

Report of the Director of City Development

Report to Executive Board

Date: 21 March 2018

Subject: Improving Traffic Flow on the A65 Corridor

Capital Scheme Number: 32899 / 000 / 000

Are specific electoral Wards affected? If relevant, name(s) of Ward(s): Guiseley and Rawdon, Otley and Yeadon, Horsforth, Kirkstall	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the decision eligible for Call-In?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, Access to Information Procedure Rule number: Appendix number:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Summary of main issues

1. Leeds City Council has an overarching programme of transport improvements that it is bringing forward in partnership with the West Yorkshire Combined Authority (WYCA) and Network Rail. This includes bus corridor improvements, new park and ride schemes, new rail halts and the recently announced bike share scheme. As part of this programme, improvements are also planned to ease congestion on the highway and this report outlines proposals for the A65 corridor.
2. As part of the Leeds transport strategy the Council is developing and upgrading its traffic signal control systems to meet the challenges of a growing 'core city'. To support the process, a bid was submitted to the Department for Transport (DfT), in June 2017, for the National Productivity Investment Fund (NPIF). The NPIF bid set out the desire to 'kick-start' the longer-term strategy of implementing smarter, adaptive, traffic signal control across strategic routes in North West Leeds, helping to reduce delay and improve air quality.

3. In October 2017, DfT awarded Leeds City Council £2.16 million from the National Productivity Investment Fund to implement the adaptive traffic signal control system SCOOT over a two year period from April 2018.
4. SCOOT will help to reduce congestion along strategic routes by adapting traffic signal timings to variations in traffic flow. The system will be implemented with a bus priority enhancement module (Bus SCOOT) to improve bus journey time reliability. SCOOT will also improve coordination between traffic signal controlled junctions for general traffic, reducing the number of stops that vehicles have to make. It is planned that SCOOT will be implemented along with other complementary enhancements to the Council's existing traffic control systems that will enable pedestrian waiting times to be reduced when compared to a standard SCOOT installation.
5. Driver information will be provided by additional Variable Message Signs to be installed as part of the scheme to provide road users with dynamic journey time information derived from a journey time monitoring system. Innovative solutions will also be used to reduce emissions by larger, more polluting, vehicles to enhance air quality benefits. The A65 Corridor scheme will therefore play an important role in achieving the Best Council Plan Transport & Infrastructure objectives as well as contributing to the Low Carbon and Good Growth aspirations.
6. The SCOOT NPIF scheme aligns with other major programmes such as the Leeds Public Transport Investment Programme (LPTIP), West Yorkshire Plus Transport Fund (WYPTF), Corridor Investment Programme (CIP) and the Clean Air Zone proposals as it will provide a platform from which the enhanced traffic signal control system can be implemented across multiple strategic routes. The system enhancements and the knowledge gained from this scheme through implementation, monitoring and evaluation will be used in, and contribute to, other programmes to provide long term benefits.

Recommendations

7. Executive Board is requested to:
 - i) Approve the injection of £2.16m into the Capital Programme, fully funded from the Department for Transport grant.
 - ii) Give Approval to Spend for £2.16m (being £250,000 staff design fees, and £1.91m construction costs) over a 2 year period from April 2018, fully funded from the Department for Transport grant of £2.16m.
 - iii) And to note:
 - a. The scheme proposal as described in sections 2 and 3;
 - b. Construction of the scheme is programmed to start in September 2018 and be fully operational by March 2020; and
 - c. That the Chief Officer Highways & Transportation will be responsible for implementation.

1 Purpose of this report

- 1.1 This report sets out the purpose of the SCOOT NPIF scheme and seeks Approval to Spend for the £2.16m NPIF grant awarded to Leeds City Council by DfT for application to the enhancement of the traffic control system on the A65 corridor.

2 Background information

- 2.1 Traffic control systems play a key role as part of the wider investment programmes in the highway and transport network that form the Leeds Transport Strategy. They form the first line of operations in terms of the traffic management and the minimisation of congestion in the city and contributes a key element of many highway improvement schemes. Improvements are therefore an essential complement to the Public Transport Investment Programme (LPTIP), the investment programme through the West Yorkshire Transport Fund and to the many developer funded schemes that come forward each year to support the new developments and regeneration in the city.

- 2.2 Traffic signal control is a tool for managing traffic flow on the network and this report specifically address a proposal to introduce a system called SCOOT to Leeds. Traffic signals are commonly implemented to improve traffic flow and/or to improve safety by managing conflicts. The systems available for controlling traffic signals have steadily improved as advances in computing power and communications technology has enabled a wider range of tools and techniques to be developed. SCOOT is one such tool and is widely used across the UK and internationally. The SCOOT acronym refers to:

Split: The proportion of green time given to each junction approach or pedestrian crossing.

Cycle: The length of the cycle time (i.e. the time required to serve all the competing demands at the junction once).

Offset: The time delay between neighbouring junctions to allow coordination.

And, the last two letters refer to Optimisation Technique.

- 2.3 Research for Transport for London where SCOOT has delivered an average 12.7% reduction in delay has demonstrated the benefits and value of this system for managing congestion¹. The Transport Research Laboratory (TRL Ltd) found that Bus SCOOT can deliver an approximately 20% reduction in bus delay when compared to SCOOT alone². Advances in the SCOOT system since it was first developed allow the network to be managed in a smarter way than has historically been the case and Leeds is committed to working with other users of this system innovatively in the future.
- 2.4 Traffic on major roads in Leeds has risen by approximately 12% between 2000 and 2015. The congestion experienced in North West Leeds for all vehicles is some of the worst in the district. Combined with Leeds' growing population and economy, the failure to make the road network more resilient to dynamic traffic flows will result in further deterioration. This will increase the level of congestion, worsen air quality and

¹ <http://www.traffictechnologytoday.com/news.php?NewsID=37610>

² TRL Report TRL255 Bus Priority in SCOOT

reduce the attractiveness of bus travel, potentially deterring modal shift and impacting development viability in this area.

- 2.5 The A65 has been chosen as the preferred route for implementation as it exhibits characteristics that make it suitable for application of the SCOOT system. For example, along the A65 there are a large number of signal controlled junctions and pedestrian crossings that are within a short enough distance that coordination becomes beneficial. In other locations that may seem desirable, such as the City Centre, it is not currently viable to install the necessary infrastructure.
- 2.6 An increase in automation of the systems that manage the network will enable the available resource to be focused on required intervention, particularly for incidents, rather than day to day management of congestion. The introduction of traffic signal optimisation techniques will enable the network to be managed more efficiently and reduce the requirement for operator intervention.
- 2.7 Implementing SCOOT will ensure that Leeds is able to maximise the effectiveness of the Clean Air Zone and to fully realise the benefits of other major transport investment programmes such as the LPTIP, WYPTF. More locally, the scheme will also complement other local planned improvements, such as the A6120 Fink Hill junction and facilitate further innovation.
- 2.8 There are various rail improvements either delivered (Kirkstall Forge) or planned (Thorpe Park, White Rose and LBA) and these are complemented by significant bus travel investment through Park and Ride. This scheme provides further investment in bus travel and walking/cycling through upgraded infrastructure, supporting the delivery objectives of the wider transport strategy by providing a balanced approach for meeting future demand.

3 Main issues

- 3.1 The SCOOT NPIF scheme will help to reduce congestion on strategic routes in North West Leeds. SCOOT will also improve coordination between signal controlled junctions that will reduce emissions from stop/start traffic. The additional Bus SCOOT enhancement module will help to improve bus journey times and bus journey time reliability.
- 3.2 The A65 corridor, with the various junction types and challenges, will provide an extremely useful proving ground for the SCOOT technology and other traffic signal control enhancements planned for implementation. The understanding gained from this scheme will be put to wider use in Leeds and within forthcoming programmes now in development as part of the LPTIP.
- 3.3 As part of the scheme, a journey time monitoring system will be implemented to provide feedback on development of the SCOOT strategies. The monitoring will enable successful strategies to be taken forward and used elsewhere based on an informed decision. The strategies developed for this scheme will include the planned use of air quality monitoring sensors to enhance the traffic control strategies and to complement the CAZ objectives.
- 3.4 These proposals are consistent with the development and planning of the wider traffic signal systems in West Yorkshire.

4 Corporate Considerations

4.1 Consultation and Engagement

- 4.1.1 The Executive Member of Regeneration, Transport and Planning supports the proposal.
- 4.1.2 Affected ward members have been consulted.
- 4.1.3 The proposed scheme was supported by the Member of Parliament for Pudsey, Horsforth and Aireborough.
- 4.1.4 West Yorkshire Combined Authority has been consulted and supported the funding bid to DfT and the delivery of the scheme.

4.2 Equality and Diversity / Cohesion and Integration

- 4.2.1 An Equality, Diversity, Cohesion and Integration Screening has been prepared and an independent impact assessment is not required for the approvals requested. The screening document is attached at Appendix A.

4.3 Council policies and the Best Council Plan

- 4.3.1 The SCOOT NPIF scheme will reduce congestion along strategic routes, improve bus journey time reliability and reduce emissions. The reduction in congestion will help to accommodate growth aspirations, whilst the further enhancement of Bus SCOOT promotes inclusive growth. The upgrade of infrastructure to accommodate SCOOT will provide a platform for further innovation and contribute to the aspiration of 21st century infrastructure. The A65 corridor will therefore play an important role in achieving the Best Council Plan 2018/19 – 2020/21 priorities on 21st-Century Infrastructure, Inclusive Growth and Health & Wellbeing.'
- 4.3.2 The proposals align with the objective of the Leeds Interim Transport Strategy which envisions improving journey times on some of the most congested corridors and the sub-regional objectives of the West Yorkshire Transport Strategy.
- 4.3.3 Reducing vehicle stops through the use of adaptive traffic signal control measures such as SCOOT reduces vehicle emissions, contributing to the Clean Air Zone objectives.

4.4 Resources and value for money

- 4.4.1 The total costs of the design fees and construction costs is estimated at £2.16m (being £250,000 staff design fees, and £1.91m construction costs). The costs will be fully funded from the Department for Transport grant of £2.16m, awarded in October 2017.
- 4.4.2 The Benefit Cost Ratio (BCR) for the scheme calculated for the submission to DfT is a robust 2.34 based purely on peak period benefits, rising to 2.92 if the appraisal is extended beyond the peak periods.

4.4.3 Capital Funding and Cash Flow

Previous total Authority to Spend on this scheme	TOTAL £000's	TO MARCH 2018 £000's	FORECAST				
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2020/21 £000's	2021 on £000's
LAND (1)	0.0						
CONSTRUCTION (3)	0.0						
FURN & EQPT (5)	0.0						
DESIGN FEES (6)	0.0						
OTHER COSTS (7)	0.0						
TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2018 £000's	FORECAST				
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2020/21 £000's	2021 on £000's
LAND (1)	0.0						
CONSTRUCTION (3)	1910.0	0.0		875.0	1035.0		
FURN & EQPT (5)	0.0						
DESIGN FEES (6)	250.0	0.0		125.0	125.0		
OTHER COSTS (7)	0.0						
TOTALS	2160.0	0.0	0.0	1000.0	1160.0	0.0	0.0
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2018 £000's	FORECAST				
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2020/21 £000's	2021 on £000's
Government Grant	2160.0	0.0	0.0	1000.0	1160.0		
Total Funding	2160.0	0.0	0.0	1000.0	1160.0	0.0	0.0
Balance / Shortfall =	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Parent scheme number :

Title : SCOOT NPIF

Revenue effects

None.

4.5 Legal Implications, Access to Information and Call In

4.5.1 Executive Board has the power to approve the Key Decisions recommended in this report. The decision is eligible for call-in.

4.6 Risk Management

4.6.1 A quantified risk assessment has already been undertaken as part of the bid process for the NPIF funding award and this will be updated as the project progresses.

4.6.2 A key risk is the resource availability of contractors to undertake the physical works required to implement the necessary infrastructure given the volume of capital

programmes currently being undertaken. The project programme will be monitored and updated throughout the scheme to ensure that any delivery issues are identified and addressed in a timely manner.

5 Conclusions

- 5.1 The A65 Corridor scheme supports economic growth in the city, helps to achieve Clean Air Zone objectives and continues the process of providing 21st century infrastructure, in alignment with the Best Council Plan.
- 5.2 The scheme complements the wider transport investment programme including LPTIP, WYPTF and CIP by providing a platform for developing strategies that can be implemented in future schemes.
- 5.3 The A65 Corridor scheme will provide a continuation of the wider investment in public transport (i.e. Park & Ride and rail improvements) by providing for improved bus travel on the A65 corridor.

6 Recommendations

6.1 Executive Board is requested to:

- i) Approve the injection of £2.16m into the Capital Programme, fully funded from the Department for Transport grant.
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- iii) And to note:
 - a. The scheme proposal as described in sections 2 and 3;
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 - c. That the Chief Officer Highways & Transportation will be responsible for implementation.

7 Background documents³

7.1 None.

8 Appendices

8.1 Appendix A: Equality Screening Report.

³ The background documents listed in this section are available to download from the Council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.