

From: Michael Payne, Cabinet Member Highways and Transport
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To: Environment and Transport Cabinet Committee – 19 January 2021

Subject: ADEPT Kent Live Labs Project – Vivacity Labs Sensor System Trial

Classification: Unrestricted

Past Pathway of Paper: N/A

Future Pathway of Paper: N/A

Electoral Divisions Affected: All

Summary: The report updates Members on the details of the Vivacity sensor trial being carried out as part of the Kent Live Labs technology project.

Recommendation: Members are asked to note the content.

1. Introduction

1.1 The Kent Live Labs project funded by the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) in co-operation with Department for Transport (DfT) has been in operation for over a year and a wide range of innovation trials are now in place across the county. These trials are centred on opportunities to improve service delivery across a range of highway services.

2. VivaCity trial

2.1 Traffic data including traffic monitoring is used regularly across the highways department and has a wide range of uses, including safety scheme planning and delivery, cycle schemes, road safety initiatives and public transport and modal shift analysis. Various methods are used to capture this data including manual traffic counts as well as cameras. In many cases where there is a need to capture different data e.g. pedestrian movement and car movements, more than one method may be used at a single location.

2.2 Vivacity provides intelligent video analytics sensors to gather and analyse data on transport networks. This technology uses advanced machine learning algorithms which enables sensors to recognise and track different types of vehicles within their field of view. As a result, the system can gather extremely accurate, high-quality anonymous data on movement patterns, behaviour, and classified counts of vehicles (see Appendix 1).

3. Use cases

- 3.1 Traffic data is used across many areas of highways and transportation as a result these sensors could support bus lane and parking contravention enforcement, town planning, close call analysis, before-during-after scheme count and traffic counts to name a few.
- 3.2 The Gipave trial, where graphene enhanced asphalt is installed, is benefiting from the use of the sensors. The Gipave trial offers the potential to have a more resilient and asphalt product as it has been shown to deliver in the region of a 150% improvement in the lifespan of the road material compared with traditional methods.
- 3.3 The material is being used in a resurfacing scheme in East Hill Dartford. The Vivacity cameras will be used to count the number of cars driving over the surface and will be used for monitoring over next year to look for any early defects.
- 3.4 A list of locations is shown at Appendix 2. The sensors are located on streetlights and a privacy notice has been placed at each location.
- 3.5 The Vivacity sensor system has been used in some authorities to monitor the movement of people in towns and cities for Covid 19 monitoring purposes. KCC has not used the system for this purpose and none of the data that is being processed for the Live Labs project will be shared with the Department for Transport or any other agency. The data analysed for this trial is purely for the use of KCC.

4. Privacy and GDPR

- 4.1 Concerns have been raised regarding surveillance technology and the capture and potential use of personal data. Vivacity's sensor system is compliant with GDPR and have been designed around data protection principles.
- 4.2 The system does not produce any personal data when it is not necessary. Under normal operation, the system processes all video locally, produces anonymous data feeds and discards the video immediately. As such, during normal operation, the system presents no privacy or personal data risk.

5. System Set Up and Maintenance

- 5.1 When the sensor is being first set-up it is necessary to store up to an hour of video to allow the system to be configured and calibrated. When this occurs temporary signage in the vicinity of a sensor is provided in advance of gathering images.
- 5.2 These signs state *"New road space usage sensors installed, once fully operational they will only produce anonymous data. Video may be intermittently recorded at this location during this initial project phase, for the purpose of system development and testing"*.

- 5.3 During this process, all images captured are low resolution and do not contain Personal Data as defined by the ICO. Once set-up, this video is also deleted.
- 5.4 During maintenance it is sometimes necessary to capture an image from the sensor to ensure that the system is operating correctly and that the sensor does not require cleaning or repair.
- 5.5 To ensure the maintenance images do not contain any personal data:
- The sensor takes a photo and blurs a copy of the image prior to transmission.
 - The blurred image is manually screened by an operator to ensure no possible personally identifying features may be present in the original image.
 - If there is a risk that personal data may be present in the image, it is deleted, and the operator will request a new blurred image.
 - Once an image is confirmed as having no risk of containing personal data, the original unblurred image can then be transmitted to the operator. This image can then be used to confirm whether the camera lens requires cleaning.
 - This process is covered by our privacy impact assessments.
- 5.6 Vivacity are registered with the ICO to enable them to collect and hold image data for the purpose of developing software to extract anonymous data from video feeds. They act as the data controller for the software training process and they have carried out Privacy Impact Assessments for this work. Full Vivacity privacy GDPR details are shown at Appendix 3.
- 5.7 In line with KCC and national guidance around data protection and personal privacy, a DPIA has been prepared for this trial. Additionally, privacy notices have been placed at all sites (Appendix 4).

6. Conclusion

- 6.1 The Live Labs project has provided a valuable opportunity for KCC to trial several innovations that have the potential to transform the way the highway service is delivered in the future.
- 6.2 The Vivacity sensor system trial is providing an alternative way for highways teams to obtain traffic data. All steps have been taken to ensure that GDPR requirements have been complied with and these trials do not involve any monitoring of the public for Covid 19 purposes.

7. Recommendations

- 7.1.1 Members are asked to note the content.

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