citisense

Road Safety Case Studies

Using data to understand road user behaviour, identify risks and support safer streets.



Road safety is about more than understanding where collisions have occurred. By collecting and analysing data on traffic movements, pedestrian behaviour and interactions between road users, local authorities can make more informed decisions about their networks.

At Citisense, **we use a range of data collection technologies and analytical methods to help authorities** identify potential risks, assess existing infrastructure and monitor road safety interventions.

Illford Lane: Understanding Pedestrian Crossing Behaviour

We deployed **18 CitiSensors along Ilford Lane** in the London Borough of Redbridge to monitor road user movements **over a 12-month period.**

This enabled the council to monitor not only traffic volumes but also visualise road user movements through movement trails, highlighting pedestrian crossing patterns.

The primary objective was to identify existing crossing patterns, understand interactions between different road users, and assess whether the current crossing facilities were appropriately positioned and designed to accommodate actual pedestrian movements.

These insights could then inform decisions on whether existing crossings needed to be relocated or removed.

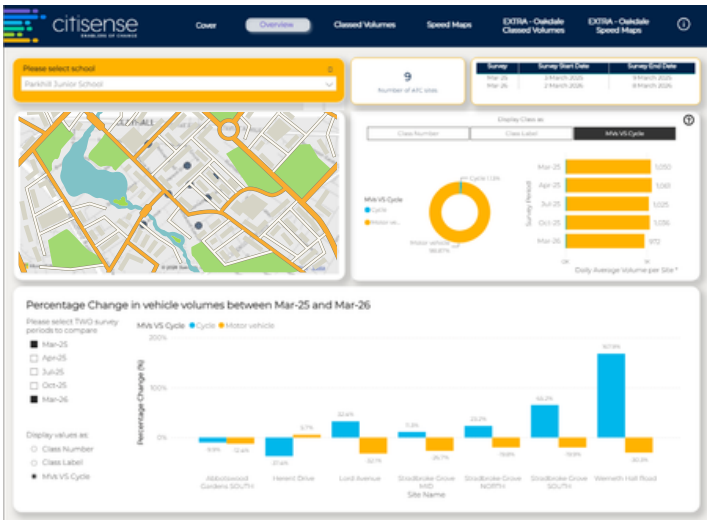




Alongside this we have conducted temporary survey to conduct analysis on both conflict, user interactions and speeds. Between **Redbridge** and **Kent** we have provided information:

Redbridge School Streets- Automatic Traffic Counts (Power BI)

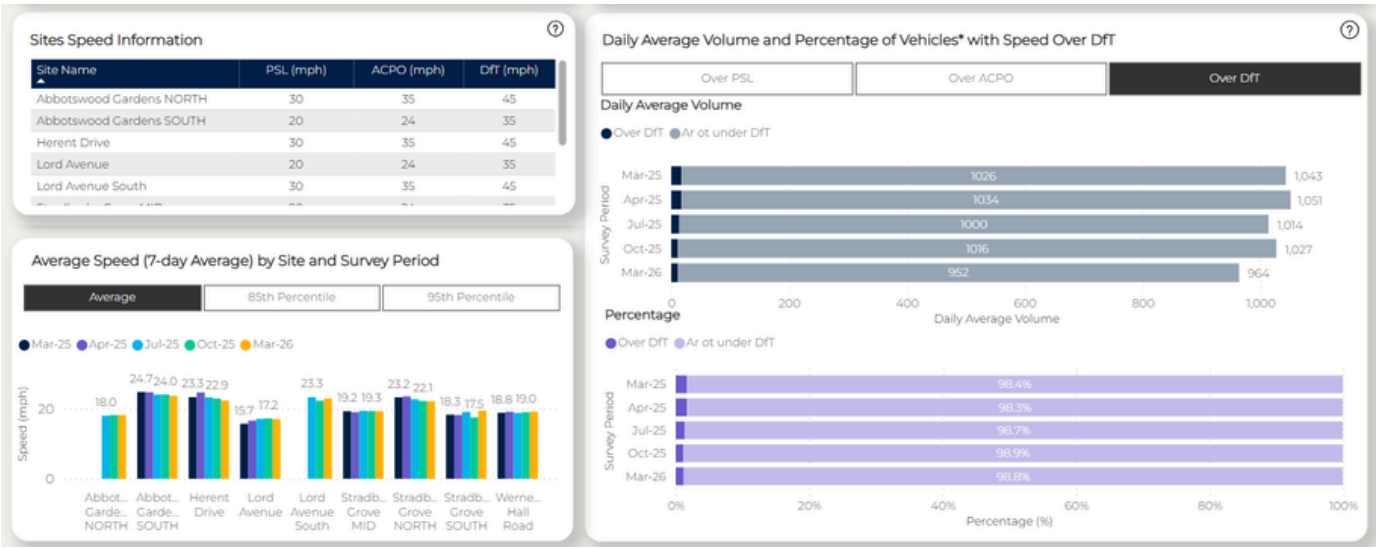
Using Automatic Traffic Counters (ATCs) to collect classified traffic volume and speed data enabled Redbridge to gather valuable insights to support the implementation and monitoring of School Streets.



Reporting was provided through an interactive Power BI dashboard, offering comprehensive analysis across multiple schools, monitoring periods and years. High-level overviews allowed the council to review and easily compare data across different school locations.



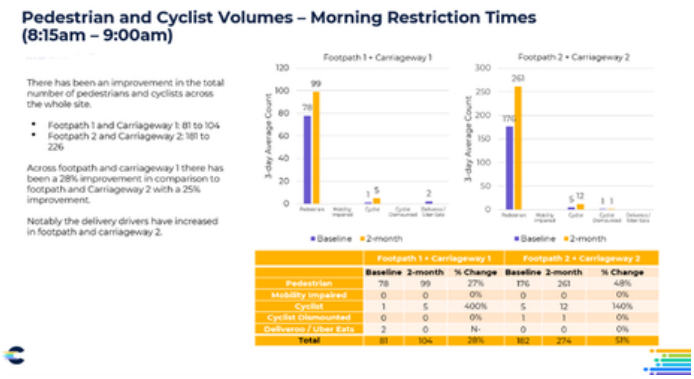
Further in-depth analysis allowed for specific road and ATC site analysis for decision makers to be able to extract more information on both classed volumes and speed information.

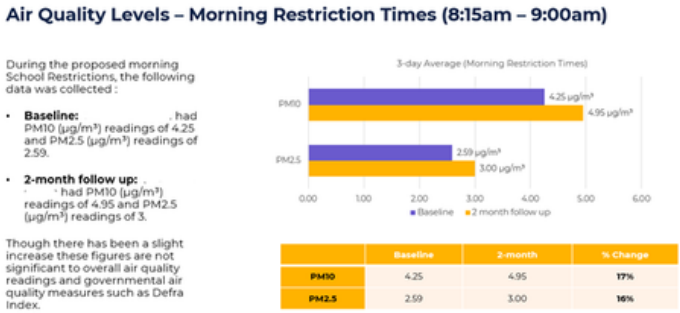


Kent School Streets - Automatic Traffic Counts, Air Quality, Kerbside, Conflict, NMU Counts

Using a plethora of different data collection methods, Citisense supported Kent County Council in gathering valuable insights for the implementation and monitoring of School Streets.

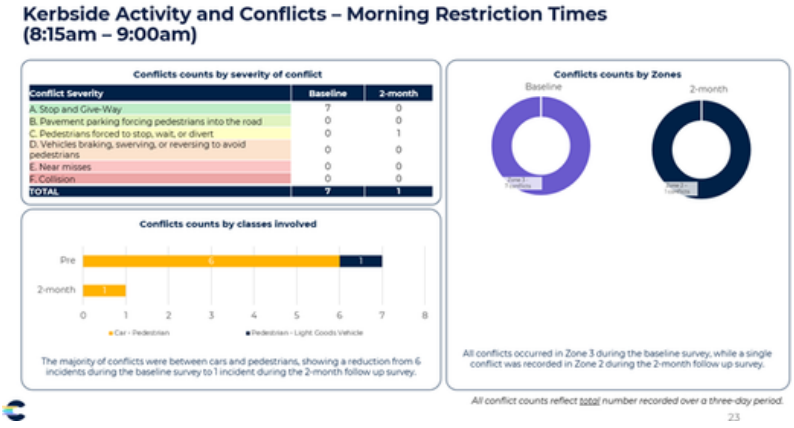
As the schemes involved a wider range of concerns and considerations, a more detailed monitoring plan was developed to assess their impact. This included automatic traffic counts, air quality monitoring, kerbside activity, road user conflicts, and pedestrian and cyclist movements.





As the reports were intended for a non-technical audience, Citisense presented the findings through clear, accessible presentations, using straightforward explanations alongside visual data.

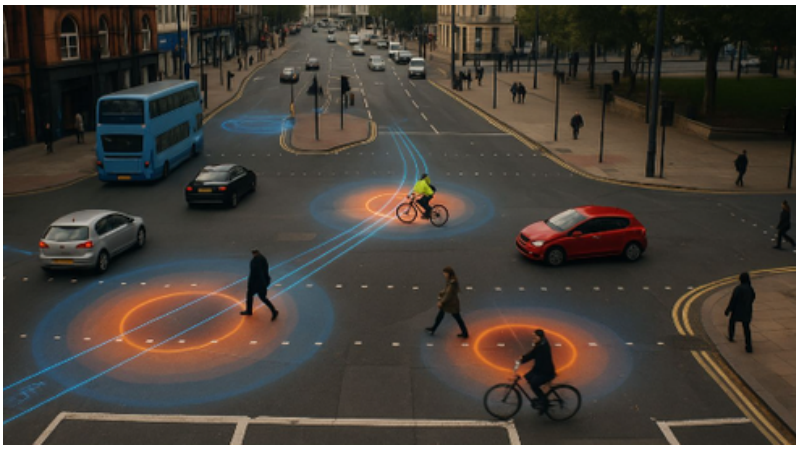
The results were communicated using simplified charts, graphs and tables, making complex information easier to understand and interpret, in line with the client's requirements.



Leeds City Council – From Prediction to Prevention

Traditional road safety decisions are often based on historic collision data, so Leeds City Council wanted to explore a more proactive, data-led approach. The aim is to identify high-risk locations earlier, understand the behaviours contributing to risk, and support targeted interventions before harm occurs.

RoadTrace by AISIN uses connected vehicle data to identify emerging road safety hotspots across the network. We then deploy our CitiSensor cameras at these selected hotspot locations to monitor real-world road user behaviour and understand the root causes of risk.



These datasets are brought together within our Smart Lenz platform, where Citisense transport specialists can review and interpret the findings to support evidence-based recommendations and targeted road safety interventions.

Our approach follows a clear process:

1. **Predict**
   Connected vehicle data identifies locations where risk may be emerging.
2. **Monitor**
   CitiSensors capture on-street road user behaviour at selected hotspots.
3. **Analyse**
   Smart Lenz visualises the data and highlights trends, behaviours and conflict points.
4. **Recomendation**
   We use the findings to recommend practical interventions.
5. **Intervene**
   We support Authorities to design, implement and evaluate targeted road safety infrastructure improvements.



Get in touch to find out **how we can support you**

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