

Excerpts from Economic Assessment produced by Mott Macdonald

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(2.1)

### 2-2.2 Options Considered

LCC with support of Amey Consulting produced a series of options for managing the Churchill Way flyovers. The final list of options considered are:

1. Do nothing – Take no action to address the risk posed by the two flyovers.
2. Monitor and inspect only – To continue to monitor and inspect the flyovers for deterioration and spalling of the concrete.
3. Monitor, inspect and maintain – To monitor and inspect the flyovers regularly, and to carry out limited maintenance works to avoid the collapse of the flyovers.
4. Demolition – To demolish both flyovers immediately to avoid the risk of collapse.
5. Partial replacement – to replace either of the two flyovers.
6. Full replacement – to replace both flyovers.

(2.2)

### 2-2.4 Summary

This largely qualitative options appraisal has established that Option 4: Demolition offers the most cost effective option for fully removing the risk posed by the Churchill Way flyovers. Options 1, 2 and 3 fail to remove or, in some cases, even mitigate this risk, while Options 5 and 6 are unduly costly and therefore do not offer value for money to LCC and the LCRCA. A summary of the costs of each option is shown in Table 1 below. This table includes details of the additional cost of each option compared to Option 4: Demolition.

**Table 1: Cost comparison**

Option	Total cost estimate (including demolition of flyovers) (2019 prices, over 20 years)	Additional Cost Compared to Option 4 (nearest million)
Option 1: Do nothing	£7m	£0m
Option 2: Monitoring and inspect only	£13m	£6m
Option 3: Monitor, inspect and maintain	£18.2m (£11.2m core cost plus £7m to demolish the flyovers)	£11m
Option 4: Demolition	£6.75m	-
Option 5: Partial replacement	£30.75m - £34.13m	£24m
Option 6: Full replacement	£51.79m	£45m

(Source LCRCA)

Table 1 shows that Option 4, the demolition of the flyovers is the lowest-cost option and as such is the most economically advantageous option as even the Do-nothing option (1) and the Do-minimum options (2&3) are more expensive throughout the lifetime of the flyovers as each ultimately requires the demolition of the flyovers. Compared to the Do-minimum Option 3 of monitor, inspect and maintain there is a cost saving of £11m.

The benefit of delivering Option 4 over all other options is the comparative cost saving to LCC and the LCRCA. This cost saving ranges from approximately £250,000 to more than £45m over a 20-year period. Successive PTSI inspections have found that the instability of the flyovers and the inability to fully maintain the post-tensioned structures means that the flyovers will have to be demolished at some point, so any option other than the immediate demolition of these flyovers is merely delaying this work and incurring more costs in the process. The option that offers the greatest value for money is to demolish the flyovers immediately and in doing so, save the other costs incurred under other options and fully remove the risk associated with maintaining the flyovers.

(2.3)

#### 4 Conclusion

This assessment has considered the options available for the Churchill Way flyovers. It has concluded that financially Option 4: Demolition is the most cost-effective option. Additionally, the transport impact of a failure of the flyovers necessitating road closures has been assessed, indicating a one-day disbenefit of -£193,000. After 35 days the transport economic impact of the closures would equal the demolition cost.