SES Water

Project Summary

When a burst water main on the A217 in Banstead, Surrey required a carriageway closure, Sutton and East Surrey Water (SES Water) asked HRS for help implementing a cost-effective traffic management solution. The goals were to ensure the safety of their workforce, provide information to local residents and traffic, and reduce the impact on road users.

Challenges

The burst water main had occurred in the centre of the carriageway, so a full road closure was required in order to perform maintenance works. This meant that all the adjacent side roads would need to be closed for the duration of the works, potentially leading to local traffic looking for shortcuts around the site. In addition, the number of side roads involved meant that the diversion routes may have been confusing for travellers. Combined with the high traffic volumes, SES Water was concerned that there would be an increased risk of traffic management incursions and negative public feedback. SES Water also wanted to understand where the incursions were taking place and why, to inform and improve future projects. Another challenge was how a traffic management maintenance crew could maintain the amount of side road closures without costs spiralling out of control.

Solutions

After discussing their requirements, the Digital Services Team advised SES Water on the best traffic management configuration and potential diversion routes available. In order to collect as much site information as possible, reduce costs, keep the site safe and deter incursions into the traffic management, the Intellicone Smart Closure System was recommended, along with geo-zoning of the site. Intercom information signs were also proposed, which would provide instant communication between road users and the traffic management team. By helping road users plan their routes via the intercom signs, the impact on their journeys would be mitigated while also increasing public satisfaction.

Prior to the works taking place, the agreed site geo-zones were set up on the software platform. This mapped out the area of the road closure and the surrounding side roads and would allow all technology in that geo-zone to be visible on the monitoring platform. In addition, the geo-zoning would allow data to be collected from activated alarms and intercom information signs, including location details. With this information, the traffic management crew could respond quickly to any incursions, while also providing data for site monitoring, future project planning or as evidence for prosecutions. For example, if a particular information sign was continuously receiving queries from road users, this could be pinpointed in the data and a new traffic management configuration designed and installed.

Once the traffic management was in place on site, the digital services were commissioned. The Intellicone Smart Closure System used smart lamps that would trigger a loud alarm and notify the traffic management crew should any lamps be moved or tampered with. This not only deterred potential intruders but also alerted site staff of the breach, providing them with extra time to get to a safe place. Once alerted, the traffic management crew were able to respond quickly to the exact location of the incursion and prevent further breaches into the site. In addition, any observations made by the traffic management team could be quickly and easily collected, allowing far greater detail to be captured for further analysis. By using this system on all road closure points, the gateman requirements on site were able to be reduced, providing a high level of cost-efficient site monitoring.

The intercom information signs were placed at strategic side roads and provided information on the diversion routes to allow residents and local traffic to plan their routes around the closure. The signs had been carefully designed to ensure they provided enough information and were easy to understand, while also being accessible enough to encourage public interaction. In collaboration with SES Water, they also featured a design that represented their brand and gave a more personal touch to the sign face.

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Outcomes

Over the course of the project, 69 potential incursions were stopped. At each of these incursions, the traffic management crew were able to intervene in time as they were able to pinpoint the exact location using the geo-zoning system, avoiding any further breaches into the site. As a result of the Intellicone Smart Closure System being implemented, both site staff and traffic management operatives were able to carry out their works safely and without injury. In addition, road users and members of the public were also kept safe from the risk posed by site operations.

Employing digital solutions to monitor areas of the site allowed a complex site and traffic management layout to be installed, managed and maintained in the most cost-effective manner. The large number of side roads that needed to be closed would have drastically increased the traffic management resources required had the site been managed without Digital Services. On a short-term project such as this, the client was able to fully mitigate the risk of site incursions without spending a disproportionate amount of their budget on traffic management. The automated site reporting and data collection was a further benefit, allowing the client greater insight into their operations that can be used to inform future works.

The use of the intercom information signs which provided updated traffic information was a particular success, with SES Water attributing the low number of complaints received to their presence. Providing instant communication with the traffic management crew in the case of any queries or issues proved to be a significant factor in keeping both the community and road users satisfied with the works.

Overall, SES Water deemed that the use of Digital Services was a success, with an estimated saving of 33% of the total traffic management cost for this site.

About the client

Sutton and East Surrey Water supply water services to residents in East Surrey and parts of West Sussex, west Kent and south London. Every day, 712,000 consumers rely on them to provide 160 million litres of water. Employing nearly 300 staff over a supply area of 835km² (322mi²), they operate and maintain a network of 3,445km (2,153 miles) of water mains. They aim to continue to be a well-run, respected and successful local business, and put their customers at the heart of their business in order to achieve this.

About HRS

HRS's mission is to provide technology-based safety solutions that will help to significantly reduce injuries and fatalities in temporary work zones, whilst providing the travelling public with accurate real-time information. Our solutions have been proven to safeguard road workers on many occasions whilst also delivering net cost savings in temporary traffic management.

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