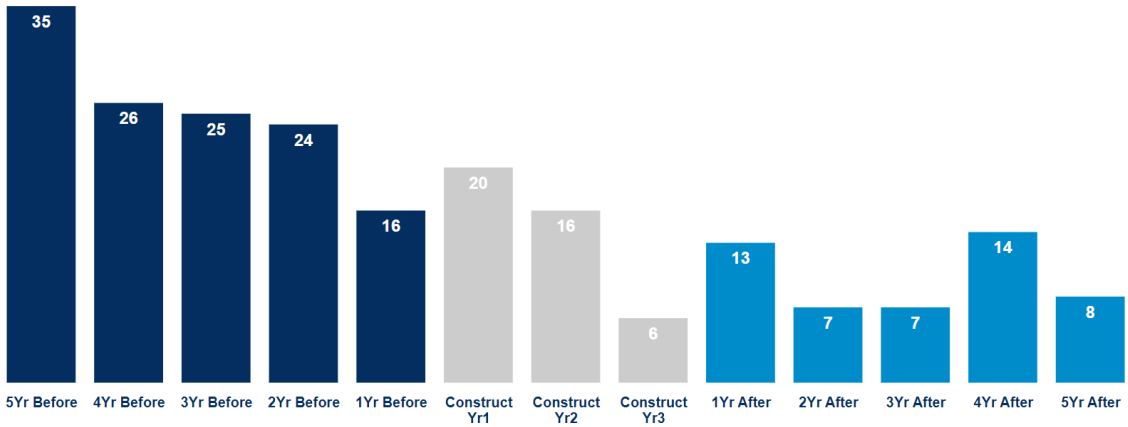
The safety analysis was undertaken to assess changes over time looking at the trends in the five years before the project was operational to provide an annual average. We have then assessed the trends five years after.

The analysis draws on the following data collection periods:

- Pre-construction: 1 January 2008 to 31 December 2012
- Construction: 1 January 2013 to 24 July 2015
- Post-opening: 25 July 2015 to 24 July 2020

The evaluation found the number of personal injury collisions on the project extent, A453 had decreased (impacts on the wider area are discussed later). Over the five years after the project was operational, there were an average of 10 personal injury collisions per year, 15 fewer than the average 25 per year over the five years before the project was constructed (Figure 3).

Figure 3 Annual personal injury collisions



Source: STATS19: 1st January 2008 to 24th July 2020

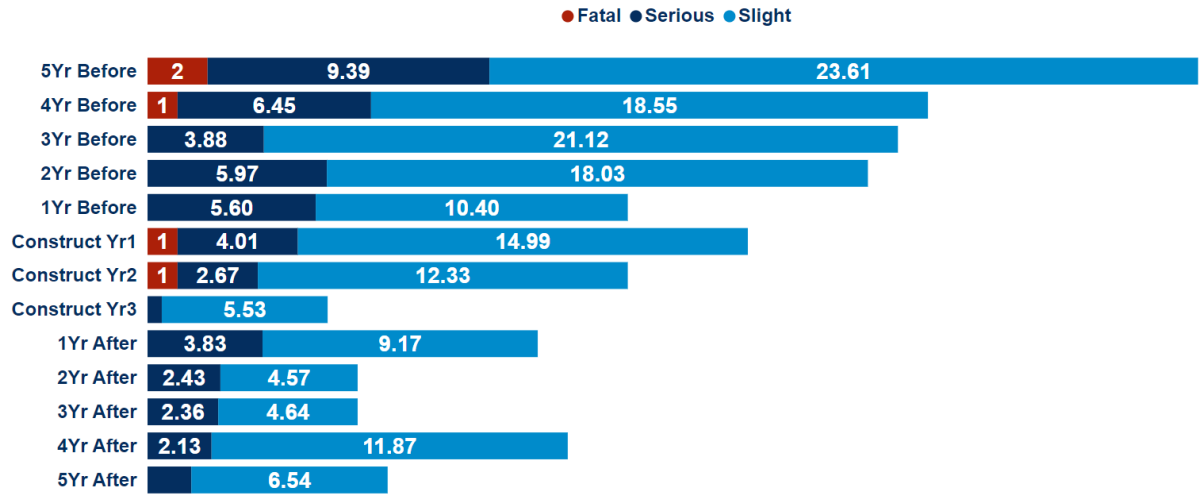
What impact did the project have on the severity of collisions?

Collisions which result in injury are recorded by severity as either fatal, severe or slight. During 2016, there was a transition in how the severity of incidents were recorded (more information on this can be found in Appendix B). To ensure consistency, we compared five years of collision severity data before the project and five years after the project, so that all collisions were recorded using the same method (STATS19 database).

After the project there were an average of 13 fewer collisions resulting in slight injuries per year (the annual average before the project was 21, compared to 8 after), two fewer collisions resulting in killed or serious injuries per year (the annual average before the project was five, compared to three after. Figure 4 shows the severity of personal injury collisions.

[11] https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data

Figure 4 Personal injury collisions by severity



Source: STATS19: 1st January 2008 to 24th July 2020

How had the project impacted on casualty severity?

Like other transport authorities across the UK the key measure we use to assess the safety of roads, is Fatal and Weighted Injuries (FWI). This gives a fatality 10 times the weight of a serious casualty, and a serious casualty 10 times the weight of a slight casualty.[12] In effect, it takes all non-fatal injuries and adds them up using a weighting factor to give a total number of fatality equivalents. This is represented by an annual average and a rate that standardise casualty severities against flow to show the likelihood of a fatality equivalent occurring per distance travelled.

A reduction of 1.5 fatality equivalents has been observed annually. The severity of casualties occurring after the project became operational has reduced in the project extent. Before the project an annual average 1.8 fatality equivalents were observed. After the project this had reduced to an annual average of 0.3 fatality equivalents.

Road user safety in the wider area

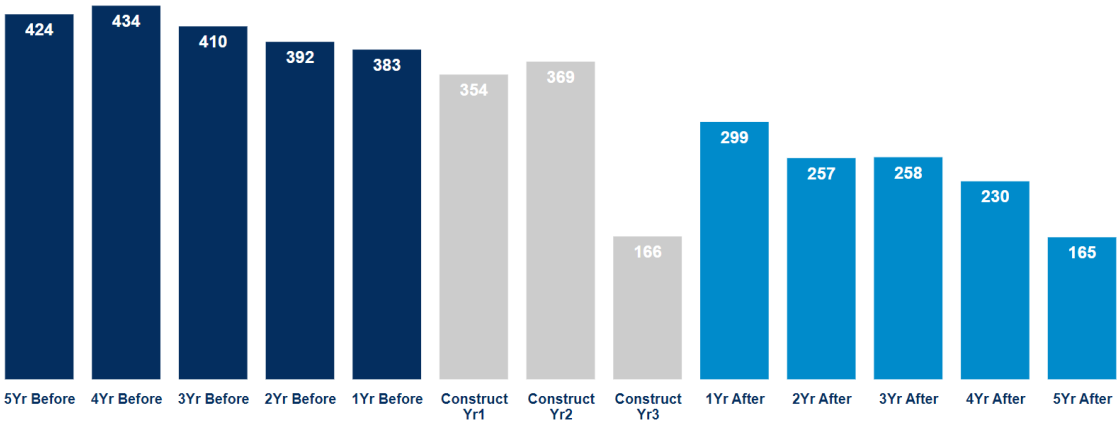
What impact did the project have on safety for the wider area?

Personal injury collisions were observed for a wider impact area, which is derived from the safety appraisal for the project to observe any potential wider impacts from the intervention.

Before the project an annual average of 409 collisions were observed within the wider area. After the project the observed collisions had fallen to 242, a reduction of 167.

[12] The FWI weights Collisions based on their severity. A fatal collision is 1, a serious collision is 0.1 and a slight collision is 0.01. So, 10 serious collisions, or 100 slight collisions are taken as being statistically equivalent to one fatality.

Figure 5 Annual personal injury collisions in wider area



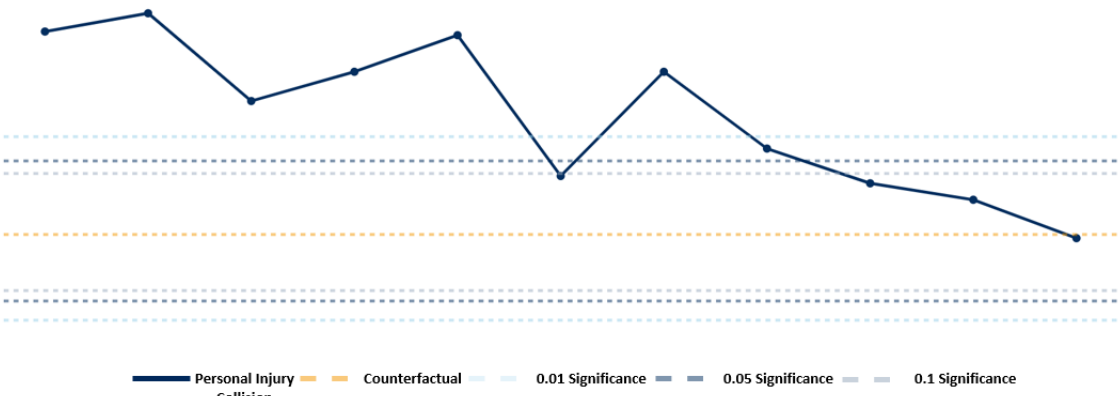
Source: STATS19: 1st January 2008 to 24th July 2020

As part of the safety evaluation, we look to assess what changes in collision might have occurred due to factors external to the project over this timeframe. To do this we estimate the trend in personal injury collisions which might have occurred if the road had remained in its previous configuration (this is referred to as a counterfactual). This is based on changes in regional safety trends for dual carriageways on the strategic road network with a high volume of road users.

Figure 6: What does the counterfactual show?

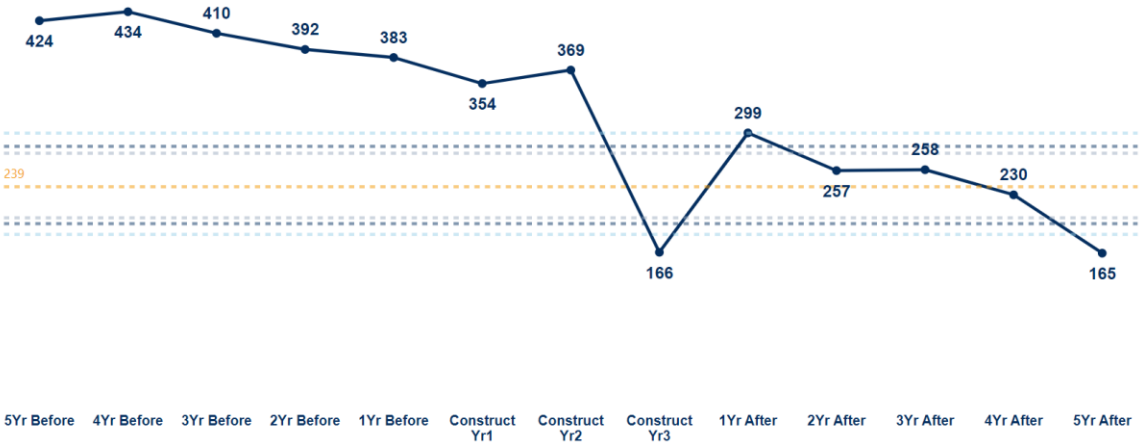
The counterfactual is an estimation of what we think would occur without the project taking place. We estimate a range of collisions that follow regional trends. The chart shows:

1. Timeseries of personal injury collisions
2. Estimated counterfactual range, which comes from a X^2 hypothesis test on one degree of freedom using a significance level of 0.05. More details can be found in the POPE Methodology Manual.
3. National Highways are developing new statistical methods to compare collision and casualty rates. We anticipate adopting these once the methods are finalised.



A counterfactual test has been undertaken. A range of between 198 and 284 personal injury collisions[13] during the five-year post project period would be expected. An annual average of 242 personal injury collisions were observed over the five-year post-opening period, this falls within the expected range as show in Figure 7 below.[14] Therefore, the observed changes in personal injury collisions within the local area are what could realistically be expected without the project taking place.

Figure 7 Observed and expected range of personal injury collisions in wider area (annual average)



Source: STATS19: 1st January 2008 to 24th July 2020

What impact did traffic flows have on collision rates in the wider area?

The average collision rate had decreased to 16 personal injury collisions per hundred million vehicle miles, this equates to travelling seven million vehicle miles before a collision occurs. Before the project the collision rate was 26 personal injury collisions per hundred million vehicle miles, this equates to traveling four hundred million vehicle miles before a collision occurs.

The estimated collision rate would decrease to 17 personal injury collisions per hundred million vehicle miles if the widening had not occurred.

What changes did we see in the severity of collisions in the wider area?

Collision severity analysis was undertaken for the wider area using the same method as for the mainline A453.[15]

After the project there were an average of 140 fewer collisions resulting in slight injuries per year (the annual average before the project was 319, compared to 178 after), 27 fewer collisions resulting in serious injuries per year (the annual average before the project was 85, compared to 58 after). There has been no change in

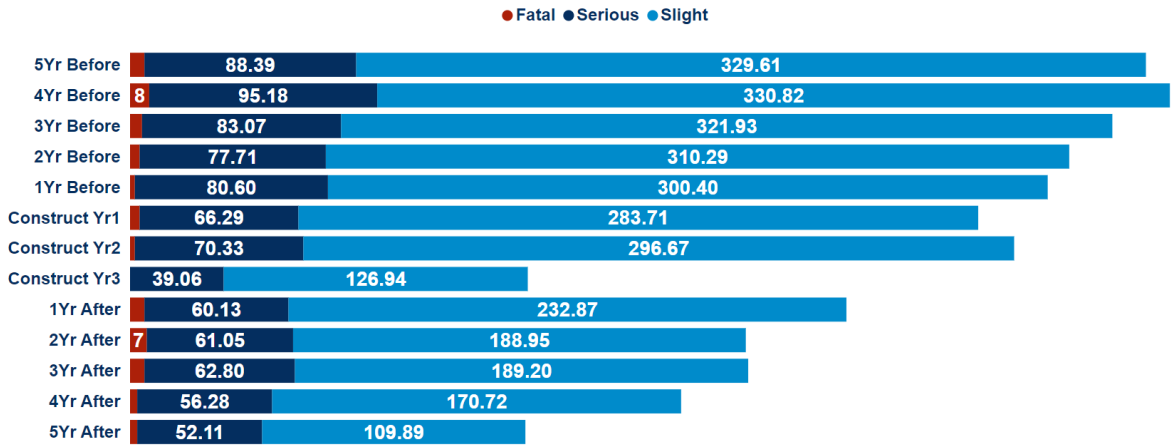
[13] The safety methodology is different from one year to five-year evaluation. We still have confidence in the accuracy of the previous methodology but have made suitable changes that will ensure a methodology fit for purpose for the future.

[14] Estimated counterfactual range, which comes from a X^2 hypothesis test on one degree of freedom using a significance level of 0.05. More details can be found in the POPE Methodology Manual.

[15] Due to the transition of how severity of incidents was recorded, we compared five years before project and five years after, when all collisions were recorded using a consistent method (STATS19 database).

the number of fatal collisions which has remained at 25. Figure 8 shows the severity of personal injury collisions.

Figure 8 Personal injury collisions by severity in the wider area



Source: STATS19: 1st January 2008 to 24th July 2020

How had had traffic flows impacted collision severity in the wider area?

A reduction of three fatality equivalents has been observed annually. The severity of casualties occurring after the project became operational has reduced in the wider area. Before the project an annual average 17 fatality equivalents were observed. After the scheme this had reduced to an annual average of 13 fatality equivalents.

The combined measure showed an extra 34 million vehicle miles was travelled before a fatality. Before the scheme, 72 million vehicle miles needed to be travelled before a fatality (1.2 fatality equivalents per hmvm[16]). After the project this increased to 106 million vehicle miles (0.9 fatality equivalents per hmvm). The rate of fatality equivalents per hundred million vehicle miles has reduced. This suggests that taking into account traffic changes the project is having a positive impact on the severity of casualties within the wider area.

Has the project achieved its safety objective?

The safety objective for this project was to address the safety problems identified and significantly reduce current accident levels for all road users including non-motorised users. The analysis shows personal injury collisions and annual FWI had decreased. We have been unable to perform statistical analysis on the observation to test the significance of the findings.

How has the project performed compared to expectations?

Initial appraisal for the project estimated that there would be a reduction of six personal injury collisions per year over the appraisal period (60 years) for the project extent. This equated to a decrease of 369 personal injury collisions over the appraisal period.

Analysis shows that the appraisal underestimated the potential safety benefits for this project.

[16] Hundred million vehicle miles

6. Environmental evaluation

Summary

The evaluation of environmental impacts used information on the predicted impacts gathered from the environmental appraisal within the business case, the environmental assessment presented in the Environmental Statement (ES) and the findings of the one year after opening evaluation. This information was then compared with findings obtained five years after the project opened for traffic. The observed impacts were determined during a site visit in June 2021 and supported by desktop research. The results of the evaluation are recorded against each of the environmental sub-objectives in the section to follow and summarised in Table 2. The society sub objectives of physical activity, severance and journey quality were scoped out of the five years after evaluation because there were no outstanding issues following the one year after evaluation.

The evaluation of noise, air quality and greenhouse gas impacts are reliant upon traffic data for both the forecast and observed flow, speed and percentage heavy duty vehicles. However, data quality issues meant that this data could not be used. Further information on this is discussed in the section 4 Customer Journeys. Therefore, noise, air quality and greenhouse gas evaluation was not possible and so was not included in our evaluation.

Our evaluation found that at five years after landscape and the water environment impacts had occurred broadly as expected and the proposed mitigation had been provided. Maintenance issues were identified but provided these are addressed the long-term outcomes should be met. For Heritage of historic resources our findings were consistent with those reported at one year after. Impacts for historic buildings and landscapes were as expected but construction activities adjacent to Glebe Farm were likely to mean impacts for buried archaeology were worse than expected.

During our site visit we found mitigation planting along the urban section of the A453 to be in poor condition. This included examples of dead and failed planting. The mitigation was intended to reduce the visual impacts of the widening on nearby residential areas and so we concluded that townscape impacts were worse than expected. Remedial measures such as new and replacement planting could remedy this issue. Biodiversity mitigation including new and replacement habitats and wildlife crossing had been provided but the absence of the proposed monitoring reports meant that we could not confirm if the design was successful. Without the supporting evidence we concluded that the outcome was worse than expected.

Landscape

The environmental appraisal and assessment reported that the landscape through which the route ran did not contain any statutory designations and was ordinary and of local value. The existing A453 along with the Ratcliffe power station and associated electricity pylons were already existing dominant features in the landscape.

The widening of the project between the M1 and Thrumpton followed the line of the existing route, and it was predicted that it would involve the loss of roadside

vegetation and would bring traffic closer to isolated properties. New planting and earthworks including at the new Parkway and West Leake junctions would be undertaken to help the widened road integrate into the landscape.

East of Thrumpton to the new roundabout at Clifton, the route would follow a new alignment south of the existing A453. This would create a new road corridor through a more open landscape. Although closer to Clifton, the route would be lower down the ridge than the original A453. The route would avoid the mature landscape around the Barton Lodge junction and land between the old and new A453 roads would be planted. This was intended to enhance the landscape and help screen views of the road from nearby villages and properties. A small number of isolated properties would however experience impacts until planting matured. Further new planting and earthworks, including at Mill Hill roundabout would be incorporated into the design to help minimise impacts and to integrate the route into the landscape. New lighting would be limited to around the new junctions although this would make them more prominent. Overall, once mitigation had established, landscape and visual impacts were predicted to be slight adverse.

We undertook a site visit to observe the landscape and visual impacts of the project and to evaluate the performance of the mitigation provided. This confirmed that, on the whole, the predicted impacts had arisen. Roadside planting had been lost and the road had been brought closer to properties such as at Dowell's Barn. New lighting had been limited to the new grade separated junctions and although a nighttime evaluation was not done it was likely that, as predicted, the lighting had added to the urbanisation in the area. East of the Thrumpton the A453 was realigned to the south and had created a new corridor. As predicted, it was lower down the ridge and less prominent on the skyline. However, near the Mill Hill roundabout a significant amount of building and site clearance was underway as part of the new Fairham[17] development. This mixed-use development of housing and commercial units had begun to change the landscape context through which this section of the A453 passes.

New earthworks, tree planting and hedgerows were provided by the project as expected. These measures should help minimise the impact on landscape character and to minimise the visual impacts on nearby properties. This included adjacent to the detrunked[18] sections east of Thrumpton. Our visit did find examples of failed planting and some gaps in the replacement hedgerows especially near Ratcliffe power station. There was little evidence of any recent maintenance although it was evident that some maintenance had been undertaken during the aftercare period. Despite these maintenance issues, the mitigation had been provided broadly as expected and in most cases was establishing. Provided maintenance improves, the planting should deliver the predicted mitigation and the overall project outcome should be as expected.

[17] https://fairhamlife.co.uk/

[18] The process by which responsibility for a road passes from National Highways to the local highways authority.

Townscape

The environmental appraisal predicted that the widening of the A453 through the urban section of the project would follow the existing alignment. This would limit the impacts that were predicted to arise, avoid the demolition of any buildings and would ensure that the route retained similar characteristics as before. Most of the existing trees and shrubs that lined sections of the route, such as those on earth visual screening mounds near Crusader Roundabout, would be retained. There would however, be some loss of large trees at Green Lane Junction. Widening the road through Clifton would result in the loss of hedgerows along sections of the route. This would bring the route closer to some properties, where there would be significant visual impacts.

New planting including trees and new hedgerows would be provided to help mitigate visual impacts and recreate the hedge lined townscape. This planting would include some extra heavy standard trees which, as trees of a larger size, and should help mitigate impacts more quickly. Improvements agreed with Nottingham University along the road frontage would enhance the townscape character in this area by providing new railings, trees, shrubs and entrance signs. Overall, once the mitigation had established, the impacts were predicted to be slight adverse.

Our evaluation considered the predicted impacts of the project and compared them against those observed during our five years after site visit. It also considered progress since our one year after evaluation. The evaluation confirmed that the urban section had widened the existing road corridor, whilst avoiding encroaching into Clifton Village Green or the demolition of property. The widening had required the remodelling of junctions and as expected there had been loss of existing vegetation including hedgerows. The road had also come closer to properties. Where possible existing mature tree screening had been retained especially at the western end which continued to provide a townscape framework and visual separation from adjacent residential areas. Improvements to the University frontage were in place, however, the introduction of various elements of highway infrastructure including cabinets, yellow grits bins, vertical elements such as traffic lights, toucan crossings and lighting columns had all added to the visual clutter along the route corridor.

However, our evaluation also found various sections of new hedgerow in poor condition with gaps and dead planting present. This included locations reported at one year after such as adjacent to the Man of Trent bus stop layby near Gardendale Avenue, adjacent to Cleveley Way opposite Nottingham Trent University and along Rivergreen (Figure 9). The hedgerows were intended to replace lost planting and to help screen and filter views of the widen road from properties along this section. Maintenance needs to be improved along this section as there is a risk that the design year outcomes won’t be met.

Figure 9 Hedgerows in poor condition opposite Rivergreen

Source: Evaluation site visit June 2021

As the condition of sections of hedgerows were poor at one year after and remained poor at five-years after there is a risk that the design year outcomes won't be met. There is also a risk that visual impacts won't be mitigated to the extent predicted. For this reason, the outcome at five-years after was worse than expected.

Heritage of historic resources

The environmental appraisal predicted that the construction of the project would have adverse effects on several sites of archaeology value. No scheduled monuments would be directly affected. A programme of archaeological investigations would be undertaken to minimise any impacts and where impacts could not be avoided a mitigation strategy would be implemented. This strategy would include detailed analysis of any archaeology encountered along with the archiving and publication of any finds. No historic buildings would be demolished but there would be minor adverse visual and aural impacts to the setting of several listed buildings including within Ratcliffe on Soar, Clifton Village Conservation Area and Thrumpton Village and Conservation Area. These impacts would be minimised by new and replacement planting. The environment assessment reported that much of the historic landscape through which the existing route passed had been modified since the second world war and was part of a continually changing and evolving landscape. The widened road would cause some adverse impacts particularly along the offline section and near the Clifton Conservation area, but these would be minimised with appropriate new planting. The offline section approaching Mill Hill would also be visible from the remnants of the historic open fields to the southwest and would affect the setting of the Clifton Pasture and Barton Moor historic landscape. New planting would help mitigate these impacts.

Overall, it was predicted that there would be moderate adverse effects to the heritage of historic resources.

Our five-years after evaluation reviewed the findings of the one year after study and also included a site visit to target those areas that had been identified for further analysis. The one year after evaluation reported that archaeological investigations were undertaken, and the findings reported and published online.[19]

[19] https://www.wessexarch.co.uk/our-work/a453-improvements

Full details of the site investigations and post excavation analysis were included in the project archive which was deposited with Nottingham City Museum and Art Gallery. The findings of the analysis were also reported in 2015 in the Thoroton Society of Nottinghamshire.[20] No further information is available at five-years after. Based on the analysis at one year after, the pre-project mitigation and post project analysis and reporting had been undertaken as expected.

The one year after evaluation reported that Historic England had raised concerns about the siting of a pavement batching plant adjacent to Glebe Farm scheduled monument. Historic England indicated that the land used was highly likely to include further remains of national importance and it was considered that the use of this land was a major failure of control and contrary to the expectations in the Environmental Statement. Nottinghamshire County Council also raised similar concerns.

At five-years after we have no further information. Therefore, based on the evidence presented at one year after on Glebe farm, it was considered that the impacts during construction were worse than expected.

The one year after evaluation considered the visual impacts of the project on the setting of historic buildings and found that impacts were broadly as expected including within Clifton village and Ratcliffe on Soar. It confirmed that the setting of Thrumpton village was largely unaffected but recommended that further analysis of the minor adverse impacts on properties along Barton Lane be considered. Our analysis at five-years after confirmed that the route was widened to the south and so much of the vegetation filtering existing views from Wood Farm and Fields Farmhouse was retained. New planting was establishing and whilst views of high sided vehicles were possible above the hedgerow at Fields Farmhouse and through the trees at Wood Farm these were largely as predicted.

The one year after evaluation considered that the impacts to historic landscapes particularly the online section and within the Clifton conservation area were as expected as the mitigation planting had been implemented and existing planting retained where possible. For the offline sections, further analysis was recommended to consider how well the mitigation planting was establishing. At five-years after our observations taken during the site visit suggested that the new mitigation planting was establishing. There were some maintenance issues but provided the mitigation planting continues to develop the design year outcome should be met.

The detrunking of the old A453 approaching Mill Hill had returned it to a more rural environment and as expected, allowed open views across the lowland landscape towards Clifton Pasture and Barton Moor. However, since the one year after evaluation significant construction work had started either side of the Nottingham Road associated with the Fairham development. This development will have had an impact on historic landscape in this area particularly the setting of Clifton Pasture and Barton Moor character area.

We consider that the impacts of our project on historic buildings and historic landscapes was broadly as expected. However, the construction issues raised by Historic England and Nottinghamshire County Council at Glebe farm scheduled monument meant that, we considered the impacts to archaeology was worse than expected.

[20] http://www.thorotonsociety.org.uk/publications/tts/trans119.htm

Biodiversity

The environmental assessment reported that the project would not have any direct impacts on statutory or non-statutory wildlife sites such as sites of special scientific interest[21] or local wildlife sites. The design and construction of the project would also seek to minimise impacts on any protected species, dwellings or areas used for foraging within any other habitats affected.

The widening of the route including the offline section would still have impacts on habitats in the area. This was predicted to include arable land, roadside verges, roadside broadleaf and mixed plantation woodland and coniferous plantation within the Ratcliffe Power station boundary. A range of hedgerows and other habitats would also be impacted by the construction works. These habitats were considered locally important as, together, they constituted a network of vegetation which contrasted with the open arable landscape. They also helped to link other more valuable and extensive areas of woodland and hedgerow habitat.

The assessment predicted that the impacts of the project would be minimised by the incorporation of new and enhanced mitigation planting. This would include species rich grasslands, wetlands, hedgerows and woodland planting. New planting and habitats would also be provided to mitigate the loss or foraging habitats for wildlife such as bats, badgers and birds. New habitat and drainage ditches would be provided to enhance water vole populations and mammal tunnels would be provided to allow mammals to pass safely between habitats on either side of the road.

The assessment concluded that the dualling of the A453 would increase the barrier effect of the road through the increase in carriageway width, continuous concrete safety barrier in the central reserve (in the rural section) and traffic flows. These impacts would be offset by local biodiversity gains through the provision of new and enhanced habitats. The overall significance of effects on ecology and nature conservation was predicted to be neutral.

Our evaluation involved a site visit that was designed to observe the impacts that had arisen, the condition of the mitigation provided and progress since one year after. We also reviewed the available documentary evidence to understand the outcome of the species and habitat monitoring planned for the five years after opening aftercare period.

Our evaluation visited several new planting plots and, on the whole, they were establishing well. Sections of new hedgerow were growing well and should help provide new habitat connectivity. The species rich grassland around the water vole enhancement area appeared to be doing well with insect pollinators evident (Figure 10). However, there was little evidence of recent management in some of the plots and weeds were noted that were beginning to encroach into some of the grasslands.

[21] https://www.gov.uk/guidance/sites-of-special-scientific-interest-and-historical-monuments

Figure 10 Vole mitigation habitats

Source: Evaluation site visit June 2021

The one year after evaluation reported issues with the fencing design at several of the mammal tunnels. Our five-years after site visit found evidence of mammal use at the tunnel near Dowells Barn. A clear passage in the undergrowth from the nearby field hedgerow boundary led to the entrance to the tunnel which suggested mammal use. However, at the mammal tunnels near Thrumpton and also near Barton, there were no signs of use. Examination of the boundary fencing at these locations confirmed the findings at one year after. The fencing installed appeared to excluded wildlife from accessing the tunnels from adjacent farmland. The tunnels were designed to provide safe passage across the road and reduce habitat fragmentation and so as access was blocked, they were not delivering their design function. Remedial works to the fencing was required.

The environmental assessment stated that a programme of monitoring would be undertaken during the five years aftercare period to assess the success of the environmental design and mitigation works. This would include a report at the end of the aftercare period summarising the overall outcome. It is understood that the work, including the monitoring, was done but no evidence or reports were available to support our evaluation.

A review of the available evidence and the findings of the site visit confirm that the mitigation was provided. However, the absence of the expected aftercare monitoring including the summary report at the end of the aftercare period means we do not have the evidence to confirm if the design was successful. For this reason, we conclude that the outcome was worse than expected.

Water environment

The environmental assessment identified that the route of the A453 crossed a series of watercourses including the main watercourses of the River Soar, Fairham Brook and Nethergate Stream. All of these discharged into the River Trent. Between the M1 and the River Soar, the A453 crosses the River Soar floodplain and ran close to the River Trent floodplain near Barton in Fabis. Water quality of the main watercourses was considered good and classified as being of high to very high importance.

The assessment predicted that the project had the potential to impact on water resources as the widened road would increase the volume of surface water runoff that had to be managed. Surface water runoff and accidental spills during the operation of the road also had the potential to impact the quality of water resources. Therefore, mitigation was included in the project design to minimise the impacts. This included balancing ponds, ditches and oversized pipes to manage the storage and flow of surface water runoff and pollution control devices including penstocks to manage the risk of accidental spills. Overall, it was predicted that the impacts of the project on the water environment would be neutral.

Our evaluation involved a site visit that was designed to observe the impacts that had arisen, the condition of the mitigation provided and progress since one year after. We visited several balancing ponds along the route as well a sample of ditches and penstocks.

Figure 11 Overgrown balancing pond at West Leake junction

Source: Evaluation site visit June 2021

The one year after evaluation confirmed that the mitigation proposed in the assessment had been provided and was operating broadly as expected. No pollution incidents had been reported. The one year after did however raise some concerns with vegetated ditches, with some showing signs of becoming overgrown. At five-years after our findings were broadly similar. The new drainage network along both the rural and urban sections appeared to be functioning correctly with no reports of significant drainage issues. However, several balancing ponds and associated drainage outlets were overgrown with vegetation which, if not managed correctly could, in time, affect their performance (Figure 11). Our site visit also identified several penstocks that were buried beneath vegetation which if not cleared could hamper access and their effective use in an emergency. Overall, our evaluation considered that the impacts of the project were broadly as expected but maintenance regimes must be reviewed to ensure the long-term outcomes are achieved.

Overview

The results of the evaluation are summarised against each of the Transport Appraisal Guidance (TAG)[22] environmental sub-objectives and presented in Table 2. In the table we report the evaluation as expected if we believe that the observed impacts at one year after are as predicted in the appraisal. We report them as better or worse than expected if we feel the observed impacts are better or worse than expected. Finally, we report impacts as too soon to say if we feel that there remains insufficient evidence to draw firm conclusions.

Table 2 - Summary of Environmental findings

Sub Objective	AST Score	5YA Evaluation Outcome	5YA Evaluation Summary
Noise	Overall slight to moderate adverse effect	Not evaluated	Unable to evaluate due to the absence of the necessary traffic data.
Air Quality	Overall negligible impact on air quality		
Greenhouse Gases	Increase in carbon dioxide emissions of 144,169 tonnes over the 60-year appraisal period		
Landscape	Slight adverse	As expected	The impacts and mitigation provided were broadly as expected. Some maintenance issues were identified but provided this is improved, the design year outcome should still be achieved.
Townscape	Slight adverse	Worse than expected	The widening had resulted in the loss of boundary hedgerow features and brought traffic closer to properties. Some mature vegetation had been retained. New planting was in place but, like at one year after, some were in poor condition. There was a risk that visual impacts wouldn't be mitigated to the extent predicted.

[22] TAG provides guidance on appraising transport options against the Government's objective for transport.

Sub Objective	AST Score	5YA Evaluation Outcome	5YA Evaluation Summary
Heritage of historic resource	Moderate adverse	Worse than expected for archaeology and as expected for historic buildings and landscapes	Mitigation planting was establishing and provided this continues impacts to historic buildings and landscapes should be as expected. As at one year after, poor management of construction activities at Glebe Farm scheduled monument suggested impacts to archaeology were worse than expected.
Biodiversity	Neutral	Worse than expected	Evidence suggested that the mitigation was provided. However, no evidence of the planned aftercare monitoring was provided and so the success of the ecological design was uncertain.
Water Environment	Neutral	As expected	Impacts and mitigation were broadly as expected. However, the site visit identified that improvements to vegetation management within ponds and ditches was required to ensure long term outcomes would be achieved.

7. Value for money

Summary

As part of the business case, an economic appraisal was conducted to determine the project's value for money. This assessment was based on an estimation of costs and benefits over a 60-year period.

The project was delivered at a cost of £160million, just under the forecast cost.[23] In the first five years, the road provided additional capacity to support more road users, whilst improving the safety of those journeys.

However, as we could not evaluate any of the monetised impacts and outturn benefits, it was not possible to confirm that the predicted 'high' value for money would be delivered.

Forecast value for money

An economic appraisal is undertaken prior to construction to determine a project's value for money and inform the business case. The appraisal is based on an estimation of costs and benefits. The impacts of a project, such as journey time savings, changes to user costs, safety impacts and some environmental impacts can be monetised. This is undertaken using standard values which are consistent across government. The positive and negative impacts over the life of the project[24] are summed together and compared against the investment cost to produce a benefit-to-cost ratio (BCR). The monetised impacts are considered alongside additional impacts which are not able to be monetised, to allocate the project a 'value for money' category.

The monetised benefits forecast by the appraisal which supported the A453 Widening business case are set out in Table 3. We have also included an indication of what proportion of the monetised benefits each impact accounted for and a summary of how we have treated the monetisation of each impact in this evaluation.

Table 3 - Monetised benefits of the project (£ million)

	Forecast (£m)	% of forecast monetised benefits	Evaluation approach
Journey times	326	82%	Unable to evaluate
Vehicle operating costs	-10	-3%	Unable to evaluate
Journey time & VOC during construction and maintenance	5	1%	Not evaluated (assumed as forecast)
Journey time reliability	0	0%	Monetised benefits assumed as forecast

[23] Present value of costs in 2010 prices and values.
[24] Typically scheme life is taken to be 60 years.

	Forecast (£m)	% of forecast monetised benefits	Evaluation approach
Safety	65	16%	Monetised benefits assumed as forecast
Carbon	-6	-2%	Not evaluated (assumed as forecast)
Air quality	0	0%	Not evaluated (assumed as forecast)
Noise	0	0%	Not evaluated (assumed as forecast)
Indirect tax revenues	16	4%	Unable to evaluate
User charges	0	0%	Not evaluated (assumed as forecast)
Operating costs (private toll revenue)	0	0%	Not evaluated (assumed as forecast)
Total present value benefits	**396**	**100%**	

Note: 2010 prices discounted to 2010. Due to rounding the numbers and percentages may not always add up exactly to the presented totals.

The costs anticipated in the appraisal are set out in Table 4. Based on this information, the project was anticipated to give 'high' value for money over the 60-year appraisal period.

Evaluation of costs

The project was delivered at a cost of £160million[25], just under the anticipated cost of £162 million (see Table 4).

The appraisal expected that the project would result in an increase in maintenance costs over the life of the project. As most of this maintenance is still in the future, the evaluation uses the maintenance costs forecast within the business case.

Table 4 - Cost of the project (£ million)

	Forecast (£M)	% of forecast costs	Evaluation approach
Construction costs	162	99%	Current estimate of project cost
Maintenance costs	2	1%	Not evaluated (assumed as forecast)
Total present value costs	**164**	**100%**	

Note: 2010 prices discounted to 2010. Due to rounding the numbers and percentages may not always add up exactly to the presented totals.

[25] This is the PVC (present value cost) of the project. This means it is presented in 2010 prices, discounted to 2010 to be comparable with the other monetary values presented.

Evaluation of monetised benefits

Once a project has been operating for five years, the evaluation monitors the construction costs and the trajectory of benefits to re-forecast these for the 60-year project life. It is not proportionate to replicate modelling undertaken at the appraisal of a project or to monitor benefits over the entire lifecycle, so we take an assessment based on the trends observed over the first five years of operation and estimate the trend over the project life, based on these observations. This provides a useful indication and helps to identify opportunities for optimising benefits. In instances where it was not feasible to robustly compare forecast and observed impacts, the findings have been presented with relevant caveats.

Unfortunately, we have been unable to reforecast any of the monetised benefits which were presented as part of the original appraisal. Journey times accounted for over 80% of the total monetised benefits, and as we have been unable to accurately assess changes in traffic and journey times on the project as part of the evaluation, we are unable to reforecast this benefit. We are however able to say that the project has resulted in increased capacity for road users on the A453, which we believe has led to an improvement in congestion along the route.

Although we cannot attribute any monetised impacts to these changes, the project has still met its safety objective. An average of 167 personal injury collisions (per year) were saved in the wider area in the first five years, well above the expected 369 over the 60-year period, which would have provided a financial benefit of £65m.

Some of the environmental impacts were unable to be evaluated due to limitations of traffic data, however a full site visit was carried out at the five-year evaluation stage. Impacts on the landscape were as expected, as were those for water environment. Heritage of historic resource was mixed, with impacts on archaeology being worse than expected but as expected for historic buildings and landscapes. Townscape and biodiversity were also both worse than expected, mainly due to mitigation not being properly maintained. Overall impacts for environment were mixed, however these do not routinely form part of the monetised benefits.

Overall value for money

Due to data limitations, we have been unable to reforecast any of the monetised benefits presented as part of the original business case. We are therefore not able to confirm whether the projects ‘high’ value for money has been achieved or not at this five-year evaluation.

Appendix A

Project objectives

Table 5 Project objectives reviewed at five-years after

Objective	Five-year evaluation
To provide maximum value for money against its whole life costs in accordance with the Department's WebTAG Guidance (BCR adjusted for nonmonetized impacts should be greater than 2)	Due to data limitations, we were unable to reforecast any of the monetised benefits presented as part of the original business case. We were therefore not able to confirm whether the projects 'high' value for money had been achieved or not at this five-year evaluation.
To address the safety problems identified and should significantly reduce current accident levels for all road users including non-motorised users	The results for the project extent suggest that the objective had been met. The number of personal injury collisions, severity of collisions and FWI[26] had all reduced.
To minimise the detrimental environmental effects of the scheme, in particular the adverse impacts on air quality and noise and offset by mitigation measures where technically feasible and economic to do so, taking account of costs, availability of funding and statutory obligations	It was not possible to evaluation the impacts of the project on air quality or noise. However, our evaluation did confirm that mitigation in the form of a low noise surface and noise barriers had been installed as proposed.
To protect the built and natural environment through mitigating the potentially adverse impact of adding additional capacity, meeting current environmental standards and taking opportunities to enhance poor environmental features where appropriate and taking into account value for money	Measures were implemented to help manage the impacts of the project including new landscape planting, wildlife habitats and drainage features. However, it was not possible to determine the performance of all the mitigation due to the absence of the expected monitoring reports.
To protect watercourses from pollution during and after construction	Pollution control devices and balancing ponds were installed as part of the project.
To provide an additional lane in each direction to reduce traffic congestion, reduce frequency of incidents and improve journey time reliability	Substantial extra capacity has enabled the route to accommodate more traffic and we expect that this would have improved both journey times and journey time reliability. However, data limitations prevented us from demonstrating this.

[26] The FWI weights Collisions based on their severity. A fatal collision is 1, a serious collision is 0.1 and a slight collision is 0.01. So, 10 serious collisions, or 100 slight collisions are taken as being statistically equivalent to one fatality.

Our evaluation was affected by data limitations which meant that some elements of our usual evaluation methodology could not be followed. Those project objectives influenced by traffic and value for money, or which did not form part of our evaluation were not re-evaluated at five-years after. However, for completeness we reproduce the one year after project outcomes as they were reported in the one year after evaluation report.

Table 6 Projects objectives evaluated at one year after but not revisited at five-years after

Objective	Has the objective been achieved (One-year evaluation)
To deliver the scheme in a way which supports the delivery of the Government's transport policy objectives.	✓
To support sustainable economic activity and local development plans.	Partial – unable to be conclusive
To enhance NMU facilities through Clifton and provide a new NMU route between Clifton and Kegworth.	✓
To improve access to public transport, considering safety and to ensure the shortest practical desire line is provided.	✓
To provide support to spatial and transport policies consistent with emerging local plans for the Nottingham and Rushcliffe areas.	Partial – unable to be conclusive
To facilitate future access to the NET2.	✓
To facilitate/improve access to the East Midlands Parkway Railway Station.	✓
To improve access between Nottingham and East Midlands Airport.	✓
To improve access to Nottingham Trent University while reducing conflict with through traffic on the A453.	✓

Appendix B

Incident reporting mechanisms

Since 2012, many police forces have changed the way they collect STATS19 data (for more information see here). These changes mean casualty severity is now categorised automatically based on the most severe injury, rather than the judgement of an attending police officer.

Police forces using the new systems, called injury-based severity reporting systems, (also known as CRaSH and COPA) report more seriously injured casualties than those which don't. These changes make it particularly difficult to monitor trends in the number of killed and seriously injured casualties over time, or between different police forces. In response to these challenges, DfT and the Office for National Statistics (ONS) have developed an approach to adjust the data collected from those police forces not currently using injury-based reporting systems.

These adjustments are estimates for how casualty severity may have been recorded had the new injury-based reporting system been used. These adjusted estimates apply retrospectively from 2004 and adjust historical data to show casualty severity 'as if' this was recorded under the new injury-based system. Until all police forces have started using the new systems, these historical adjustments will continue to be updated every year. Using these adjusted totals allows for more consistent and comparable reporting when tracking casualty severity over time, across a region, or nationally. While there is no impact on total casualties or collisions, and no impact on total fatalities, these adjustments do impact serious and slight casualties and collisions.

Appendix C

Unadjusted collision severity

Part of the wider safety area of the A453 is covered by Staffordshire police constabulary who transferred from Stats19 to CRASH system for reporting personal injury collisions in May 2015.

Figure 12 shows the unadjusted collision severities on the wider safety area:

Figure 12 Unadjusted collisions by severity in the wider area

Year Type	Fatal	Serious	Slight
5Yr Before	6	61	357
4Yr Before	8	69	357
3Yr Before	5	59	346
2Yr Before	4	54	334
1Yr Before	2	56	325
Construct Yr1	4	43	307
Construct Yr2	2	43	324
Construct Yr3	0	28	138
1Yr After	6	38	255
2Yr After	7	43	207
3Yr After	6	44	208
4Yr After	3	40	187
5Yr After	3	40	122

Source: STATS19: 1st January 2008 to 24th July 2020

If you need help accessing this or any other National Highways information, please call **0300 123 5000** and we will help you.

This document is also available on our website at **www.nationalhighways.co.uk**

For an accessible version of this publication please call **0300 123 5000** and we will help you.

If you have any enquiries about this publication email **info@nationalhighways.co.uk** or call **0300 123 5000***.

Please quote the National Highways publications code **PR02/25**.

*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls. These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Printed on paper from well-managed forests and other controlled sources when issued directly by National Highways.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ

National Highways Limited registered in England and Wales number 09346363