



Street Works Lane Rental Evaluation

A report to the Department for Transport
Ecorys with input from TJH Consulting
December 2015



Contents

	Abstract.....	1
	Executive Summary	2
1.0	Introduction	6
1.1	Purpose of the study.....	6
1.2	Methodology	7
1.3	Note on terminology.....	7
1.4	Structure of the report	7
2.0	Background and Context	8
2.1	Street Works and Road Works	8
2.2	Lane Rental	9
2.3	Works promoters.....	16
2.4	Summary	17
3.0	Process	18
3.1	Implementation.....	18
3.2	Scheme Costs.....	22
3.3	Scheme Performance.....	22
3.4	Use of surplus revenues.....	25
3.5	Lessons.....	26
3.6	Summary.....	26
4.0	Effects of Lane Rental	28
4.1	Process of Planning Works	28
4.2	Response to Scheme and Mitigation Measures	29
4.3	Works Undertaken.....	34
4.4	Role of Lane Rental in Creating Behavioural Change.....	36
4.5	Costs and Benefits	37
4.6	Wider effects.....	39
4.7	The Impact of Differences between the Two Schemes	39
4.8	Summary	40
5.0	Overall Assessment	41

6.0	Recommendations	43
	Annex One: Data Template	44

Abstract

The aim of this research was to evaluate the impact and effectiveness of the two pioneer Lane Rental schemes with a focus on exploring the ways in which the two participating authorities (Kent County Council and Transport for London) have implemented their schemes and the effect that this has had on the behaviour of works promoters. The research involved interviews with authorities and promoters and review of available data, which was undertaken between April and August 2015.

Based on a review of the development and delivery process, the research has found that the two pioneer schemes have been successfully implemented. Promoters were actively engaged in the development phase and there is evidence of a continuing process of dialogue and review.

Monitoring data shows a reduction in the disruption caused by works since the schemes were introduced, although this does not prove that Lane Rental is the cause of this observed change. Promoters highlighted that Lane Rental is just one of several drivers of behavioural change.

The main mitigation measure reported by promoters is a move towards more out-of-hours working, where this is deemed the most cost-effective solution. Although promoters were generally unable to estimate the overall cost of mitigation measures to their business, most were able to provide specific examples of costs incurred, including higher wage costs associated with out-of-hours working.

As intended, surplus revenues from the scheme are being used to fund projects to test new approaches or materials, although it was felt that more could be done to stimulate demand for this resource.

Executive Summary

This section presents a summary of findings of an evaluation of Lane Rental schemes which has been undertaken by Ecorys with input from Tobias Hemmings of TJH Consulting. This report may be of interest to local highway authorities, works promoters, Department for Transport and other Government Departments' officials and others.

Introduction

The aim of this research was to evaluate the impact and effectiveness of the two pioneer Lane Rental schemes, delivered by Kent County Council (KCC) and Transport for London (TfL).

The research has placed a focus on exploring the ways in which the two participating authorities have implemented their schemes and the effect that this has had on the behaviour of works promoters in order to draw out lessons in the event that Lane Rental schemes were to be rolled out further.

The research involved interviews with authorities and promoters and a review of available data, which was undertaken between April and August 2015.

Background

The requirement for notices and the possibility of introducing a permit regime have been intended to progressively increase the ability of highways authorities to manage and coordinate works in their areas to minimise disruption. However, street works and road works remain a significant cause of delay and disruption resulting in significant costs to society. The fact that these costs are largely external to the market provides an argument for intervention to more closely align the incentives of promoters with those of society.

The Government recognised that there is considerable scope to reduce this disruption and adopted a strategy based around providing the right powers, incentives and tools to those involved to encourage adoption of best practice in the management and coordination of works.

Lane Rental schemes involve charging those carrying out works for the time their works occupy the highway. The Government felt that well-designed and well-targeted Lane Rental schemes, focused on the most critical parts of the highway network and with charges applying only the busiest times, should encourage works to be carried out in a less disruptive manner.

In January 2012, DfT introduced The Street Works (Charges for Occupation of the Highway) (England) Regulations 2012 and published guidance for local highway authorities considering implementation of a Lane Rental scheme, with an intention to test the approach in a small number of areas. TfL and KCC were subsequently chosen as the two pioneer areas.

The approval of the pioneer schemes was seen as a way to complement existing permit schemes by providing financial incentives to encourage promoters to work outside of traffic sensitive times and reduce the duration of works.

The two schemes have been developed in accordance with national guidance, although this has also allowed flexibility to tailor the schemes to the specific circumstances of the areas in the identification of

locations and charging times. However, there are significant differences between the two schemes in the delineation of the charges, the time periods and exemptions which apply and in the mechanisms for dealing with collaborative work.

Process

The evaluation has found that both authorities are keen to work with promoters to help them find solutions to avoid Lane Rental but at the same time will generally let promoters make the final decision about when to schedule works. To ensure fairness and transparency, authorities apply charges rigorously but are open to negotiation if there is a good case to suggest that charges have been applied incorrectly or if a promoter has taken significant steps to mitigate the impact of works.

In both authorities, there is evidence of behaviour change leading to improved outcomes (such as reduced congestion) for the road network since the scheme was introduced, although this does not prove that Lane Rental is the cause of this observed change (demonstration of causality would require detailed analysis of the counterfactual which was not possible within the scope of this study).

In the view of the authorities, Lane Rental complements the permit scheme and permitting is a necessary precondition of being able to administer a Lane Rental scheme. Most promoters, however, feel that the permit scheme alone is sufficient to change behaviours and there is no need for a Lane Rental scheme. Some promoters, however, thought that Lane Rental could replace the permit scheme as it provides greater emphasis on traffic-sensitive roads.

The evidence suggests that, in both schemes, the distribution of Lane Rental revenues through the Innovation Fund has been slower than expected. There is an argument to suggest that the scope of projects eligible for funding should be expanded (for example by allowing it to be spent on infrastructure), to ensure that the benefits to road users are maximised.

Effects

In general, Lane Rental appears to be working in the sense that it is providing incentives for promoters to think more carefully about how to plan street works to reduce impact on road users.

The main mitigation measure reported by promoters is a move towards more out-of-hours working, where this is deemed the most cost-effective solution for the promoter and where other restrictions, such as noise and health and safety considerations, do not inhibit night working.

Promoters argue that the observed changes in behaviour had been promoted by a number of drivers, primarily internal efforts to improve cost effectiveness and agreements made with the regulator, and were part of a longer-term trend towards increased innovation and out of hours working. It was generally felt that most of the observed changes would have happened anyway, without Lane Rental.

Lane Rental charges and mitigation costs tend either to be absorbed by promoters or passed on to customers. Contractors are generally not liable for charges unless they fail to carry out works according to specification and this results in additional Lane Rental charges being applied.

Some promoters have been incentivised to delay non-urgent planned maintenance work to their assets where this would be liable for a Lane Rental charge. This may have the perverse effect of creating a higher number of emergency works due to poorly maintained infrastructure.

Further perverse incentives are created by the scheme guidance. Due to a blanket daily charge being applied for any incursion in the carriageway for any amount of time, there are insufficient incentives for promoters to reduce their impact by reducing durations within the day or scheduling works to avoid the most traffic-sensitive times within a charging period. This could be solved to some extent by applying charges on a more *pro rata* basis, although this may be at the expense of maintaining the simplicity and clarity of the schemes.

Lane Rental leads to an increase in costs to promoters and ultimately to utility customers and council tax payers, which reflects the rental value of accessing public assets. It also involves significant 'transaction costs' to both the authorities concerned and works promoters, although indications are that these are probably substantially outweighed by the economic benefits of reduced congestion. There are some direct benefits to promoters (e.g. improved public perceptions and improved efficiency) but ultimately the major benefits accrue to road users through improved traffic flows.

Overall assessment

From an operational perspective, the two pioneer schemes appear to have been successfully implemented and effectively function as an extension of existing permit schemes. Promoters were actively engaged in the development phase and this, along with continued dialogue and a period of "shadow operation", is cited by authorities as a key reason behind the successful delivery of the schemes. Authorities feel that Lane Rental complements and adds to their existing permit schemes giving them additional levers with which to influence behaviour, although promoters tend to argue that the introduction of Lane Rental has just served to add an extra layer of administration and has not significantly influenced their behaviour compared to permits alone.

Although there is currently no proof of causality, monitoring data from both KCC and TfL appears to show that the schemes have been successful in reducing disruption in the scheme areas, and the associated costs of congestion. Discussions with promoters support this finding, pointing to an increase in out of hours working and use of innovative techniques or materials. However, the influence of Lane Rental on observed behaviour is not entirely clear as promoters highlight Lane Rental as just one of several drivers of behavioural change and feel that other drivers are more important, with the additionality of Lane Rental being limited. These drivers include the continual need to improve efficiency and reduce the costs, as well as existing commitments to reduce the disruption caused by street works. In particular, a number of promoters consider that the permit scheme provided sufficient drivers to ensure that promoter behaviour is aligned with the highway authority's intended outcomes.

When deciding how to undertake jobs, promoters assess the costs of the Lane Rental fees against the costs and feasibility of working in a way that avoids the charges. In this sense, Lane Rental is encouraging promoters to consider the costs of congestion caused by their actions in their decision making to some degree, thereby helping to internalise the external costs. However, the level of analysis and understanding of the related charges varies amongst promoters.

Although promoters were generally unable to estimate the overall cost of Lane Rental mitigation measures to their business, most were able to provide specific examples of costs incurred. The most prevalent is the additional wage costs for contractors to work out of hours, along with the costs of additional equipment such as lighting and access to materials. For example, one promoter estimated that the contractor costs for out of hours working were subject to a 50% uplift and another reported having paid an additional £500 to ensure access to reinstatement materials outside of normal working hours. The availability of contractors

to work out of hours was also reported to be an issue, given a general preference to work in normal working hours (and the availability of other alternative work).

Overall, it appears that Lane Rental has helped to reinforce and encourage behavioural change but that it is only one of several factors and that internal drivers (such as the need to reduce costs and improve customer service) and the influence of the regulator are also important factors which are perceived to have already led to promoters exploring new ways of working and investing in innovation.

1.0 Introduction

This report presents the findings of an evaluation of the two pioneer Lane Rental schemes undertaken by Ecorys on behalf of the Department for Transport (DfT). The authors acknowledge the inputs of Tobias Hemmings of TJH Consulting, a street works specialist who acted as a consultant for this evaluation and provided insights into the Lane Rental process.

1.1 Purpose of the study

The purpose of the study is to review the two pioneer schemes (in London and Kent), with a view to considering whether to make Lane Rental available to authorities across England.

The study has aimed to evaluate the impact and effectiveness of the Lane Rental schemes in both London and Kent with a focus on the following two particular aspects:

- The impact of Lane Rental on works promoters and how works are delivered within the scheme (for both utilities and highways authorities' own works)
- The way in which each of the two participating authorities have implemented their schemes and lessons for possible future schemes.

Key questions highlighted in the statement of requirements for the study are shown in the table below.

Table 1.1 Key research questions

Questions for promoters
Do they have a process for deciding when it is most cost-effective to take measures to avoid the charges, or to incur them?
To what extent is the behaviour influenced by authority intervention?
Do works' promoters realise financial benefits from complying with Lane Rental, e.g. better efficiency through better planning, savings on traffic management, ability to use new working methods to advantage elsewhere?
To what extent do works' promoters pass on the costs arising from Lane Rental to their customers?
What new measures have works' promoters taken to mitigate the effects of Lane Rental, e.g. changes to reinstatement practices; out-of-hours working; technological developments?
Do works on non-lane rental roads suffer as a result of focus on Lane Rental roads?
Have works promoters avoided works on Lane Rental roads in the short-term which could not be sustained longer-term?
Do the arrangements between works' promoter and their contractors affect behaviour? How?
Have they placed greater emphasis on developing avoidance ways of working/technological solutions as a result of Lane Rental? How?
Questions for authorities
How are the charges applied in terms of footway vs. carriageway working?
To what extent do authorities help works' promoters to understand how alternative behaviour might avoid charges?
What level of discretion/discount is applied where efforts are made to reduce impact when works take place in chargeable periods?
How does the authority collaborate with utilities to minimise the impact of emergency works?

1.2 Methodology

The research gathered evidence from the following sources:

- Briefing meetings with DfT officials and the street works expert.
- Review of scheme documents, including monitoring and evaluation reports produced by the two pioneer authorities Transport for London (TfL) and Kent County Council (KCC).
- In-depth interviews with TfL and KCC officers involved in implementing and managing the Lane Rental scheme. An interview was also undertaken with representatives of the National Joint Utilities Group (NJUG).
- In-depth face-to-face or telephone interviews with works' promoters. A total of 21 interviews were conducted, some of which involved two or more interviewees. These included officers responsible for street works in both TfL and KCC, and street works managers from 15 different utility companies.
- The above interviewees were also asked to complete and return by email a data template detailing the volume of works by category over the last three years, and the costs and benefits associated with up to three example projects affected by Lane Rental. At least partially completed templates were received from nine companies, with some providing supplementary data outside of the template.

The findings from interviews and the data collected have been used to inform a review of both the delivery and impacts of Lane Rental.

The fieldwork was undertaken over the summer of 2015 and, as such, the evidence implicitly takes into account the changes made to both schemes since they were launched in response to consultations and internal review. The scope of the evaluation, however, covers the whole period since the schemes were launched. Therefore, the findings may include reference to issues that have since been resolved but we have tried to be clear when this is the case.

1.3 Note on terminology

The term 'promoters' is used to collectively describe the organisations which undertake street works and those which undertake road works, unless a specific distinction needs to be drawn. Similarly, street works and road works are collectively referred to as 'works'.

1.4 Structure of the report

The remainder of this report is structured as follows:

- Section 2 contains background information in order to place the evaluation in context.
- Section 3 sets out findings on the delivery of Lane Rental.
- Section 4 presents evidence on the impact of Lane Rental.
- Section 5 summarises key findings.
- Section 6 offers a series of recommendations.

2.0 Background and Context

This section provides an overview of Lane Rental, setting it in the wider context of other requirements for works (section 2.1) before providing details of the two pioneer schemes (section 2.2), as well as the processes for undertaking works (section 2.3). The section concludes with a summary (section 2.4).

2.1 Street Works and Road Works

Works carried out by statutory undertakers, or licensees under section 50 of the New Roads and Street Works Act 1991 (NRSWA), or their contractors, to install, inspect, maintain, repair or replace apparatus (or work required for or incidental to such works such as breaking up or opening the street) are known as street works. Most utility companies are statutory undertakers; this means that they have a statutory right or duty to install, inspect, maintain, repair, or replace apparatus in or under the street which is set out in primary legislation.

Road works (or works for road purposes) are works usually carried out by highway authorities to repair, maintain or replace highways, including works to replace or maintain street lighting.

The NRSWA and the Traffic Management Act 2004 (TMA) place duties on highway authorities to coordinate street and highway works and also to facilitate the expeditious movement of traffic within their areas (the network management duty). The highway authority is responsible for making appropriate use of the powers at their disposal, recognising that different tools may be appropriate in different situations. The NRSWA also places a general duty on the undertaker to cooperate in the coordination of works.

The NRSWA also requires that street works promoters provide advance notice of certain works to the highway authority. This practice is referred to as noticing. The notice must contain any information prescribed by the authority for the purposes of coordinating street works taking place in the area.

The TMA allows for the possibility of introducing a permit scheme which requires those wishing to carry out street or road works to first obtain a permit from the highway authority. This represents a significant change compared to the more passive notice requirement as promoters must proactively seek permission to undertake the work and the authority must consider whether to grant the permit and whether to impose any conditions on the work being undertaken (for example, regarding the times of day during which the work may be carried out). Permit schemes provide highway authorities with more scope to control and coordinate works in their area and also to charge a fee for permit applications. Unlike noticing, the permit scheme applies both to utilities and highways authorities' own road works, although the latter are not expected to pay permit fees. Regulations to allow introduction of such permit schemes were introduced in 2007. Initially, only a small number of permit schemes were introduced (including in Kent and London). The Deregulation Act (2015)¹ paved the way for a change to the regulations in 2015 which means that permit schemes no longer require the approval of the Secretary of State. There are currently 85 permit schemes in operation across England.

The NRSWA also provides for the introduction of financial incentives to reduce the disruption caused by street works. Under Section 74, authorities can levy overrun charges where works are not completed within

¹ The Deregulation Act makes provision for the reduction of burdens resulting from legislation, the repeal of legislation which no longer has practical use and the exercise of regulatory functions and related purposes.

an agreed, reasonable period of time while Section 74A enables authorities, with the approval of the Secretary of State, to levy a charge determined by the duration of works (i.e. Lane Rental schemes).

2.2 Lane Rental

2.2.1 Rationale for Lane Rental

Street works (works undertaken by utility companies requiring access to install, repair or maintain assets in or under the street) and road works (works undertaken by highways authorities to repair, maintain or replace highways) are a significant cause of delay and disruption, with congestion resulting from street works alone estimated to cost some £4.3 billion a year².

The costs of congestion are largely externalities. This means that those experiencing the negative impacts of congestion (i.e. society as a whole) are different to the people creating this congestion (i.e. those carrying out the works). In free market conditions, works promoters are assumed to consider only their own costs and revenues when deciding if, where, when and how to undertake street works but not the effects incurred by a third party. For example, a works promoter would usually prefer to undertake a given street works project during the working day when labour costs are lower, despite the fact that this may result in significantly higher levels of congestion for other users of the road than if the works were undertaken at night or at the weekend. This will result in a level of congestion which is higher than the socially desirable level.

The existence of such externalities is an example of market failure, and provides a strong rationale for Government intervention to more closely align the incentives of promoters with those of society, for example by imposing a daily charge on occupation of the highways in the most traffic sensitive streets where the costs of congestion are highest. However, there are risks associated with this type of intervention as, if the charge is too low or too high, then the change in the level of congestion may go beyond – or potentially even below - the socially optimal level³.

The NRSWA provides the legal basis for lane rental charges to be applied to street works (Section 74A) but this legislation requires regulation to be in force before Lane Rental schemes can be operated. Regulations were initially made in 2001 to enable the operation of pilot schemes in Middlesbrough and Camden over the period 2002-2004. However, these schemes were considered to be not effective (most likely due to issues with their design⁴) and so were discontinued and the regulations revoked.

In re-considering the potential of Lane Rental some years later, the Government's view was that well-designed and well-targeted Lane Rental schemes, focused on the most critical parts of the highway network and with charges applying only at the busiest times, should encourage those undertaking works to carry out their works in a less disruptive manner. It was considered that such schemes would provide an incentive to promoters to:

² Note that this figure was estimated in 2005 and one would expect the total costs of congestion to have risen since then. Source: Estimation of the costs of delay from utilities' street works (Halcrow, 2005).

³ The latter would occur if the marginal costs incurred by promoters in avoiding congestion were above the marginal benefits to road users in terms of the congestion avoided.

⁴ DfT's guidance on Lane Rental Schemes (January 2012) notes that the impact of the pilots is likely to have been impacted by the local and short-term nature of the schemes (which reduced the incentive for changes to working practices to be made) and the structure and level of charges (which offered limited opportunity to reduce exposure to the charges).

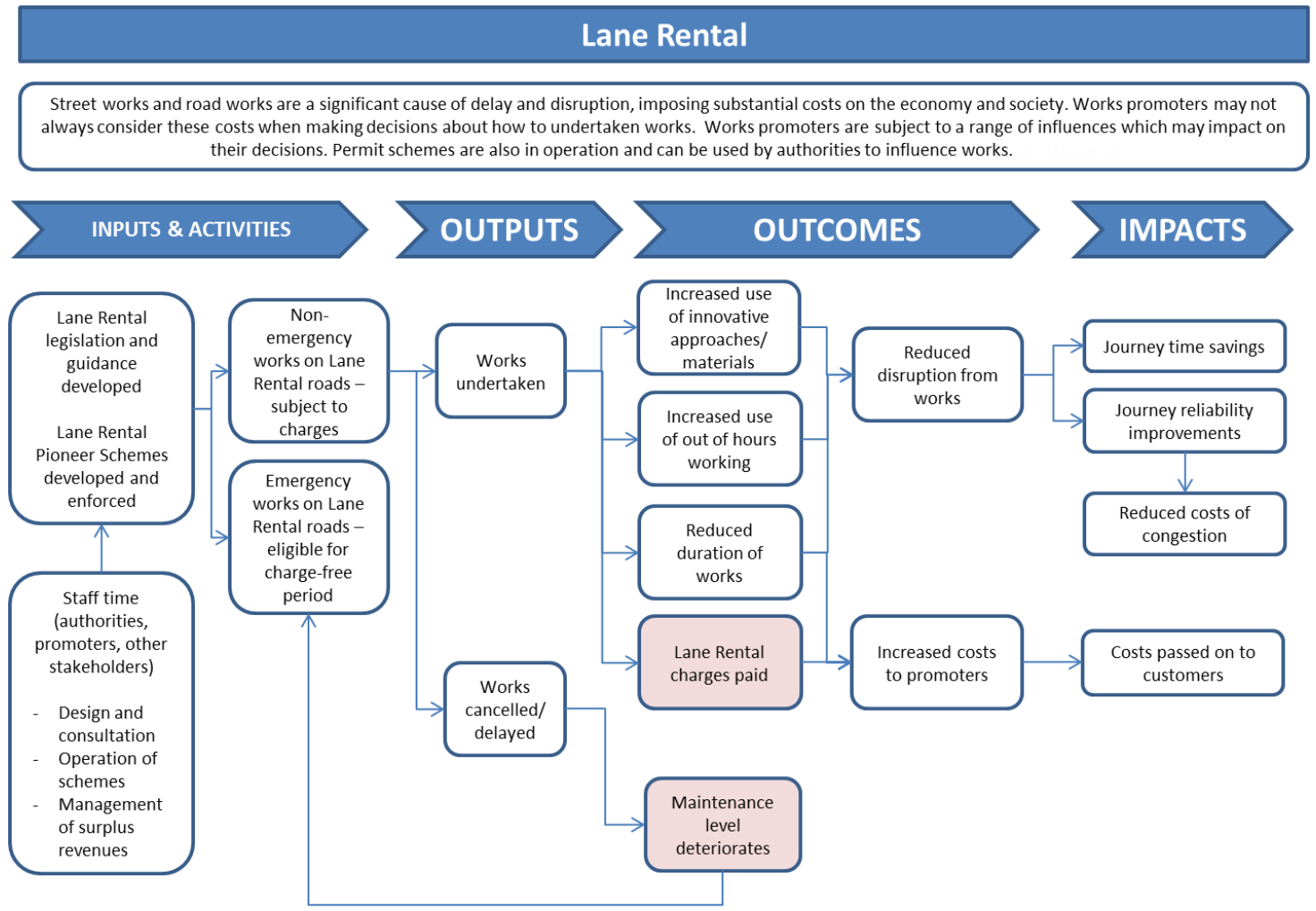
- reduce the length of time that work sites are unnecessarily unoccupied, hence reducing total works durations;
- improve planning, coordination and working methods to maximise efficiency;
- carry out more works outside of peak periods, reopening the highway to traffic at the busiest times (e.g. by plating over their excavations) and/or making greater use of evening or weekend working where the local environmental impact is acceptable;
- optimise the number of operatives on site to enable works to be completed as quickly as possible;
- complete works to the required standard first time, and with permanent reinstatement, reducing the need to return to the site to carry out permanent or remedial works;
- give highest priority to Lane Rental roads by focusing promoters' efforts and resources to get the works completed as quickly as possible.

In January 2012, DfT introduced The Street Works (Charges for Occupation of the Highway) (England) Regulations 2012. The decision to proceed with the option to legislate to allow future Lane Rental schemes targeted on critical parts of the local road networks at the busiest times was supported by an Impact Assessment⁵. This Impact Assessment concluded that Lane Rental schemes could potentially deliver a high benefit-cost ratio for society as a whole and the business sector specifically, when compared to non-regulatory measures and an alternative option of allowing local authorities to make enhanced use of the permit scheme. However, in recognition of the uncertainty surrounding the likely levels of costs and benefits, the intention was to proceed with a small number of pioneer schemes to enable further real-world evidence to be gathered.

The following logic map illustrates the potential impacts of the Lane Rental scheme. As shown, we would expect the scheme to ultimately deliver economic and social benefits through reduced road congestion in the scheme areas.

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4431/impact-assessment.pdf

Figure 2.1 Lane Rental Logic Map



2.2.2 Regulations and guidance on Lane Rental

In January 2012, DfT published guidance for local highway authorities considering implementation of a Lane Rental scheme. The guidance noted that, as Lane Rental was not yet proven to be an effective model for reducing disruption caused by works, the Government was interested in the possibility of approving schemes in up to three pioneer areas (to include one large metropolitan area), which focused on the most severe problem areas on the network and would be able to generate lessons to inform future decisions on whether the approach could be applied more widely. The guidance noted that the successful pioneer areas must be ones that had already attempted to address the problem of disruption through use of a permit scheme and that such schemes would operate alongside the authority's existing permit scheme (which would continue to play a crucial role alongside lane rental charges, particularly in ensuring that works taking place on the busiest streets are properly coordinated).

New regulation was required in order to allow further Lane Rental schemes to operate. The Street Works (Charges for Occupation of the Highway) (England) Regulations 2012 came into force on 14th March 2012, and made provisions for an undertaker executing street works in a highway to which the regulations apply to pay the Approved Authority a charge, with the maximum daily fee being specified at £2,500. Authorities must obtain approval from the Secretary of State to operate a scheme.

Costs incurred by the local authority in operating a Lane Rental scheme may be met by the authority from the charge revenues they receive. The Regulations also require that the surplus revenues, after deduction of scheme costs, are used for purposes intended to reduce the disruption or other adverse effects arising as a result of works.

The NRSWA refers specifically to street works, not road works. However, the network management duty of highway authorities under the TMA does not distinguish between different causes of congestion. Guidance on Lane Rental gave a clear steer that applying charges to both road works and street works would maximise the benefits to be gained by the scheme as well as promoting fairness by ensuring parity of treatment of different types of promoter.

The guidance also requires that schemes provide a charge-free period for emergency works that must be carried out in the charging period, which is consistent with the principle that the charges are to be genuinely avoidable.

Transport for London (TfL) and Kent County Council (KCC) submitted proposals and were subsequently approved as the two pioneer areas.

2.2.3 Lane Rental in London

TfL is the local government organisation responsible for most aspects of London's transport system, including London's busiest roads: the TfL Road Network (TLRN) comprises only 5% of London's road network but is responsible for over 30% of its traffic volume.

The TfL Lane Rental Scheme (TLRS) was introduced on 11th June 2012 and applied to 57% of the TLRN⁶. Its aim is to minimise disruption due to road works and street works in specified traffic-sensitive locations⁷

⁶ As a result of changes made on 1st July 2014, the TLRS now applies to 56% of the TLRN.

⁷ These are locations (e.g. major roads or major junctions) which are most vulnerable to traffic congestion at busy times.

by applying a daily charge for each day that the street is occupied by the works, although the charge can be avoided if the works take place outside of traffic-sensitive times. The TLRS seeks to contribute to journey time reliability,⁸ by encouraging the undertaking of works at the least traffic-sensitive times, and an early completion of works. The objectives of TLRS can be summarised as follows:

- treat all activity promoters on an equal basis,
- promote behaviour change to minimise the duration of occupation of the street at the busiest locations at traffic sensitive times on the network,
- minimise the number of works taking place during traffic sensitive times; and
- contribute to journey time reliability as required under the Mayor's Transport Strategy.

Following consultation, some changes were applied to the scheme from 1st July 2014 which affected the location and timing of charges. These changes were made to ensure that the scheme continued to cover the areas where it will bring the most benefit, reflecting changes to the road network and improvements in the data used to analyse the road network.

Some small changes have also been made to the scheme guidance, including an explicit exemption from the charge for works that only affect recesses and parking bays, and do not have an impact on the part of the carriageway which carries traffic.

TfL maintains an "FAQ document" which is shared with all promoters. This document is used to resolve any disputes around Lane Rental charging and is constantly updated as further questions or issues come to light. It also contains examples of where charges could be waived or reduced, in addition to those set out in the scheme guidance.

In London, the scheme fitted with the Mayor's Transport Strategy, and complemented TfL's increasing focus on achieving measurable outcomes (e.g. journey time reliability) from the strategic road network. As stated in the first annual monitoring report, the scheme "provides a mechanism for providing all activity promoters with an incentive to change behaviour and minimise their occupation of the street at traffic-sensitive times at the most traffic sensitive locations".⁹

In TfL, the scheme was designed based on a sophisticated algorithm using monitored traffic data. This provided information on the most traffic-sensitive sections of road (segments/pinch points) and the most traffic-sensitive times of day, and was used to identify the Lane Rental roads and charging periods. The results of this algorithm were "sense checked" by TfL officers to ensure that it tallied with real world knowledge and experience, and in some cases changes were made.

The TLRS has three charge bands, which are shown below together with typical timings for each charge:

- Charge band 1 - £800 per day, typically during the periods 06.30-10.00 and 15.30-20.00 Monday to Friday and 12.00-18.00 Saturdays and Sundays.
- Charge band 2 (segments) - £2,500 per day, typically during the periods 06.30-22.00 Monday to Friday and 12.00-18.00 Saturdays and Sundays.
- Charge band 3 (pinch points) - £2,500 per day, typically during the periods 07.00-20.00 Monday to Friday and 12.00-18.00 Saturdays and Sundays.

⁸ Journey time reliability is measured as the percentage of nominal 30 minute journeys completed within 35 minutes. For example, if a corridor can be managed such that 9 out of 10 journeys can be completed within the expected journey time then the corridor would be considered 90% reliable.

⁹ *Transport for London Lane Rental Scheme First Annual Monitoring Report 2012/13*

The charges in London were set to reflect the true social costs of the expected increased journey times due to lane closure. This was based on the DfT's estimates for the value of time but adapted for London to reflect average vehicle occupancy, commuting patterns and modal mix.

TfL had considered devising a charging structure whereby the fee would increase according to the width of the street works and the number of lanes effectively blocked. However, in practice this was difficult to define and, to maintain simplicity and minimise potential disputes, the decision was made to apply a blanket rate for all incursions into a Lane Rental carriageway.

The TLRS applies to works in the carriageway or cycle track but does not apply to works in a footway or verge of a chargeable location unless they encroach onto the carriageway or cycle track (including through use by associated plant, vehicles or materials and provision of a temporary walkway). For immediate (emergency) works, TfL have implemented an initial charge free period of 24 hours. Fees for works carried out by two or more promoters at the same location are charged proportionately¹⁰.

2.2.4 Lane Rental in Kent

Kent has one of the most extensive highway networks in the country. KCC maintains over 5,000 miles of roads and 4,000 miles of pavements.

On 28th May 2013, a Lane Rental scheme was introduced by KCC. The Kent Lane Rental Scheme (KLRS) covers 5% of the network and has been designed to complement the Kent Permit Scheme by providing financial incentive to the planning and execution of works on the most critical parts and times of Kent's highway network. KCC felt that Lane Rental would help to further the authority's ambition to "keep Kent moving". The scheme summary sets out that the Kent Lane Rental Scheme (KLRS) aims to "incentivise those carrying out works on critical roads to plan and execute their work so that they take place outside of traffic-sensitive times and other busy periods such as during term times".¹¹ The purpose of the scheme is to encourage:

- improvement in the planning of works and reduction in length of time sites are occupied;
- completion of works to the Specification for the Reinstatement of Openings in the Highway (SROH)¹² standard permanent first-time;
- innovation to reduce the impact caused by works and the associated highway occupation.

Due to the reduced granularity of traffic data in Kent compared to London, KCC's approach to setting charges was somewhat less data-driven but governed by similar principles. The roads included in the scheme were those that were most traffic-sensitive although some strategic roads were intentionally not included where it was felt that promoters were already minimising occupation of these sites, and an extra incentive was not needed. KCC decided to set its charges lower than those proposed for London to reflect the assumed lower costs of congestion in the county.

The basic premise of the KLRS is that charges are incurred when works result in traffic carrying capacity being taken from the Lane Rental roads during the charging times. This includes works where the width of the carriageway is reduced to a point that traffic can no longer use the full capacity of the road (where a

¹⁰ However, the FAQ document makes provision for waiving all charges for collaborative working.

¹¹ *Keeping Kent moving: Kent Lane rental scheme*

¹² Government specifications to ensure that statutory undertakers reinstate the street (i.e. replace the road surface) after they have finished their works in such a way that minimises any long-term damage to the street and takes into account aesthetic considerations

form of traffic management would normally be required to maintain traffic flow) and where temporary traffic management¹³ is used to facilitate works on another road. Work in footways is not within the scope of the scheme. For immediate (emergency) works, there is a charge free period of up to 2 days (as there is no charge for the day following the start of the works). Fees for collaborative works are charged to the lead promoter.

The KLRS has four charge bands, with different rates for lane closures and road closures. Charges have been set to reflect the relative economic importance of the roads. Charges apply at the specified locations on the specified dates and times (including term times and seasonal periods for some locations).

Table 2.1 KLRS daily charges

Charge band	Lane closed	Road closed
1	£800	£2,000
2	£400	£2,000
3	£600	£1,600
4	£300	£1,600

In 2014, KCC reviewed its scheme in liaison with the consultation group and, as a result, some further non-charging times were introduced which reflects current traffic conditions and gives promoters more flexibility in undertaking works. This expansion of non-charging hours in the day-time was also intended to encourage promoters to undertake work in a shorter duration.

2.2.5 Similarities and Differences between the Two Schemes

For both pioneer authorities, the motivation for setting up a Lane Rental scheme was predicated on the desire to reduce disruption to road users due to occupation of the highway on strategic routes at traffic sensitive times.

It is clear that, for both authorities, the motivation for implementing Lane Rental was about providing incentives for behavioural change. Generating revenue was not an explicit aim of either scheme (indeed the regulations allow authorities to recover prescribed operating costs only), although one scheme manager reported that they were attracted by the fact that the revenues raised would be used to reinvest in innovation projects (for which works promoters may not have the funds otherwise).

The scope of the schemes in the two areas accords with the regulations. Both authorities have divided their Lane Rental roads into different categories (with different charges and charging times) according to differences in traffic-sensitivity, although KLRS also differentiates between lane closure and road closure. In order to maintain the simplicity of the scheme and to avoid confusion among promoters, the number of different categories of road was minimised.

Other key differences include the charge free period for emergency works (which is 24 hours in TLRS and up to 48 hours in KLRS) and the process for levying charges for collaborative work (TfL’s stated approach is to apportion the charge between promoters while KCC bill the lead promoter who must then recover costs from other participants).

¹³ For example temporary traffic lights

The following table provides a summary of the two schemes.

Table 2.2 Summary of pioneer Lane Rental schemes

	Transport for London	Kent
Scheme launch date	11 June 2012	28 May 2013
Percentage of road network covered by Lane Rental	56% ¹⁴	5%
Number of charge bands	3	4
Charging rates per day	£800-£2,500	£300-£2,000
Distinction between lane closure and road closure	No distinction	Lower charges for lane closure than for road closure
Emergency works	24 hours free for emergency works	Up to 48 hours free for emergency works
Charges for collaborative work	Levied proportionally among all promoters ¹⁵	Levied to the lead promoter only
Monitoring and enforcement procedures	Mainly through traffic cameras (which provide extensive coverage) but with some site visits	Site visits only
Scheme operating cost per year	£1,400,000 ¹⁶	£400,000

2.3 Works promoters

2.3.1 Authorities

Both KCC and TfL have a term contractor for completion of highways work, which covers maintenance and capital schemes.

KCC's current contract for highways works pre-dates the introduction of KLRS. The contract includes an agreed schedule of rates, which include an uplift for off-peak and out of hours working. The process is that KCC raises a job 'ticket' which is sent to the contractor. This order makes the contractor aware of any restrictions which are then discussed with the client and also the relevant member of the KCC Lane Rental team (route manager). The position is to try to avoid incurring Lane Rental fees if possible but KCC makes the final decision as ultimately it has to pay for the job, which will include any Lane Rental fees incurred as well as any uplift for out of hours work.

In April 2013, TfL and a number of London's boroughs commenced the London's Highways Alliance contract (LoHAC) which aims to improve consistency in works undertaken and minimise disruption by sharing good practice and coordinating works. The contract has a duration of eight years and includes both local and TfL road maintenance and improvement works. It is divided between four contractors according to areas.

¹⁴ Note that this refers to 56% of the road network managed by TfL (approximately 2.5% of London's total road network) and therefore excludes roads managed by other authorities (i.e. London boroughs)

¹⁵ The FAQ document makes provision for waiving all charges for collaborative working.

¹⁶ For the financial year 2013/14.

2.3.2 Utilities

Utilities also tend to have fixed term agreements with contractors for undertaking street works, with some maintaining a number of different contracts for different types of job, areas of work or geographical locations.

The extent to which it is the contractor or the promoter which makes the final decision about how to undertake a job (including any Lane Rental charges which are expected to be incurred) varies depending on the level of authority or contractual relationship between the parties.

2.4 Summary

The requirement for notices and the possibility of introducing a permit regime have been intended to progressively increase the ability of highways authorities to manage and coordinate works in their areas to minimise disruption. The approval of two pioneer Lane Rental schemes is seen as a way to complement existing permit schemes by providing financial incentives to encourage promoters to work outside of traffic sensitive times and reduce the duration of works. The two schemes have been developed in accordance with national guidance, although this has also allowed flexibility to tailor the schemes to the specific circumstances of the areas in the identification of locations and charging times. There are differences between the two schemes in the delineation of the charges, the time periods and exemptions which apply and in the mechanisms for dealing with collaborative work.

3.0 Process

This section presents evidence regarding the process of developing and operating a Lane Rental scheme, beginning with the various stages of implementation (section 3.1), before discussing costs (section 3.2), performance (section 3.3) and use of surplus revenues (section 3.4). The section then draws out key lessons for the process of developing Lane Rental schemes (section 3.5) and then concludes with a summary (section 3.6).

3.1 Implementation

3.1.1 Consultation and Communication

Both schemes were introduced after careful consultation with the affected stakeholders. Both TfL and KCC created two stakeholder groups (a high level steering group and operational level working group). In general, authorities felt that utility companies understood the concept of Lane Rental in principle and were committed to making it work. In Kent, an authority representative commented that they felt that the Lane Rental guidance was “as much an NJUG document as a KCC one”.

Both authorities also consulted with environmental health officers¹⁷ during the development stages. In TfL, the London Authorities Noise Action Forum was involved in the consultation events to help resolve any perceived conflicts between avoiding traffic-sensitive times and minimising night time noise impact. KCC developed a memorandum of understanding with local environmental health officers which promoters felt had been helpful in facilitating their liaison with local officers.

Both schemes also implemented a shadow scheme prior to the actual scheme being fully implemented. This involved promoters receiving “dummy invoices” to show how much they would have been charged for a given works project had the scheme been operational. The purpose of this was to test the authorities’ systems but also to increase awareness of the impending launch of the scheme and get promoters used to the process.

In addition, both schemes invested heavily in providing upfront guidance and training to promoters prior to launch, through a series of roadshows and presentations. In London, promoters were supplied with a series of GIS files so they all had full information about the exact locations of Lane Rental sites prior to launch (locations were subsequently recorded in the National Street Gazetteer). Nevertheless, interviews with officials from the two authorities suggest that it took some time for promoters to adapt to the scheme and understand the rules. In Kent, for example, during the first six months a number of contractors continued to park their vehicles in Lane Rental areas unaware that this is chargeable under the scheme. However, it appears that these misunderstandings have reduced significantly over time.

Among the promoters interviewed through this research, there was some variation in the extent to which respondents felt that they had been consulted about Lane Rental. In general, however, it appears that the resource invested by both authorities in consultation and communication prior to and post implementation has paid dividends in terms of enhancing understanding about the scheme among works promoters. The changes made to both schemes in response to feedback from promoters have arguably improved both perceptions and outcomes. For example, the changes made by TfL to exempt recessed parking bays from

¹⁷ It should be noted that in both pioneer areas, environmental health responsibilities reside with borough or district councils rather than TfL or KCC respectively.

Lane Rental have aligned promoter behaviour to the intended outcomes of the scheme, by providing an incentive for street works to be designed in such a way that there is minimal impact on traffic flow. Similarly in Kent, the changes made to the charging periods in response to consultation have enabled street works to be undertaken at times where there is deemed to be less impact on congestion.

Understandably, Lane Rental remains an unpopular scheme among many promoters due to the additional costs incurred by the businesses involved. However, the evidence from the interviews with promoters suggests that there is a general acceptance and support of the principles of Lane Rental, and that the efforts made by both authorities to listen to the views and concerns of promoters have helped to improve perceptions and “buy in” somewhat.

3.1.2 Monitoring

In London, the scheme is monitored primarily through TfL’s network of traffic cameras, where around 70% of site inspections are covered by CCTV. As well as being a more cost-effective means of monitoring (which incorporates not only Lane Rental monitoring but also general permit compliance and health and safety inspections) than site visits, it also allows sites to be monitored in “real time” so that evidence of occupation of the highway can be captured at any point in time.

It appears that this stringent monitoring has caused some problems for promoters working on TLRS roads in London. In the interviews with promoters, some examples were given of unexpected invoices being received with accompanying photographic evidence showing occupation of the highway during a charging period. These instances included a work gang parking their vehicle in a TLRS road in a charging period prior to undertaking a job that was supposed to start in the non-charging period, as well as instances of cones or signs being left in the carriageway after the works had been completed. These charges were usually challenged by the promoter after receiving the request for additional payment, but were often upheld by TfL if there was sufficient evidence that the charges had been applied correctly¹⁸. TfL managers state that they do all they can to help promoters avoid paying charges (and so reduce their impact on congestion) by informing promoters as soon as their monitoring system detects that works are potentially incurring a charge, similar to the process adopted for overrunning works.

While these instances have caused much annoyance for promoters in London, and also added to the administrative burden for both promoters and the authority, it could be argued that this stringent monitoring is providing a strong incentive for promoters and contractors to maintain strict control of their operations to ensure that the conditions of Lane Rental are observed to the letter.

Conversely, KCC does not have the same CCTV network and therefore relies on a team of four route managers to patrol the KLRS network and check for compliance, with resources focused on sites where issues are likely to emerge. Some promoters have observed an increase in site visits in Kent since the scheme was introduced. However, due to the lack of the “real time information” available to TfL, officers at KCC understand that correct calculation of Lane Rental payments does rely on an element of trust between the authority and the promoters. Perhaps due to the lower intensity of monitoring in Kent, there do not appear to have been many instances of disputes arising due to small infringements as seen in London. However, there is no indication that this has had a negative effect on outcomes, although it is noted that Lane Rental roads in Kent are likely to have a lower traffic sensitivity to minor obstructions than those in London.

¹⁸ As context, TfL reported that, for the period 1st April 2015 to 19th September 2015, out of 320 utility draft charges raised 42 (13%) were disputed and the number upheld was expected to be lower still.

In both schemes, it is the responsibility of the promoter (and in practice this is often delegated to the lead contractor) to provide notification of completion of the works through the EToN¹⁹ system. In a few cases, this has caused an issue where contractors or promoters have failed to provide notification through EToN immediately after clearance of the site, leading to Lane Rental charges being applied for days where there was no actual incursion in the carriageway²⁰. In some cases, authorities have waived charges retrospectively where there was sufficient proof that the works had been completed before they were notified.

3.1.3 Permits

The interviews revealed that authorities feel that Lane Rental provides an additional stimulus to behaviour change that cannot be achieved within the existing permit scheme alone. In some cases, TfL reported that they had found it difficult to negotiate with promoters where there is an intention to occupy the highway during traffic-sensitive times. While the permit scheme does give the authority the right to refuse a permit or insist that the works are carried out differently, in practice promoters sometimes argue that there are no alternatives or that any alternative options would have health and safety implications. As a result, the authority can effectively feel obliged to agree to the permit request. However, Lane Rental provides a financial incentive for the promoter to plan the works differently, if they can.

For both authorities, Lane Rental was seen as a complementary “add-on” to the existing permit scheme, rather than a substitute instrument that could exist without permits. Managers at TfL reported that the two schemes worked well in tandem. This provided “different levers to pull” in the sense that Lane Rental incentivises promoters to reduce disruption where a permit is granted while the permit scheme itself retains TfL’s authority to refuse to allow works to take place at a certain time or insist on certain criteria as a condition of the permit. Similarly, KCC reported that retaining the permit scheme ensured that a permit could still be refused if the authority is not happy with a promoter’s decision to pay the charge rather than plan the works differently.

3.1.4 Liaison with promoters

TfL reported that their traffic management assessment process includes a requirement to mitigate the exposure of promoters to Lane Rental charges and, although authorities do sometimes use their powers under the permit scheme to prevent promoters from undertaking street works at traffic sensitive times even if they are prepared to pay the Lane Rental charge, the general approach is to allow promoters to make the decision about how and when to undertake the works.

In the early months of the scheme, authorities reported that they were more proactive in helping promoters to avoid the charges but now tend to allow promoters to take the initiative when considering how to respond to Lane Rental. Feedback from promoters suggests that most feel that the authorities generally do not attempt to influence the decision-making process. However, some promoters reported that they would like to see the authorities take a more proactive approach to help them find solutions to mitigate for Lane Rental, which could help to address a lingering perception among some promoters that authorities are more motivated by generating revenue than reducing the impact of street works.

However, it is clear that much discussion takes place between authorities and promoters prior to works taking place and this often leads to promoters rescheduling the works to reduce the charges for which they

¹⁹ Electronic Transfer of Notices – a system which allows promoters to send notice of works to the relevant highway authority via the internet.

²⁰ It should be noted that failure to provide a works closed notice not later than the end of the day following the day on which the highway was returned fully to public use is an offence under Section 74 of NRSWA.

are liable under Lane Rental. According to TfL monitoring data, in the period October 2013 to June 2014, only a quarter of all Lane Rental days requested by utility companies were ultimately agreed by TfL.²¹

Supporting collaboration (i.e. where more than one utility provider works at a given site over the same period) is one area where the authority is seen to have a role in terms of helping promoters to avoid Lane Rental charges²². **This role is recognised by the authorities themselves but, in the view of some promoters, they could do more to communicate with promoters and maximise opportunities for collaborative working.**

3.1.5 Discretion

Both authorities have the ability to offer discretion on Lane Rental charges if they deem that sufficient efforts have been made by the promoter to reduce the impact of works. Promoters are encouraged to discuss their plans with the authority at the pre-works stage, and both authorities reported that they showed willingness to work with promoters to find an acceptable compromise where they are struggling to avoid the charge.

In general, it was reported by promoters that both authorities have adopted a more collaborative approach to working with promoters since the development of the scheme. With some notable exceptions where disputes have not been resolved to the satisfaction of the promoter, it appears that in general promoters feel that both authorities take a reasonable and fair approach to dealing with disputes.

At the same time, however, authorities are keen to ensure that Lane Rental charges are applied fairly and correctly and are cautious about setting a precedent by offering discounts or waiving charges on projects. Consequently, most promoters report that charges have been applied rigidly rather than with discretion, with charges being waived only if they had been applied incorrectly with reference to the scheme guidance. However, there is a perception amongst promoters that KCC offers more flexibility (see section on emergency works below). This may reflect the fact that the road network in Kent is under less pressure generally than the TfL network and therefore there is scope for KCC to offer more discretion without this having a sizeable impact on congestion.

Promoters within the two highways authorities themselves tended to feel particularly “hard done by” due to the fact that all promoters are treated equally, whereas previously permit fees were not applied to the authorities’ own works.

As discussed above in relation to monitoring, a more stringent approach (as perceived to have been adopted by TfL) does help to ensure compliance and hence deliver the intended outcomes of Lane Rental. The drawback to this approach is that it can strain relationships and entrench negative perceptions of the scheme if authorities are deemed to be unsympathetic or inflexible, and such views were mentioned frequently in the interviews with promoters. On balance, however, these concerns can be addressed by ensuring that scheme guidance is reviewed and updated regularly, in response to consultation with affected parties, to **ensure that the rules of the scheme continue to be aligned correctly to the intended outcomes and perverse incentives are minimised**. Once agreed, the rules can then be applied rigidly to ensure compliance and consistency.

3.1.6 Emergency works

In both schemes, a charge free period is provided to allow promoters to undertake emergency works in the carriageway; this period is somewhat longer in KLRS which allows for one clear day after the works start

²¹ *Transport for London Lane Rental Scheme: Interim Monitoring Report Oct 2013 to Jun 2014*

²² Authorities also have a duty to coordinate works under Section 59 of NRWSA.

before charges are applied (while TLRS applies charges from 24 hours after the start of the works). Emergency works are defined as activities necessary to mitigate for threat to public safety or damage to property. TfL tends to apply the 24 hour rule rigidly, taking the view that this is sufficient time for the utility company to make the site safe and then return at a later date to complete the works (with the flexibility to undertake this outside of charging hours).

KCC officers report that most emergencies are dealt with within the charge free period, although recognise that some may take longer and if there are exceptional circumstances then they are prepared to enter into negotiations with the promoter regarding the expected timeframe for the work and the charges which will be applied if promoters are willing to agree to a challenging target completion date.

As discussed in the next chapter, the availability of a charge free period for emergencies does provide a potential perverse incentive for promoters not to maintain their assets in a Lane Rental street until it becomes an emergency, although this issue was identified explicitly by just one interviewee. Arguably, however, perverse incentives would also be created if this charge free period were removed, as promoters in theory have an incentive to delay the works until a non-charging time, potentially leading to unnecessary risk to the public. This is unlikely to occur in practice, however, as utility companies have a duty of care enforced by regulators and the cost of not responding immediately to emergencies (and urgent non-emergencies) would be extremely high regardless of the influence of Lane Rental. On balance, the provision of a charge free period enhances perceptions that the schemes are fair and the more discretionary approach adopted by Kent was viewed positively by a number of interviewees.

3.2 Scheme Costs

The KLRS costs around £400,000 per year to administer. This includes the cost of four route manager posts that were created specifically for Lane Rental. Costs are also incurred for the vans used by the route managers, as well as analysis and IT costs.

In the financial year 2013/14, the costs of scheme development and running costs for TLRS were estimated at £1.4 million, falling from £1.6 million in 2012/13 but reflecting that TfL oversee a greater number of works than KCC. TfL does not have a dedicated team to manage Lane Rental operations, as these activities have been integrated into existing processes in order to maximise efficiency, although a number of new posts were created (additional to the number required for the permit scheme). To keep operational costs to a minimum, TfL has deployed a number of technological solutions, including the use of CCTV to limit monitoring costs and the introduction of a Lane Rental Management System which allows charges to be calculated automatically.

The costs of both schemes are funded by the revenues generated (with surplus revenues being used to fund innovation projects – see section 3.4 below).

3.3 Scheme Performance

3.3.1 TLRS

TfL's analysis of the benefits of TLRS is presented in a series of monitoring reports. It should be noted that these reports do not provide a formal assessment of the counterfactual (i.e. what would have happened in the absence of TLRS) and therefore do not provide proof that the implementation of the scheme was the cause of the outcomes observed (as other factors may have influenced these outcomes).

With this important caveat in mind, the TLRS monitoring reports, plus additional information provided by TfL, suggest that the scheme is associated with positive outcomes for road users in London:

- While average journey times and journey time reliability have worsened generally across the TfL network between the two nine month periods 1st October 2010 to 30th June 2011 and 1st October 2013 to 30th June 2014, as a result of increasing traffic flows, the deterioration has been lower for TLRS roads than non-TLRS roads during the morning peak, suggesting that TLRS has had a positive effect. TLRS roads performed marginally worse than non-TLRS during the evening peak, but this was deemed to be due to the higher sensitivity of TLRS roads to increased traffic flows.
- Over the same period, the total serious and severe disruption associated with planned works fell by 42% in TLRS areas compared to a 2% reduction in non-TLRS areas, again suggesting a positive impact due to Lane Rental.
- The number of works on TLRS segments actually increased by 3% but there was a reduction of 9% in non-TLRS segments between 1st October 2013 and 20th June 2014 (compared to the numbers recorded between 1st October 2010 and 30th June 2011). However, note that these overall figures were skewed significantly by TfL works. The number of works undertaken by utility companies on TLRS segments fell by 15%, compared to a 6% decrease on other roads in the later period, suggesting there may have been some negative impact on volumes of work for utility companies.
- Over the same period, the proportion of works taking place during the daytime fell by 18 percentage points in TLRS areas compared to a reduction of 11 percentage points in non-TLRS areas, again indicating a positive impact of Lane Rental in terms of reduced working at traffic-sensitive times.
- The number of collaborative work sites increased by 81% in the later period (1st October 2013 to 30th June 2014), involving a 10% improvement in the number of days of disruption avoided, although the number of such sites is still relatively small as a proportion of overall works.²³
- TfL estimates that the **overall benefit of the TLRS to London is in the order of £30 million per annum.**

The following table shows that in the 12 months to September 2013, there were almost 800 works that attracted a Lane Rental charge in TfL, generating revenue of over £3.1 million. Over the nine month period to June 2014, £2.9 million of charges were recovered from 665 works.

²³ *Transport for London Lane Rental Scheme: Interim Monitoring Report Oct 2013 to Jun 2014*

Table 3.1 Number of works and TLRS charges by sector

Sector	Total TLRS charges		Number of works attracting a TLRS charge	
	Oct 12 – Sep 13	Oct 13 - Jun 14	Oct 12 – Sep 13	Oct 13 - Jun 14
TfL	£295,000	£913,900	81	121
Water	£944,500	£797,300	262	193
Gas	£854,800	£379,700	159	80
Electric	£542,850	£561,900	133	158
Telecoms	£483,600	£234,700	161	112
Rail	£2,400	£800	1	1
Total	£3,123,150	£2,888,300	797	665

Source: TfL monitoring reports

3.3.2 KLRS

KCC's monitoring of the effects of Lane Rental²⁴ also suggests some early positive effects, although again this cannot be deemed proof of causality due to the absence of a detailed counterfactual analysis:

- In the first 12 months of the scheme, actual Lane Rental revenues were significantly lower than the expected revenue based on both no change in behaviour and predicted change in behaviour scenarios. KCC feel that this demonstrates that the actual behaviour change to avoid Lane Rental charges was higher than predicted.
- The proportion of works taking place at charge times with traffic management fell by 13 percentage points for standard works and by 15 percentage points for minor works, compared to pre-KLRS levels²⁵.
- Similarly, the proportion of works taking place out of hours with traffic management increased by 12 percentage points for standard works and by nine percentage points for minor works.
- The average duration of immediate works carried out in the KLRS area at charge times fell from 3.92 days in the 12 months prior to Lane Rental to 2.87 days since the start of Lane Rental.
- It is estimated that, KLRS has led to approximately 3,000 fewer days of congestion per year on Kent's busiest roads, **generating a benefit to the Kent economy of £4.6 million per year.**

However, it should be noted that there are some limitations in the available data, notably that the existing reporting system is unable to account for the specific Lane Rental locations and the term time and seasonal element (i.e. the data shows all works on scheme roads rather than being able to highlight those that took place in the sections of those roads that were defined as being part of the scheme and that took place during the specified times of year).

The following table shows that around 1,500 works were carried out on the KLRS network at charge times during the first year of operation.

²⁴ Kent Lane Rental Scheme: 12 Month Progress Report 1st June 2013 to 31st May 2014

²⁵ The monitoring report notes that major works are relatively rare and, as a result, no comparative data is provided.

Table 3.2 Works carried out on KLRS network in first 12 months of operation (June 2013 - May 2014)

	Immediate	Standard	Minor	Total
Works carried out on the LR network at charge times	847	90	520	1,457
Works carried out on the LR network at non-charge times in the day	321	34	656	1,011
Works carried out on the LR network out of hours	164	60	469	693

Source: Kent 12 Month Progress Report

In conclusion, while the early evidence suggests that in both authorities the implementation of Lane Rental has led to some behaviour change among street works promoters and appears to be associated with improved outcomes for the road network, a robust impact evaluation has not been undertaken. Therefore, it is difficult to assess the extent to which any observed changes would have happened anyway due to other influences such as commitments made to the regulator or internal decisions.

3.4 Use of surplus revenues

In both schemes, promoters have the opportunity to bid for funding from an Innovation Fund. The purpose of the fund is to invest in research and development projects to develop technologies that can be used to reduce the negative impact of street works. In both areas, applications are appraised by a panel that includes representatives from the utilities sector.

The full net surplus of funds associated with TLRS was in the region of £4.6 million (as at August 2015). Funded projects include an award to a gas company to further develop CISBOT, a cast iron joint sealing robot that enables the repair of older gas mains from inside the pipe and without the need for multiple excavations in the road or shutting off the gas supply, to be used in larger diameter gas mains. In total, £2.4 million has been approved for funding.

The surplus revenue from KLRS was confirmed as around £640,000 (to end March 2015) with a further £200,000 estimated for the period April to September 2015. The panel has approved grants for projects which:

- Consider the use of self locking bolts for crash barriers (which was found not to be viable due to the bolt manufacture cost and so ultimately no funds were awarded).
- Investigate a potential new pothole repair technique.
- Apply intelligence to portable traffic signal sensors so that they automatically adjust to traffic flows and alter timings.

The opportunity to reinvest the proceeds of Lane Rental to support promoters to develop more innovative approaches to street works is viewed positively by both TfL and KCC. However, evidence from the interviews suggests that there is a perception that these funds are not being defrayed as quickly as would be desirable, and hence road users are not receiving the benefits commensurate with the additional costs incurred by promoters. The view of KCC is that promoters have been reluctant to submit proposals to the innovation fund and perhaps lack the time to drive projects forward. The opinion of TfL is that the scope of the fund should be broadened somewhat, for example by allowing it to be used for infrastructure projects that reduce congestion. Generally, promoters viewed the use of surplus revenue to support innovation

positively, particularly the requirement for findings to be disseminated, although some also commented that the rules regarding the use of the fund were too narrow. Other promoters noted that internally they had their own plans regarding innovation which may be a reason behind the relatively slow take-up of the available funds. For example, one promoter reported that it receives substantial innovation funding from the regulator and the Lane Rental funding is not making any additional difference, certainly in relation to the amount the company pays in Lane Rental charges. The interviewee said that “we would rather not pay the charge and not receive any grants”.

3.5 Lessons

Authorities emphasised the importance of early stakeholder engagement and close working relationships with promoters to ensure the operational success of the scheme.

Both **authorities feel that it is important to have a permit scheme in place as a precondition for a Lane Rental scheme**. This is in contrast to many promoters who feel that there is duplication between the two schemes and would generally prefer one or the other, not both. Many promoters were satisfied with the fact that Lane Rental provides a focus on the most traffic-sensitive roads rather than treating all roads the same. One promoter said, “I would rather pay Lane Rental on two per cent of the network rather than permit fees on all roads in the network”. However, **the majority of promoters feel that the permit scheme alone is sufficient to provide the necessary restrictions**, and do not feel that Lane Rental adds value but is effectively a tax levied on works promoters.

There was also a concern among some promoters that there is a higher administrative burden associated with operating under two schemes in parallel. **If Lane Rental were to be rolled out nationally, administration burdens would also be reduced if there was a consistent system nationally, rather than individual authorities designing their own bespoke schemes.**

Both authorities feel that it would be appropriate for Lane Rental to be rolled out to other parts of the country, where there are significant “pinch points” on the network. Future schemes should be developed collaboratively by local government and industry and should ideally run for a trial period before being implemented permanently. It was noted by TfL that most authorities do not have the infrastructure in place (e.g. for monitoring and enforcement) to cope with a Lane Rental scheme. However, the experience of Kent suggests that Lane Rental can work for a typical English authority, at least on a different scale to that which is necessary in London. A number of promoters noted that, for most other authorities, the proportion of roads that have the same level of traffic-sensitivity as TfL’s Lane Rental roads would be very small, and therefore Lane Rental is likely to be inappropriate for the majority of roads outside of the TfL network.

3.6 Summary

- Both authorities are keen to work with promoters to help them find solutions to avoid Lane Rental but at the same time will generally let promoters make the final decision about when to schedule works. To ensure fairness and transparency, authorities apply charges rigorously but are open to negotiation if there is a good case to suggest that charges have been applied incorrectly or, in the case of KLRS, if a promoter has taken significant steps to mitigate the impact of works.
- In both authorities, there is evidence of behaviour change leading to improved outcomes (such as reduced congestion) for the road network since the scheme was introduced, although it is difficult to attribute causality to Lane Rental.

- In the view of the authorities, Lane Rental complements the permit scheme and permitting is a necessary precondition of being able to administer a Lane Rental scheme. Most promoters, however, feel that the permit scheme alone is sufficient to change behaviours and there is no need for a Lane Rental scheme. A few promoters, however, thought that Lane Rental could replace the permit scheme as it provides greater emphasis on traffic-sensitive roads.
- The evidence suggests that, in both schemes, the defrayal of Lane Rental revenues through the Innovation Fund has been slower than expected. There is an argument to suggest that the scope of projects eligible for funding should be expanded (for example by allowing it to be spent on infrastructure projects), to ensure that the benefits to road users are maximised.

4.0 Effects of Lane Rental on Promoters

This section considers the extent to which the presence of a Lane Rental scheme has impacted on the way in which promoters operate in that area, beginning with an insight into the process of planning works (section 4.1). The section then presents evidence on the response to the scheme (section 4.2) including available data on works undertaken (section 4.3) and the role of Lane Rental in creating behavioural change (section 4.4). The costs and benefits for promoters are also discussed (section 4.5), along with wider effects (section 4.6) and the impact of differences between the two schemes (section 4.7). A summary is also provided (section 4.8).

4.1 Process of Planning Works

Typically, works promoters have a set process for planning and managing street works which is consistent nationally (or across the whole network). In most cases, the introduction of Lane Rental has not changed this process but a number of promoters have said that it effectively adds an extra consideration or layer of complexity when planning works. This has led a few promoters, most heavily affected by Lane Rental, to design supplementary processes (e.g. the development of an app) to help decision-makers to take account of Lane Rental effectively.

The interviews with promoters suggest that, regardless of the planning process, virtually all companies consider the impact of Lane Rental in a methodical and rational manner. Once a project location is identified as being in a Lane Rental area (e.g. through reference to the National Street Gazetteer, which sets out the locations, charge bands and charge times), then this information will be combined with all other data relating to the works to plan the most cost-effective approach.

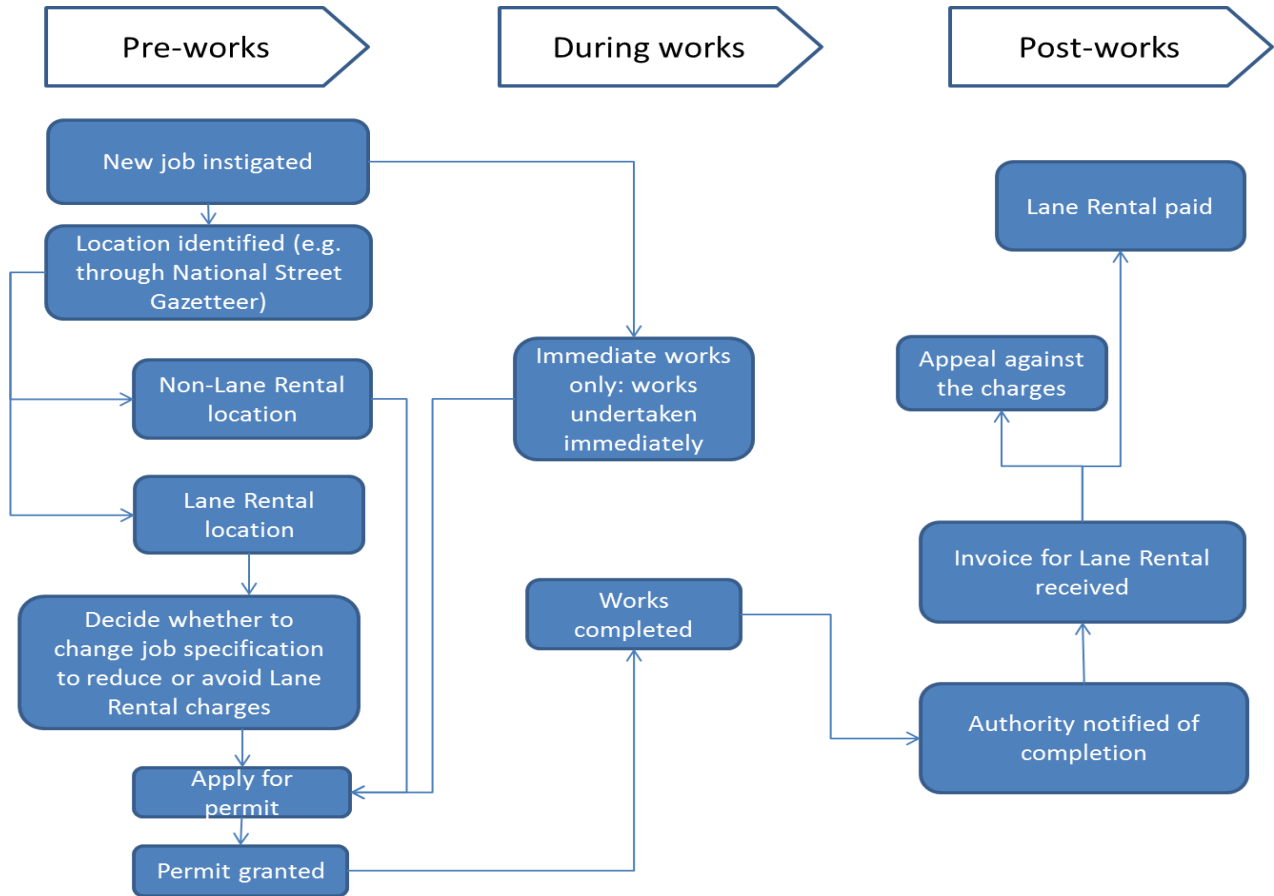
In some cases, the promoter makes the decision about whether or not to accept or take steps to minimise the Lane Rental charge, sometimes in consultation with the authority. Where it is decided that steps should be taken to avoid Lane Rental, this is then written into the brief to contractors. Once the works package has been handed over to the lead contractor (or, in some cases, the direct works team within the promoter organisation), it is usually the contractor's responsibility to apply for the permit, complete the works according to the brief (including managing sub-contractors) and provide timely notification of the completion of the works. Only where contractors fail to comply with the instructions of the promoter and it is deemed that the contractor was at fault will the contractor be liable for Lane Rental charges.

However, some promoters hand over the whole process to their lead contractor (i.e. it is the contractor's responsibility to plan around Lane Rental) but would expect to be invoiced for any reasonable Lane Rental charges or mitigation costs incurred.

In some cases, where work is being undertaken for a specific customer (e.g. for a customer connection), the promoter will discuss the options with the customer and effectively allow the customer to choose whether or not it wants to incur Lane Rental. This may be the case if they want to get the work completed more quickly or within normal working hours (which promoters noted was the preference for the majority of non-residential customers).

The following diagram summarises a typical process employed by promoters to undertake street works involving Lane Rental.

Figure 4.1 Summary of typical process used by works promoters



4.1.1 Working with the Authority

Most promoters reported that Lane Rental has not significantly affected the way in which they work with the authority. Promoters have continued to use the same processes and systems as were already in place for the permit scheme (and some believe that it was the introduction of permits that had made the difference in terms of their working relationship with authorities rather than Lane Rental). A few promoters did note, however, that there has been more interaction with authorities following the implementation of Lane Rental and that both authorities are applying more intensive monitoring activities.

4.2 Response to Scheme and Mitigation Measures

The research undertaken with promoters affected by the schemes in London and Kent suggests that there are three main categories of promoter, in terms of their response to the scheme and the effects it has had:

- Several promoters have been significantly affected by Lane Rental insofar as work on their main assets necessarily involves works on Lane Rental roads. This group tends to incorporate the owners of the water, gas and electricity mains networks in both authority areas (but particularly London where it is more difficult to avoid impacting the TLRN), as well as the road works departments within TfL and KCC. **In many cases, promoters feel that they either have little or no option to avoid the charges or that it is not cost-effective to do so** and hence this group tends to have the most negative opinion of Lane Rental. This response tends to be more relevant to high value works, where Lane Rental makes up a small percentage of overall project costs, although in absolute terms the amount of Lane Rental charges paid by this group is substantial.

- A number of utility companies (in particular telecoms providers) are significantly affected by the scheme but feel that they have sufficient scope for avoiding the charges (e.g. by working out of hours or using alternative routes for the network), or at least passing on the charges to customers. These promoters tend to be more positive about the scheme. In general, these companies undertake projects with a smaller overall value, where Lane Rental would make up a high percentage of the project cost if steps were not taken to avoid it.
- A small number of promoters are relatively unaffected by the scheme. This mainly includes companies involved in customer connections, where most works take place outside of the strategic road network (e.g. in residential areas). Due to having limited experience of the scheme, these promoters are typically neutral in their opinions and have not generally had to apply any mitigation measures.

The remainder of this section considers the extent to which affected promoters have adopted a range of mitigation measures identified through consultation.

4.2.1 Out of hours working

A primary objective of both KLRS and TLRS is to incentivise necessary works to the strategic network to be undertaken outside of traffic-sensitive times. The monitoring data provided by both authorities suggests that an increase in out of hours working is taking place, and this is largely supported by the evidence gathered in this research.

In general, works promoters will make a decision on whether or not to avoid charges based on the most cost-effective option. If the increased cost of undertaking the works outside of charging hours (i.e. due to the uplift in hourly rates from working out of hours, but also the costs of additional equipment such as lighting) is less than the costs saved on Lane Rental, then the promoter will generally commission the works to be undertaken outside of traffic-sensitive times.

It is clear that the incidence of out-of-hours working is increasing in Kent and London, and the interviews with promoters suggest that this is at least partially driven by the impact of Lane Rental.

However, the interviews highlighted a number of issues which suggested that working outside of Lane Rental times may not always be the most cost-effective or viable option for promoters.

- Some promoters report that it is **difficult to find workers willing to work overnight**, in spite of the higher wage rates on offer. While the culture is changing and this will be driven by competition, many contractors do not routinely offer round-the-clock services. Moreover, one promoter noted that employing staff on a night shift necessarily makes them unavailable for work on both the days before and after the night shift and hence out-of-hours working places capacity constraints on the general workload of promoters or contractors. However, this promoter reported that one of its depots had managed to bunch several jobs together to give workers a whole week of night shifts, which has made the process more efficient.
- Additional costs can be incurred for **equipment (such as lighting) and materials (particularly in relation to access to the hot materials required for reinstatement/resurfacing)**. One promoter reported that there is an additional £500 cost for keeping a plant open at night to ensure access to reinstatement materials out of hours.
- For large-scale works, it is not possible to complete the works in a single non-charging period (e.g. overnight or at the weekend). Therefore, to avoid Lane Rental through out-of-hours working, contractors must spend **additional time and resource at the start and end of the non-charging period to ensure that the road is clear from obstruction during Lane Rental hours**. This may involve the setting up and setting down of traffic management equipment and temporary reinstatement of the road surface to

allow traffic to pass freely during traffic-sensitive times. Promoters argue that this is inefficient and of course leads to a longer overall duration of works. It could be argued, however, that any costs to productivity due to daily opening and closing of the lane are outweighed by the savings to road users from free passage during traffic-sensitive times.

- The works may be driven by **customer requirements**. This often affects immediate urgent (non-emergency) works where it is necessary to restore service to the customer as soon as possible. The costs incurred by the promoter due to delaying the work to out-of-hours (e.g. fines from the regulator, impact of customer satisfaction) is often higher than the Lane Rental charges and therefore can make it not cost-effective to working outside of traffic-sensitive times. This is also relevant for non-urgent works, for example where the promoter has been commissioned by a large commercial customer to provide a connection and the completion of the works has a strict deadline. In such cases, it would not be cost-effective to work outside of Lane Rental charging periods if this risks failing to meet the customer's expectations.
- **Environmental Health restrictions** can prevent noisy work from being undertaken at night. Promoters have provided examples of where the Lane Rental charging period ends at 10pm and the noise restrictions begin at 11pm. This provides a one hour window for undertaking street works which is deemed an insufficient amount of time for all but the most minor of works. Two water companies both reported that carrying out more work at night has led to the company receiving a reduced score on its Service Incentive Mechanism²⁶ with OFWAT, potentially resulting in penalties due to reduced customer satisfaction.
- **Health and safety restrictions can also limit the type of work that can be undertaken at night**. As a result, out-of-hours working is not a feasible option for some types of works. For example, one electricity company stated that it does not tend to work at night because staff are working on live power systems and need to be able to clearly identify cables and conductor insulation colours, which is more difficult under artificial light. Although there was no concrete evidence of this, it is perceived that night working leads to a higher incidence or risk of accidents both to staff and members of the public. In addition, one consultee noted that the cold temperatures at night in winter time had led to the failure of materials and issues regarding the quality of reinstatement.

4.2.2 Reduced duration

Where it is not feasible or cost-effective to work out-of-hours, a number of promoters have been incentivised to minimise the duration over which they occupy the highway. A typical response is "double ganging" where two teams work on the same site at the same time in order to get the job completed more quickly. This comes at a cost of drawing resource away from other projects, and hence may result in longer works durations at sites on non-Lane Rental roads.

In most cases, the responsibility for ensuring that the works are completed on time (including reinstatement and clearance of all obstructions) is delegated to the contractor. Typically, the promoter would expect the contractor to pay for any additional Lane Rental incurred (or any other penalties, such as Section 74 charges) as a result of overrunning works. This is usually the only situation where the contractor would be expected to absorb Lane Rental charges without passing them on to the promoter. Some promoters have reported that this is providing an **incentive for contractors to work more efficiently** and prioritise the timely completion of works on Lane Rental roads.

²⁶ The Service Incentive Mechanism (SIM) is used by OFWAT to measure customer satisfaction (based on both customer surveys and logging of customer complaints) with water companies. OFWAT takes account of companies' performance against the SIM when setting prices.

4.2.3 Alternative routing

In a few cases, a response to Lane Rental has been to devise alternative routes for providing new connections to the network, to avoid working on Lane Rental roads. This appeared to be applicable mainly to telecoms providers, where there is sometimes the flexibility within the network to devise more than one solution to a request for a new connection.

However, one authority provided the example of a gas provider that made a decision to route its pipeline under a golf course rather than under a Lane Rental road, suggesting that this response is applicable to other types of utility company as well.

Finding ways to work in the footway rather than the carriageway has been another response to Lane Rental for some promoters.

4.2.4 Use of technology

The use of innovative technology can reduce the duration of works, allow work to be undertaken at night and reduce the scale of works, in terms of the area of the carriageway that needs to be accessed. However, there is some debate about the extent to which Lane Rental has been instrumental in driving investment and adoption of these technologies (including the timeframe in which they are brought into use).

Two utility companies reported that they are making increasing use of the 'core and vac' technique to reduce the level of excavation (noting that this technique is only useable in limited circumstances), but that this was not felt to be attributable to Lane Rental as the industry has the incentive to use this technology anyway, as it improves the efficiency of operations and its introduction pre-dated the introduction of Lane Rental. However, one promoter said that use of core and vac is prioritised for Lane Rental areas.

Another utility company reported that it had brought in new technology including directional drilling (as an alternative to open cut excavation), improved traffic management configurations and echo barriers to mitigate noise pollution (to allow night-time working). In this case, it was reported that Lane Rental had at least been one of the factors driving the uptake and use of this technology.

Another promoter reported that, when required to rebuild a manhole on a Lane Rental road in London, they were able to set up a bridge to allow traffic to flow as normal. The same company said that it had been able to reduce the average duration of works since the scheme started, partly as a result of "blowing" fibre into the duct rather than "pulling" it in. These innovations and approaches have now been standardised across the company's projects.

Lane Rental has also led to innovation in the process for planning and managing street works. One promoter, for example, developed its own street works IT system for use by internal project managers, specifically designed such that Lane Rental roads "jump out immediately". This system cost £40,000 to develop. Similar, another promoters suggested it would cost "tens of thousands of pounds" to develop efficient systems to improve awareness of Lane Rental. Another promoter developed an app to help contractors to plan around Lane Rental.

4.2.5 First time reinstatement

A significant proportion of promoters stated that Lane Rental had incentivised them to ensure that a permanent reinstatement of the road surface be undertaken immediately after completion of the works. One promoter reported that, across the TfL network (including both Lane Rental and non-Lane Rental roads), **first time reinstatement had increased from 70% to 98%** and they feel that Lane Rental has helped to achieve this increase. As a result of the incentives brought about by Lane Rental, the contractor was able

to increase its first time reinstatements on Lane Rental roads and subsequently the promoter was able to put pressure on the contractor to adopt the same process for all roads. However, another promoter reported that their company had a target to achieve 'first-time reinstatement' anyway, regardless of Lane Rental as this was more cost efficient.

First time reinstatement contrasts to the practice adopted by some street works contractors of applying a temporary reinstatement at completion and then returning to the site at a later date to apply the permanent reinstatement. The reason for this practice is that it is most efficient for a reinstatement contractor to procure a large batch of reinstatement material and undertake multiple reinstatements over one or two days. For Lane Rental roads, however, the cost of paying a full day's Lane Rental to return to a site to apply permanent reinstatement usually outweighs the additional cost of applying the permanent reinstatement first time.

A number of promoters mentioned that they were making increasing use of advanced reinstatement materials, such as rapid curing concrete, to reduce the duration of street works and avoid Lane Rental. Similarly, a road works contractor was incentivised to use quicker drying materials to fix potholes. The cost uplift on such materials can be significant, however. One promoter, for example, estimated that the cost of such a product is six times that of using conventional materials. Moreover, materials have to be approved by the relevant highways authority before being used on its roads and this can be a barrier to adoption, although one promoter said that TfL and KCC were both "ahead of the game" relative to other authorities in terms of approving reinstatement materials, possibly as a result of the Lane Rental schemes. Another promoter, however, reported that it was using an accelerant for rapid curing concrete that had not been officially approved by TfL and therefore the company was essentially accepting liability for the use of this material. It was commented that legislation needed to keep pace with developments in order to facilitate the use of these materials.

Access to reinstatement materials outside of normal business hours was also cited as a barrier to first time reinstatement. One promoter also reported that their teams were not able to work at night during the winter due to not being able to keep materials sufficiently warm. It was noted that, during the 2012 Olympics, TfL itself agreed to undertake reinstatement on behalf of utilities, which could provide an alternative and more cost effective solution to undertaking reinstatement works out of hours.

4.2.6 Collaboration

There was some evidence from the interviews to suggest that Lane Rental has driven an increase in collaborative working. Although TfL data shows an increase in the number of collaborative projects since Lane Rental began (see previous chapter), the causality of this trend is unclear, and the number of collaborative projects is small relative to the total number of works undertaken. While some promoters are keen to work collaboratively, they are often reliant on the highways authority to coordinate this collaboration. Both TfL and Kent have initiated collaborative projects since Lane Rental was introduced, although it should be noted that authorities have a legal duty to coordinate works (Section 59 of the NRSWA) and that utilities have a legal duty to cooperate (Section 60 of the NRSWA).

Some promoters reported that they do now have a stronger incentive to work collaboratively as a result of Lane Rental but this relies on there being sufficient opportunity to do so. However, one promoter said that they are less inclined to collaborate due to Lane Rental due to the risk of having to share fines or additional Lane Rental costs due to the actions of other collaborators. A number of promoters also noted that effective collaboration can be difficult to achieve in practice due to the need to coordinate plans and also the physical space available on a work site.

4.3 Works Undertaken

For the majority of promoters, there was reportedly no change in the volume of works undertaken as a result of Lane Rental. For many promoters, the bulk of activity relates to immediate/emergency works which by their nature cannot be planned and must be attended to within a specified time period and so cannot be delayed while planned works are driven by the need to undertake maintenance or capital investment in line with what has been agreed with the relevant regulator.

However, discussions suggest that in some cases Lane Rental may have created a perverse incentive to delay planned works:

- One promoter did suggest that they actively avoid undertaking necessary maintenance to the infrastructure if that involves paying Lane Rental until such time as the asset “falls over” and it becomes an emergency situation and hence eligible for the free period granted to emergency works. Clearly this is a perverse incentive and generates inefficiencies for both the promoter and the road network, but there is little evidence to suggest that this practice is prevalent within the two areas.
- Another promoter also reported that the company has reduced its planned works on Lane Rental roads, saying, “If we don’t have to do it, we don’t”. Again, the promoter cited the risk of this reduced maintenance leading to more emergency jobs in the future. Another promoter reported that there is a tendency to undertake more small scale “find and fix” repair work, which incurs lower Lane Rental charges, at the expense of major projects. Another promoter reported that Lane Rental has incentivised the company to repair the pipelines rather than replace them, which will lead to higher costs in the long run.

Another perverse incentive relates to the fact that both schemes impose a blanket charge for a given day, regardless of the actual amount of time taken to complete the works (although it is recognised that the ability to charge promoters for the actual duration of occupation would require a change to the EToN specification in order to capture site occupation in terms of hours rather than days). For example, one telecoms promoter said that a small job to restore service may cost just £800 in resource but £2,500 in Lane Rental. It could be argued that, as a daily charge, the £2,500 does not reflect actual the social cost of disrupting traffic for perhaps one hour during the day. Moreover, the social cost of the traffic disruption may be less than the social cost of potentially a large number of customers being without a broadband or telephone service for an entire day. However, there is a clear incentive for the utility company to delay restoring the customers’ connection until the non-charging period. Similarly, another promoter felt that the blanket charge applied by TfL regardless of the scale of occupation means that there is no difference in the charge incurred between putting a single cone in the road (which does not disrupt traffic flow) and closing the road altogether (which would cause extreme disruption).

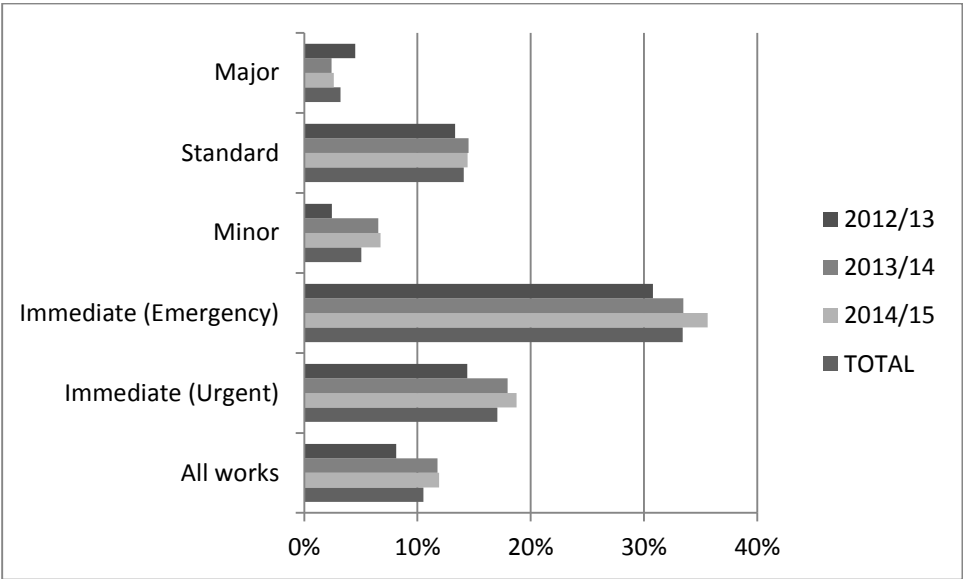
However, authorities’ powers under the permit scheme can limit the significance of these perverse incentives to some extent. For example, TfL would be unlikely to agree to a request that a strategic road be closed entirely even if the promoter were prepared to pay the requisite Lane Rental.

Data on the volume of works undertaken in Lane Rental areas was collected from five promoters²⁷, between them accounting for over 60,000 street works projects in TfL and Kent over the three year period 2012/13 to 2014/15. The following graph shows that about 11% of works in these two authorities were undertaken

²⁷ All five were involved in street works rather than road works (i.e. highway authorities are not included in this analysis)

on Lane Rental roads, although this percentage was substantially higher for immediate works (17% of immediate urgent works and 33% of immediate emergency works).

Figure 4.2 Percentage of all works in TfL and Kent undertaken on Lane Rental roads



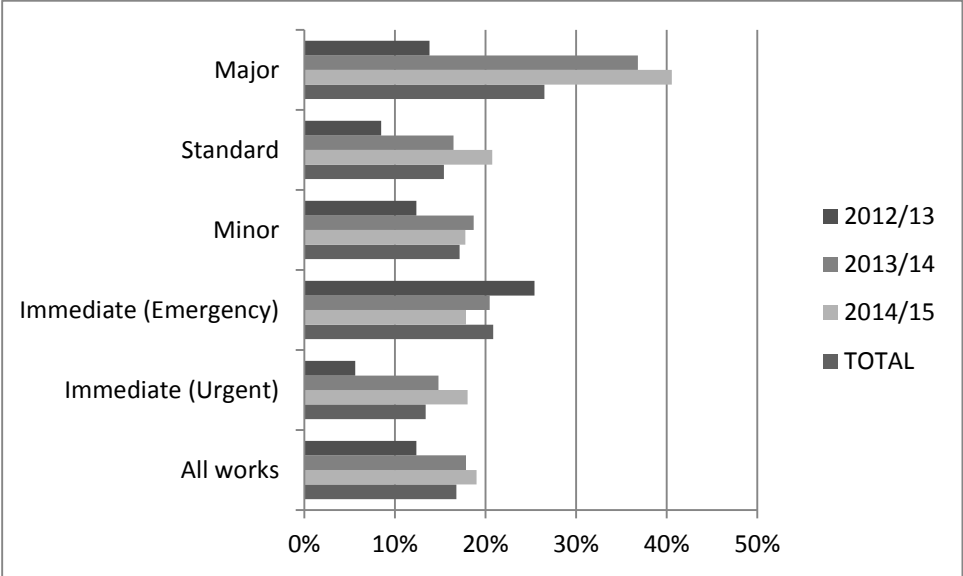
Source: Data provided to Ecorys by five promoters

There is significant variation in the proportion of all works being carried out on Lane Rental roads between the five companies providing data, with two of the five undertaking less than 1% of their street works in these authority areas on Lane Rental roads. This at least partly reflects the differences between utilities with regard to where their assets are located and the types of works they are expected to undertake. However, it is also possible that, in responding to our request for data, promoters may not have been using a consistent understanding of the definition of a Lane Rental road²⁸ and therefore these results should be treated with caution.

The following graph shows that just 17% of all works undertaken in Lane Rental roads were actually subject to Lane Rental charges.

²⁸ Specifically it is possible that some promoters may have counted works undertaken on roads with a USRN (unique street reference number) that is designated as Lane Rental even if the precise location of the works was not subject to Lane Rental. Also, closer analysis of more detailed data provided by one company suggests that this promoter included works undertaken in the footway only, which by definition would never incur Lane Rental even if situated in a Lane Rental location.

Figure 4.3 Percentage of total works in Lane Rental roads where Lane Rental charge was incurred



Source: Data provided to Ecorys by five promoters

As discussed above and in the footnote, this may be partly due to how respondents have defined Lane Rental roads in their data, and these results may not necessarily indicate that promoters have been able to avoid Lane Rental in the vast majority of cases. Unsurprisingly, major works are the most likely to attract a charge as such projects have a longer duration and promoters have less scope to avoid charging times for at least part of the project. More surprisingly, 21% of emergency works in Lane Rental roads attracted a charge, suggesting that many emergency works are not being completed within the charge-free period.

4.4 Role of Lane Rental in Creating Behavioural Change

As reported above, there is evidence to suggest that in some cases the scheme has provided the incentive to change behaviour, if the cost of that behaviour change is lower than the Lane Rental charges avoided.

Project example 1

A telecoms company was required to undertake a major project to rebuild a manhole. The project took place on a Lane Rental road in London (charged at £2,500 per day) and took six weeks to complete. To mitigate the effect on congestion, the company set up a bridge over the works to enable the traffic to pass over the road as normal, with no narrowing of the carriageway or closure of lanes, so no lane rental charges were applied.

Some promoters, however, argue that **their behaviour was aligned to reducing disruption anyway**, either due to their own corporate objectives, their commitments to the regulators or the restrictions placed on them by the permit scheme.

Project example 2

A gas company was required to lay three new domestic connections from the mains. At first, it was thought that the assets lay fully under the footway but it was then found to be located in the carriageway. The road was a TfL Lane Rental section, charged at £800 a day. Normally it would have taken seven days but, due to the fact that rapid cure concrete was deployed (costing an additional £122), the works only took four days, effectively saving £2,400 of Lane Rental charges.

As a result, a number of promoters report that Lane Rental is forcing them to incur additional costs which they have no opportunity to avoid. As an example of this, one promoter said that it would always try to avoid lane closures in the morning and evening peaks but would still need to undertake works at other times of the day within the chargeable period. Taking this approach does not avoid Lane Rental charges as a blanket fee is applicable for the whole day (and in fact may lead to an increased exposure to Lane Rental if this approach extends the overall duration of the works). This suggests that **some promoters are planning works to reduce impact on disruption (either voluntarily or due to the permit scheme) in a way that is not incentivised by Lane Rental**. However, it was reported to be more difficult for promoters to negotiate with the regulator to pass on costs to customers when action has been taken voluntarily, compared to where these costs have been imposed by the authorities.

Despite the prevalence of other drivers of behavioural change, a number of promoters did acknowledge that the presence of Lane Rental had encouraged them to give more thought to the planning of works to explore ways in which work could be done outside of charging periods (although in some cases it was felt that avoidance of the charge was not possible).

4.5 Costs and Benefits

4.5.1 Costs

The main costs incurred by promoters as a result of the Lane Rental scheme are as follows:

- **Lane Rental charges** – The Lane Rental charges paid by promoters are, in some cases, substantial, although arguably small in proportion to overall project costs (and the costs to society of congestion created by works). For example, in the nine months between October 2013 and June 2014, nearly £2.9 million of charges were recovered by TfL, including £0.9 million in internal transfers within TfL (related to completion of road works). One utility reported having received invoices totalling around £2.4 million (to end March 2015), with £1.16 million of charges being invoiced by TLRS in 2014/15 alone.
- **Administrative costs** – most promoters cited increased administrative costs to deal with Lane Rental, over and above the costs of the permit scheme. Some promoters had taken on new staff. Some of these costs were related to negotiating with the authority on charges that had been applied incorrectly or where there was a dispute. There has also been an impact on internal administrative costs, for example closer support and supervision of contractors, and higher planning costs. However, promoters were generally not able to quantify these aspects.
- **Mitigation costs** – The costs incurred by promoters in avoiding Lane Rental are discussed above and include:
 - Wage uplift due to increased need to pay contractors and staff for working unsocial hours. The National Joint Utilities Group (NJUG) estimates this uplift to be between 25-50%. The contract between KCC and its term contractor allows for a 17% uplift for work completed in off-peak hours (to compensate for the reduced hours of work this implies) and a 25% uplift for work at night and weekends. Therefore night work costs 8 percentage points more compared to work during the day (as works tend to be planned to avoid peak hours anyway). A telecoms promoter reported that the

uplift on contractor costs due to working out of hours is 50%, while one gas company estimated cost uplifts to be up to 100%.

- Other costs to mitigate for night working, including lighting and plant opening to secure materials.
- Increased “downtime” for staff (while still being paid) due to restrictions on when works can take place or issues with availability of those who have worked night shifts on following or subsequent days.
- Cost of alternative routing of infrastructure to avoid Lane Rental roads.
- Materials costs incurred by first time reinstatement (including cost of keeping the materials to temperature or purchasing a higher quantity than is needed for the job) or use of more expensive materials
- Cost of developing (or accelerating development) and using new technology (although this may be a net benefit if it leads to productivity gains in the long run).
- Noise, dust and light mitigation costs, as required by environmental health officers.

There are also costs incurred by customers as some promoters reported that they were able to **pass on all or some of increased projects costs to their customers** either directly (e.g. when undertaking new connection work for individual customers) or indirectly (e.g. through spreading the cost across all customers’ bills, often requiring agreement from the regulator). Under normal market conditions, this would put the affected provider at a competitive disadvantage and may have a negative impact on sales. However, this is unlikely to be an impact of Lane Rental as utilities either operate a local monopoly or are at least affected equally by the scheme, leading to no net change in competitive advantage. It could be argued that this lack of competition in utility markets (with the exception of telecommunications) may be dampening the incentives of promoters to avoid paying Lane Rental, compared to a more competitive industry where profitability is enhanced by keeping costs and prices down. Therefore, the effectiveness of Lane Rental is to some extent dependent on the ability of regulators to ensure that companies are minimising their costs and only being permitted to pass higher costs on to customers where this is reasonable and unavoidable.

In the case of authorities’ own liability for Lane Rental, the costs are ultimately paid by council tax payers, although TfL noted that it does not receive any additional budget for street works to cover the costs of Lane Rental.

4.5.2 Benefits

The main objective of the two Lane Rental schemes is to reduce disruption on the road network, which would be expected to generate a substantial economic benefit (due to reductions in the costs of congestion). Hence the main beneficiaries of Lane Rental are road users and not the promoters themselves. Unsurprisingly, the vast majority of promoters reported that Lane Rental had not generated any benefits or financial savings to the business. Nevertheless, wider evidence from the interviews suggests that promoters may have benefited in a number of ways:

- **Reduced disruption** – for some promoters, reducing the impact of their street works on the disruption caused to the public is an explicit corporate objective and therefore arguably any behaviour change that brings about reduced disruption can be deemed a benefit to the business. It may also be an explicit target set by the regulator. In this case, it could be argued that promoters’ behaviour should be aligned to their objectives anyway without the need for external stimulus. However, there is evidence that for some promoters Lane Rental is helping to educate promoters and contractors about how to reduce impact on disruption and is providing a catalyst to a change of mind-set and culture within organisations.
- **Public relations benefits** – related to the above point, some promoters have identified that the behaviour change in Lane Rental areas is helping to improve public perceptions towards the company, such as a reduction in negative newspaper headlines related to the disruption caused by street works

and less complaints to the undertaker. In contrast, some promoters were conscious of the potential for negative publicity to occur as a result of increased night-time working.

- **More efficient working** – again it could be argued that promoters should not need an external incentive to improve the efficiency of their operations. However, there is some evidence from the research that Lane Rental is helping to drive efficiency gains, for example through stimulating a quicker adoption of new technology or by giving promoters greater control over their contractors (e.g. greater financial disincentives for overrunning works). Also, in some cases, any changes in approach are being transferred to other areas as well and do not just affect work on Lane Rental roads.

However, it should be noted that no promoters interviewed as part of the research were able to identify any financial benefits related to the steps taken to mitigate or avoid Lane Rental fees. It was felt that in many cases the steps taken were leading to additional costs and even extending the duration of the work and, even if the duration of work was being compressed, any time savings were outweighed by the additional costs incurred (application of out of hours rates, etc.).

4.6 Wider effects

4.6.1 Relationships with Contractors

As a result of the scheme, some promoters have reported the need for enhanced planning and coordination with contractors to ensure that they avoid unnecessarily incurring Lane Rental charges. One promoter stated that, due to Lane Rental, the risk of overruns is substantial compared to other risks and therefore this has affected the approach to planning and coordination. This has often incurred higher management and supervision costs.

Some promoters have introduced new systems to help contractors to be aware of the requirements of Lane Rental and the roads on which it is applied. One promoter provided their contractors with tablets so that they can manage projects more effectively in real time, while another developed an app to help contractors plan around Lane Rental. Others have specifically developed guidance documents and training on Lane Rental for their contractors.

Another promoter reported that Lane Rental has influenced them to review the performance management system for the lead contractor, including first time reinstatement as a key performance indicator for the first time. This change has been applied for the whole contract, not just for projects on Lane Rental roads.

4.6.2 Work Outside of the Lane Rental Area

Promoters felt that the introduction of Lane Rental had not impacted on the scheduling of work outside of the two authority areas. However, there was some suggestion of work on Lane Rental roads being delayed which might be expected to allow other work to be brought forward. As noted above, this could have longer-term implications given the possibility that maintenance issues could worsen if work continues to be delayed.

4.7 The Impact of Differences between the Two Schemes

No evidence emerged of substantial differences in the approach taken or mitigation measures used in the two areas (notwithstanding the different charging arrangements).

4.8 Summary

- In general, Lane Rental appears to be working in the sense that it is providing incentives for promoters to think more carefully about how to plan street works to reduce impact on road users.
- The main mitigation measure reported by promoters is a move towards more out-of-hours working, where this is deemed the most cost-effective solution for the promoter and where other restrictions, such as noise and health and safety considerations, do not inhibit night working.
- Promoters felt that the observed changes in behaviour have been promoted by a number of drivers, primarily internal efforts to improve cost effectiveness and agreements made with the regulator, and have been part of a longer-term trend towards increased innovation and out of hours working. **It is generally felt – correctly or otherwise - that most of the observed changes would have happened anyway, without Lane Rental.**
- Lane Rental charges and mitigation costs tend either to be absorbed by promoters or passed on to customers. Contractors are generally not liable for charges unless they fail to carry out works according to specification and this results in additional Lane Rental charges being applied.
- Some promoters may have been incentivised to delay non-urgent planned maintenance work to their assets where this would be liable for a Lane Rental charge. This may have the perverse effect of creating a higher number of emergency works due to poorly maintained infrastructure. This perverse incentive could be reduced by removing the right for promoters to work on Lane Rental roads for free in emergency situations.
- Some further potential perverse incentives are created by the design of the two pilot schemes. Due to a blanket daily charge being applied for any incursion in the carriageway for any amount of time, there are insufficient incentives for promoters to reduce their impact by maintaining the number of lanes, reducing durations within the day or scheduling works to avoid the most traffic-sensitive times within a charging period. This could be solved to some extent by applying charges on a more *pro rata* basis, although this may be at the expense of maintaining the simplicity and clarity of the scheme. TfL noted that they would support such *pro rata* charging in principle, although it is recognised that a change to the EToN specification would be required to allow occupation to be recorded in terms of hours rather than days.
- Lane Rental leads to an increase in costs to promoters and ultimately to utility customers and taxpayers, which reflects the rental value of accessing public assets. There are some direct benefits to promoters (e.g. improved public perceptions and improved efficiency) but ultimately the benefits accrue to road users through improved traffic flows, which results in benefits for businesses and the economy as well as private users.

5.0 Overall Assessment

This section summarises key findings and offers conclusions on the basis of the available evidence.

From an operational perspective, the two pioneer schemes appear to have been **successfully implemented and effectively function** as an extension of existing permit schemes. Promoters were actively engaged in the development phase and this, along with continued dialogue and a period of “shadow operation”, is cited by authorities as a key reason behind the successful delivery of the schemes. Authorities feel that Lane Rental complements and adds to their existing permit schemes giving them additional levers with which to influence behaviour, although promoters believe that the introduction of Lane Rental had just served to add an extra layer of administration and had not significantly influenced their behaviour compared to permits alone.

Both schemes demonstrate **alignment with the national guidance** which also gave the authorities flexibility to tailor the schemes to their local circumstances in respect of the scheme locations and times. However, there are some differences in approach with KLRS presenting eight charge categories compared to the three defined by TLRS, as well as allowing a longer charge free period in relation to emergency works.

Although there is currently no proof of causality, monitoring data from both KCC and TfL appears to show that the schemes have been successful in reducing disruption in the scheme areas, and the associated costs of congestion. Discussions with promoters support this finding, pointing to an increase in out of hours working and use of innovative techniques or materials. However, **the influence of Lane Rental on observed behaviour is less clear** as promoters highlight Lane Rental as just one of several drivers of behavioural change and feel that other drivers are more important, with the additionality of Lane Rental being limited. These drivers include the continual need to improve efficiency and reduce the costs, as well as existing commitments to reduce the disruption caused by street works. In particular, a number of promoters argue that the permit scheme provides sufficient drivers to ensure that promoter behaviour is aligned with the highway authorities’ intended outcomes. Some promoters also expressed the view that for some projects Lane Rental charges are unavoidable. Nevertheless, the research has shown that Lane Rental has provided an additional incentive for some firms and has led to a reduction in disruption with resulting benefits for road users and the economy.

When deciding how to undertake jobs, promoters assess the costs of the Lane Rental charges against the costs and feasibility of working in a way that avoids the charges. In this sense, Lane Rental is encouraging promoters to consider the costs of congestion caused by their actions in their decision making to some degree, thereby helping to internalise the external costs. However, the level of analysis and understanding of the related charges varies amongst promoters.

Generally promoters feel that they are left to make their own decisions about how to proceed, although it is recognised that authorities are still able to impose conditions through the permit system. From the perspective of society, an efficient outcome is more likely when the level and structure of charges reflect the actual costs of congestion imposed by works. However, it is worth noting that no promoters challenged the actual level of fees but there was a view that they could be pro-rated to reflect part-day occupation.

Although promoters were generally unable to estimate the overall cost of Lane Rental mitigation measures to their business, most were able to provide specific examples of costs incurred. The most prevalent is the additional wage costs for contractors to work out of hours along with the costs of additional equipment such as lighting and access to materials. The availability of contractors to work out of hours was also reported to

be an issue, given a general preference to work in normal working hours (and the availability of other alternative work).

There is some anecdotal evidence that work in scheme areas has been delayed, with other projects being completed instead in order to maximise the amount of money that utilities can spend on their assets (rather than Lane Rental fees). However, it was acknowledged that this type of behaviour could lead to increased costs in the longer-term with potential for minor works to become more serious over time. There is also some suggestion that the charge free period for emergency works could create a perverse incentive to delay maintenance work until it became an emergency.

As intended, the running costs of the schemes are financed by revenue from charges with surplus revenue being used to fund projects to test new approaches or materials. At present, it appears that use of this funding has been limited and more could be done to stimulate demand. The distribution of residual funds also necessitates administrative efforts on the part of the authority and the promoter (in making an application).

Overall, it appears that Lane Rental has helped to **reinforce and encourage behavioural change but that it is only one of several factors** and that internal drivers (such as the need to reduce costs and improve customer service) and the influence of the regulator are also important factors which are perceived to have already led to promoters exploring new ways of working and investing in innovation.

6.0 Recommendations

On the basis of the research findings, we offer the following recommendations:

- Given the limitations in existing data recording systems and the extent to which relevant information is captured consistently, a **data specification** should be developed to ensure that consistent data is captured on the performance of Lane Rental schemes going forwards. This data would allow a future evaluation to identify precisely and consistently the number of works taking place in specific Lane Rental locations and the accurate duration of works. A data template was developed as part of this evaluation (see Annex 1) and this could be used as the basis for a specification going forwards.
- A **review should be undertaken of the use of surplus revenue** with a view to ensuring that the benefits of this funding are maximised (perhaps with a role for DfT in providing strategic direction or helping to stimulate demand). This recommendation stems from the perception that the funds are not being fully utilised and the view that a wider range of permitted uses may be appropriate.
- To encourage any authorities considering implementing Lane Rental to undertake a review of streets designated as **traffic sensitive** (if this has not been completed recently) to ensure that this then provides a sound basis for establishing which locations should be part of a Lane Rental scheme. This reflects the view that Lane Rental as an instrument is best reserved for the most traffic sensitive locations.
- To consider **which behaviours need to be changed** with regards to street and road works and how Lane Rental can be targeted at these areas (including how Lane Rental can best complement other drivers of behavioural change amongst promoters). This is based on the finding that promoters report multiple influences on their behaviour, some of which were felt to be more pressing than Lane Rental and also the need for schemes to ensure that they retain a focus on the core objectives of the scheme as they evolve over time.
- To consider whether future schemes should allow for **pro-rata charging** to allow short duration projects to be undertaken without being charged for a whole day. Some promoters reported that the current structure of charging does not maximise the incentive for them to clear a site as quickly as possible.
- For DfT to ensure that **legislation keeps pace with the introduction of new materials/methods** to ensure that potential liability issues do not constrain innovation. It is noted that this issue is not necessarily specific to Lane Rental.
- If new schemes are introduced, to consider the potential to **design an impact evaluation** which includes a comparison of works (and the costs of works) on scheme and non-scheme roads. This would help to further develop the evidence base regarding Lane Rental. Further work to consider the **impacts on different types of promoter** would also be interesting given the view that some were better able to work outside of traffic sensitive times than others. This could explore whether there are any issues of proportionality or fairness resulting from the current scheme design.

Annex One: Data Template

Lane Rental Research - Effects on Works Promoters

Organisation:	
Contact:	
Lane Rental area (s):	

Table 1	2012/13	2013/14	2014/15
Total number of works undertaken on Lane Rental roads			
Number which were immediate works - urgent			
Number which were immediate works - emergency			
Number which were minor works			
Number which were standard works			
Number which were major works			
Total number of works for which charges were incurred			
Number which were immediate works - urgent			
Number which were immediate works - emergency			
Number which were minor works			
Number which were standard works			
Number which were major works			
Total number of works on non-Lane Rental roads (within the jurisdiction of the authority)			
Number which were immediate works - urgent			

Number which were immediate works - emergency			
Number which were minor works			
Number which were standard works			
Number which were major works			