# Lawnswood Roundabout Improvement Scheme

# Briefing Note March 2024

## Summary

This note provides an update on the Lawnswood Roundabout Improvement scheme. Detailed design for this scheme is now well progressed, and construction is expected to begin in summer/autumn 2024, subject to approvals. The remainder of this note details the background to this scheme (section 2), describes the latest design (section 3), sets out progress with the landscape design (section 4), describes the results of traffic modelling (section 5) and emissions modelling (section 6) and sets out the next steps for the project (section 7).

## Background

Leeds City Council has a long-standing ambition to improve the Lawnswood roundabout, which has a poor road safety record, represents a major barrier to active travel and has no capacity to prioritise buses. The existing junction, at the intersection of the A660 Otley Road and A6120 Ring Road, is an unsignalised roundabout, with no signalised crossing facilities, and no segregation between cyclists and general traffic. The poor provision at this junction for active modes and public transport are particularly pertinent given the proximity to Lawnswood School and the high volumes of walking, cycling and bus patronage on the A660 corridor as a whole.

The current design was developed up to Outline Business Case (OBC) stage via funding from Phase 2 of the Corridor Improvement Programme (CIP2). The OBC was approved by the Combined Authority in December 2023, and funding for further development and delivery of the scheme has been secured from the City Region Sustainable Transport Settlement (CRSTS).

A consultation exercise was undertaken between November 2021 and January 2022. This exercise involved three public drop-in events, presentation of the scheme to relevant Residents’ Associations, briefings with ward members, direct engagement with other key stakeholders and distribution of flyers and leaflets (amongst other activities). The consultation received predominantly positive responses. A number of amendments have been made to the design in response to comments received during the consultation, as set out in section 3.

The Chief Officer (Highways & Transportation) in December 2023 approved the preliminary design of the scheme, and approved the expenditure of further funding required to carry out detailed design and develop a Full Business Case (FBC) for the scheme. Further approvals will be required from the Chief Officer in order to proceed to delivery of the scheme.

## Scheme design and costs

The design presented at public consultation between November 2021 and January 2022 consisted of the following elements:

* Introduction of a signalised roundabout at Lawnswood.
* Introduction of signalised pedestrian and cycle crossing facilities at the roundabout.
* Introduction of segregated cycle facilities on all approaches to the roundabout.
* Introduction of a southbound bus lane on Otley Road, on the approach to the roundabout.
* No intervention at the Otley Old Road junction, or on Otley Old Road itself.

A number of changes have been made to the design since the public consultation exercise, in response to comments received as part of the consultation, as well as in response to issues arising during scheme appraisal and as part of design development. The key changes to the design are summarised in Table 1. The latest Draft General Arrangement drawing is included in Appendix 1.

£12,949,080 of funding has been allocated for the development and delivery of this scheme, comprised of £825,807 from CIP2, £11,547,671 from the City Region Sustainable Transport Settlement and £575,602 from Section 106 Developer Contributions. It is expected that the scheme can be delivered within the envelope of currently allocated funding.

Table . Changes to scheme design since public consultation.

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| --- | --- |
| Change | Reason |
| Proposed new bus lane southbound between Lawnswood Cemetery and Lawnswood roundabout to be omitted from the scheme. | Traffic modelling undertaken as part of the development of the OBC suggested that the introduction of this bus lane could introduce significant additional delay for southbound vehicles on Otley Old Road, including buses. |
| Speed limit on A6120 Ring Road between Lawnswood Roundabout and King Lane to be reduced as follows:* 40 mph between Lawnswood roundabout and Leeds University sports facilities access.
* 50 mph between Leeds University sports facilities access and Tongue Lane.
* 40 mph east of Tongue Lane.
 | A number of respondents to the public consultation exercise suggested that the speed limit should be reduced here due to safety concerns. Reductions to the speed limit along this section have also been proposed as part of LCC’s Vision Zero strategy.  |
| Left turners on the eastbound approach to the roundabout to be signalled separately from straight ahead and right turners. | Under the previous design, drivers approaching the roundabout from the west and wishing to turn left would have entered the roundabout under the same green light as vehicles going straight ahead or turning right. These drivers would then have reached a second stop line (at the cycle crossing of the northern arm of the roundabout), approximately 25 metres after passing the stop line on their entry to the roundabout. Placing two stop lines in close proximity can create a risk that drivers will fail to perceive/react to the second stop line. Signalling these left turners separately from other movements allows them to be held at the first stop line if the crossing of the northern arm is in use, meaning that the second stop line is not required. |
| Toucan crossings originally proposed on northern arm of roundabout to be replaced with separate pedestrian and cycle crossings. | At the previous design iteration, it was believed that there was insufficient space to provide separate pedestrian and cycle crossings on the northern arm of the roundabout, without requiring additional tree removals. Toucan crossings were proposed on the northern arm as a compromise. Toucan crossings introduce a risk of conflict between pedestrians and cyclists. Further design work has identified that there is sufficient space for separate pedestrian and cycle crossings, without requiring additional trees to be removed. |
| Additional crossing to be provided on Otley Road, north of Weetwood Road. | The current design includes moving the southbound bus stop opposite Lawnswood School further south, to accommodate safe facilities for southbound cyclists re-entering the carriageway after traversing the roundabout. This takes the bus stop further from the existing toucan crossing at Spen Approach. During consultation it was identified that this would result in a less direct route between the bus stop and the pedestrian access to the School at Weetwood Road (the access at Spen Approach is reserved for motor vehicles and cycles). The additional crossing at Weetwood Road will provide more direct access between the School and the new bus stop.  |

The current design is seen as providing the best route to addressing the issues with the Lawnswood roundabout, whilst minimising the impacts on trees and green space, and minimising any negative impacts relating to congestion. The key benefits of the proposed scheme may be summarised as follows:

* Improved safety for all road users.
* Safer and more attractive facilities for active modes at this key location.
* Signalisation of the junction will allow buses to be prioritised.

A number of respondents to the public consultation exercise undertaken between November 2021 and January 2022 raised concerns regarding the junction of the A660 Otley Road with Otley Old Road. These concerns focused on a number of recent road traffic collisions at the junction, as well as the lack of pedestrian crossing facilities, which impairs access to bus stops. In addition to this, bus operators have raised concerns regarding existing delays for buses southbound on Otley Old Road. Therefore, alongside work on detailed design and delivery of the Lawnswood Roundabout Improvement scheme, the design team are developing a feasibility design for the Otley Old Road junction, which would introduce traffic signals and crossing facilities at the junction, as well as improved cycle facilities. It is anticipated that signalisation of this junction would also enable a bus lane to be introduced on Otley Road southbound, between Lawnswood cemetery and Lawnswood roundabout, without causing delays for general traffic and buses southbound on Otley Old Road which may result from the introduction of such a bus lane were this junction left in its current form (as described in Table 1). Future delivery of an intervention at the Otley Old Road junction would require further public consultation, and would also require additional funding to be secured. It is not anticipated that this proposal would be delivered within the same timescales as the proposed intervention at Lawnswood roundabout.

## Landscape design

Delivery of the Lawnswood Roundabout Improvement scheme will require two trees on Otley Road to be removed, in order to facilitate a segregated cycle track on the southbound approach to the roundabout. An additional two trees on the southeast corner of the roundabout will need to be relocated as part of the scheme (these trees are small enough to be removed from their current location and replanted elsewhere). An additional tree within the verge on the eastern arm of the roundabout was identified during the previous public consultation exercise as needing to be removed as part of the scheme – however, changes to the design on this arm now mean that this tree can be retained.

Work is currently underway on the landscape design for the scheme. It is proposed to plant three new trees for each tree lost as part of the delivery of this scheme, and it is intended that as many as possible of the new trees will be planted within the immediate vicinity of the roundabout. The design team is also exploring options to commission sculptures to be carved from the trunks of the two trees to be removed, which would be installed within the immediate vicinity of the roundabout.

## Traffic modelling

The latest traffic modelling suggests that signalisation of the roundabout will result in slight increases to journey times for some general traffic movements, at some times of day. The majority of journeys would experience journey time increases of less than thirty seconds, and journey times would reduce for some movements through the roundabout. The results also suggest that most bus journeys would experience reduced journey times as a result of the scheme, due to buses being prioritised at the new traffic signals. Considerable work has been undertaken through the design process to minimise disbenefits for general traffic and buses where reasonably practicable. There is no reasonably practicable alternative design which would tackle the existing issues with road safety and poor active travel provision at the roundabout without impacting general traffic journey times.

## Emissions modelling

Some local residents raised concerns during the public consultation exercise that the new traffic signals could cause issues with air quality, as a result of queuing traffic on the approaches to the traffic signals. In response to these concerns, the project team commissioned some emissions modelling to be undertaken as part of the project development, in order to better understand the possible impacts on air quality. At the time of writing this work is close to completion, and the preliminary results show the following:

* Air quality is likely to be worsened at some locations within the immediate vicinity of the roundabout as a result of the scheme, including outside residential properties on the eastbound approach to the roundabout and on the northbound exit from the roundabout.
* Whilst the projected worsening of air quality is acknowledged, it is important to note that the provisional results suggest that pollutant concentrations are not likely to breach objectives set out in national guidance.
* Whilst measured pollutant concentrations close to kerb lines at Lawnswood roundabout are relatively high in some locations, it is widely understood that pollutant concentrations tend to fall rapidly with distance from the kerb line, and therefore concentrations in sensitive locations such as residential properties and the grounds of Lawnswood School will be much lower.
* Broader trends such as improvement in vehicle technologies and the roll out of electric vehicles will help to reduce pollutant concentrations over time.

Whilst the projected worsening of air quality in some locations is acknowledged, this appears to be an unavoidable result of the introduction of traffic signals and safe pedestrian and cycle facilities at the roundabout. Through the design process, the project team have sought to minimise the likely queuing and congestion at the new traffic signals, and this process will continue through commissioning and configuration of the new traffic signals – this work will help to minimise any negative impacts on air quality.

## Next steps

Table 2 provides an outline of the proposed next steps for the Lawnswood Roundabout Improvement scheme.

Table 2. Next steps.

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| **Activity** | **Date** |
| Detailed design | Spring 2024 |
| Full Business Case submission | 1st May 2024 |
| Procure main contractor | Summer 2024 |
| Utilities works to start on site | Summer 2024 |
| Main contractor to start on site | September 2024 |
| Finish on site | Late 2025 |

## Appendices

Appendix 1 – DRAFT General Arrangement Drawing