

SURREY COUNTY COUNCIL

LOCAL COMMITTEE (GUILDFORD)

DATE: 30 September 2015



**LEAD OFFICER: Kevin McKee – Parking Services Manager
– Guildford Borough Council**

SUBJECT: Future Cities Management Platform for parking

DIVISION: Guildford South West and Guildford South East

SUMMARY OF ISSUE:

Guildford is a very popular destination and currently experiences traffic congestion at busy times. We need new solutions to help manage traffic flow and parking. We have been approached by a company to run a trial with a platform they are developing. This platform can provide us with detailed information about how parking is used and influence parking behaviour. Influencing parking behaviour can reduce congestion, and emissions.

RECOMMENDATIONS:

The Local Committee (Guildford) is asked to agree

- (i) To pursue a trial to help develop the Future Cities Management Platform (parking) with Ethos on the basis that the direct costs of the trial are met by Ethos; and
- (ii) that the form of a collaboration agreement and decision to proceed with the trial are delegated to the Area Highways Manager (SW) in consultation with the Chairman and Transportation Task Group.

REASONS FOR RECOMMENDATIONS:

To help manage parking patterns in Guildford to reduce congestion and emissions and to improve the customer experience.

1. INTRODUCTION AND BACKGROUND:

- 1.1 Guildford is a very popular town centre and many people chose to travel by car. The central car parking spaces, and those that are most visible, are the most popular. At busy times these spaces usually fill and have queues while spaces that are slightly further out, or less obvious, remain unused.
- 1.2 This pattern creates unnecessary congestion in the centre. We are also looking to move to a “drive to, not through” model of parking with interceptor car parks on the main routes. This will require changing people’s parking habits. One of the keys to managing the existing situation and successfully

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implementing change is to provide motorists with information about the choices at the right time in their journey.

- 1.3 A company called Ethos has approached us. They are developing Future Cities Management Platform (FCMP) to give urban areas the ability to monitor, control, predict and proactively manage their parking assets. They have £800,000 of research and development funding from INNOVATE UK and are working with leading experts in algorithms, Linked Open Data, Internet of things, mobile app. developers and local government domain specialists to create a platform that provides unique real time insights into parking availability and usage.
- 1.4 The platform Ethos are developing combines information from on-street parking sensors with existing information from car park counters and static information to produce a single system for parking information. This information would be available to the councils and provide detailed data on how space is used. As part of the platform Ethos are developing a mobile app. to make information available to motorists.
- 1.5 The aim of the Ethos app. would be to allow motorists coming to Guildford to see where parking space is likely to be available when they get to the town. This concept is new and differs from current systems, which simply show real time availability. To achieve this they are developing a predictive algorithm, which will use past and current data to predict where space will be available when the motorist arrives in the town.
- 1.6 Being able to show motorists where there is availability, or better still where there is likely to be availability when they arrive, will help guide them to less congested areas and reduce queues and congestion. It will also improve the users' experience and reduce emissions.

2. ANALYSIS:

- 2.1 There is already real time information on the main car parks in the town centre and we are discussing modifications to this system so the information it uses can be made available on our own and other websites and to third party app. developers. This change is estimated to cost a few hundred pounds and as it affects the car parks, it can be paid for this out of Guildford Borough Council's car park budgets.
- 2.2 To obtain real time information about on-street parking requires sensors to detect the presence of vehicles and this information is transmitted to a central point. Ethos has funding for trials using sensors and is willing to deploy some in Guildford. While many deployments consist of a sensor in each parking space Ethos want to reduce the number needed by using a predictive algorithm. They estimate they can cover 250 on-street parking bays using 100 sensors. The exact deployment would need to be worked out.
- 2.3 There are currently around 500 on-street pay and display parking spaces in Guildford town centre. Of the 500 spaces around 200 are dual use, permit holders can park without limit and visitors can pay and display but are subject to a time limit. Just over 300 parking spaces are pay and display only and allow stays of up to 30 minutes (101 spaces) and up to 2 hours (202 bays). It is considered that the pay and display only spaces would be the most suitable for the trial.

- 2.5 There are a number of different types of sensor and they work in different ways. We would need to work with Ethos to decide the best type of sensor for application in Guildford. At the end of the trial we would assess whether we wished to continue to use the platform and under what terms. It is hard to do this in advance, as the trial is intended to help develop the product and its capability. As a safeguard, Ethos have agreed that they would fund the cost of removing the equipment and making good if at the end of the trial we did not want to continue or could not agree satisfactory terms to do so.

3. OPTIONS:

- 3.1 The option before the Committee is to work with Ethos on a trial to help develop a platform that would assist with the management of both on-street and off-street parking. The exact nature of the product is still being developed and this provides us with an opportunity to influence it, which will be of benefit in ensuring it helps meet our objectives. The trial would be free of charge and we would share in the data and results obtained. At the end, we have the option of decommissioning the platform, or agreeing a way forward.
- 3.2 The other options would be to carry on without a platform, or to procure an existing product. The new technology presented in Ethos' trial provides a unique opportunity to influence motorists at the point they start their journey and has the potential to be more effective than traditional signs and existing methods.
- 3.3 Existing products based on sensors have higher installation costs and running costs as they need a sensor for each parking bay. Westminster has gone live with 3,000 sensors across the West End and is planning 7,000 more. The investment is around £3.5M. Ethos is developing its system to work with fewer sensors. In Guildford the aim is to use 100 sensors to cover 250 spaces and the cost of installation and running costs are therefore considerably less than a system that requires a sensor in every parking space. The Ethos app. will also be unique in predicting future availability of space.
- 3.4 In Guildford there is local authority control over nearly all the parking in the town centre with the majority of car parks as well as on-street parking being publicly controlled. This makes us a good site to develop the platform. It provides greater opportunity to influence parking behaviour, reduce congestion, emissions and improve the customer experience than in places where responsibility is split between local authority and private control.

4. CONSULTATIONS:

- 4.1 The Transportation Task Group was consulted and met with Martin de Heaver the principle partner from Ethos. The Task Group was supportive of the trial going forward and suggested that the Highways Area Manager South West, John Hilder, be given delegated authority to agree a collaboration agreement with Ethos in consultation with the Chairman and to take the final decision on implementation following further consideration by the Transportation Task Group in October 2015.

5. FINANCIAL AND VALUE FOR MONEY IMPLICATIONS:

- 5.1 The commitment from Guildford Borough and Surrey County Councils would be to provide the time to work with Ethos to develop their platform and from Surrey County Council the highway for the trial to take place on. All parties would have access to the data. Ethos would cover all costs during the trial and make provision from their funding to remove the sensors and make good, in the event that there was no agreement to continue after the trial. Ethos' estimated costs for a trial are set out in Annex 1 and typically, each site will benefit by around £240,000 from the funds available to develop the platform.
- 5.2 At the end of the trial, there would be an option to continue or stop and decommission the on street sensors. Ethos would meet the costs of decommissioning and removing the surplus equipment if a decision was taken not to go ahead.
- 5.3 We could decide to continue to use the sensors but without the app. In this case, Ethos would expect some payment for the sensors and installation. The total cost of buying and installing the sensors will depend on the type chosen and their configuration but it is estimated to be between £20,000 and £35,000. This estimate is based on 100 sensors covering 250 parking spaces and using the Ethos platform to predict availability.
- 5.4 The running costs of the sensors would be covered by Ethos during the trial and the estimate is that this amounts to around £4,800 per annum. If we wished to continue to use the sensors after the trial, we would need to meet this cost. At the end of the trial period if we decided to continue to use the app. there would be no charge for the installation and sensors.
- 5.5 The platform being developed by Ethos will have two elements, a part that uses the information to predict the availability of space, and an app. that would help direct the driver to the available space. To continue running each element after the trial Ethos would need a licence fee of £12,000 per annum for the prediction platform and around £12,000 per annum for the app. The licence fee could come from further grant funding, the local authority or others who want to encourage motorists to use it. After an initial period, users will be charged for using the app and this could cover some or all of the cost. Any shortfall would need to be covered by further grant funding or from the local authority or another organisation interested in business in Guildford. To provide a reference the total on-street pay and display income in 2014-15 was £757,000.
- 5.6 All the figures in this section of the report are estimates, are subject to negotiation and are intended to present a clearer picture of the order of the likely sums involved rather than being definitive.

6. EQUALITIES AND DIVERSITY IMPLICATIONS:
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- 6.1 The trial would enhance all motorists' experience of parking in Guildford. If successful, the platform could be extended to provide information on the availability of disabled and other parking bays.

7. LOCALISM:

- 7.1 The trial would involve both the highway and the Borough Council's car parks and provide a single point of reference for local people and other users. It would stand as another good example of services to the public being the responsibility of different councils, but being seamless at the point of delivery.

8. OTHER IMPLICATIONS:

Area assessed:	Direct Implications:
Crime and Disorder	No significant implications arising from this report.
Sustainability (including Climate Change and Carbon Emissions)	Set out below.
Corporate Parenting/Looked After Children	No significant implications arising from this report.
Safeguarding responsibilities for vulnerable children and adults	No significant implications arising from this report.
Public Health	No significant implications arising from this report.

8.1 Sustainability implications

The platform is intended to influence motorists parking patterns by directing them to available space. This will reduce congestion caused by motorists looking for space, emissions and disruption caused by queuing vehicles and will improve the customers' experience.

9. CONCLUSION AND RECOMMENDATIONS:

- 9.1 The development of a Future Cities Management Platform (FCMP) provides us with an opportunity to obtain unique insights into parking availability and usage. It also presents an opportunity to provide useful information to the public, which can help influence parking behaviour in a positive way to reduce congestion and emissions. The trial offered by Ethos gives us the opportunity to help develop the technology that will be beneficial for Guildford.

9.2 The Local Committee (Guildford) is asked to agree:

- (i) to pursue a trial to help develop the Future Cities Management Platform with Ethos on the basis that the direct costs of the trial are met by Ethos and
- (ii) that the form of a collaboration agreement and decision to proceed with the trial are delegated to the Area Highways Manager (SW) in consultation with the Chairman and Transportation Task Group.

10. WHAT HAPPENS NEXT:

- 10.1 The next steps required before a trial commences are:
1. Agree scope of collaboration
 2. Formalise scope into collaboration agreement
 3. Integrate existing car park counter data from the main GBC car parks, and static data onto the FCMP
 4. Deploy parking space sensors (and all subsystems) and predictive algorithms to provide live parking space availability data to cover up to 250 central Guildford on street pay and display parking spaces. It is anticipated that around 100 sensors will be required (final numbers to be determined at survey)
 5. Agree a sensor type for the trials, and Ethos to fund/procure
 6. GBC/SCC to agree and support sensor installation activities
 7. Integrate the parking space sensor system into the Ethos FCMP system
 8. Develop web and mobile applications to make this data available to citizens
 9. Develop web based management reporting tools for use by GBC/Surrey etc
 10. Produce an evaluation report on the sensors, FCMP and user applications
- 10.2 Ethos' project funding covers the period of 01.04.2015 to 30.03.2017. They anticipate that step 1) above will take place during quarter three (Q3) of 2015-16, with steps 2) and 3) in quarter four Q4 of 2015-16. Once the data is available then development and testing of the apps will take place during Q1 to Q3 of 2016-17, with evaluation and reporting during Q4 of 2016-17. Subject to the outcomes of the evaluation, at the end of the trial period Ethos we will agree either the decommissioning/removal of the trial sensors, or transition to operational service.

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Consulted: Transportation Task Group

Annexes:
Ethos Costs for a trial

Sources/background papers:
None

Annex 1

Ethos' Costs

Ethos plan to run three trials including the one in Guildford. The typical expenditure for each trial is set out below.

Ethos Parking	Cost apportionment per trial area			
	Project management	£13,000.00	average 0.5 day per week over 52 weeks	
	Sensors	£35,000.00		
	Data analytics	£15,000.00		
	Sensor decommissioning	£5,000.00	optional	
	Routing app. development	£40,000.00	Tbc	budgetary figure
	Linked data platform	£46,600.00	£140k/3 trial areas	
	Design, review, use case development, predictive platform development	£83,300.00	£250k/3 trial areas	
	Open Data Platform	£6,000.00	£18k/3	
	Total	£243,900.00	Estimate	

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