SiYtE Smart Analytics – Crossing Safety

SiYtE Smart Analytics

Purple Transform's mission is to harness AI to enable the rail industry to improve safety and achieve train performance targets, using our Smart Analytics platform, SiYtE.
SiYtE provides solutions for *Trespass Detection and Reduction, CNI Situational and Environmental Awareness, Extreme Weather Insights and Alerts, Level Crossings* and *Smarter, Safer Stations*

Impact of Crossing Misuse

Crossings are exposed health and safety risks on the network, which are frequently and deliberately misused for reasons as diverse as: trespassing, photo opportunities, thrill seeking and risk-taking whilst in a hurry. Misuse at user worked crossings can also happen when gates are left open or when vehicle drivers forget to check warning lights.

Beyond the livelihood cost of fatalities and injuries, both human and animal incidents can cause substantial delays and can result in trains needing to be taken out of service.
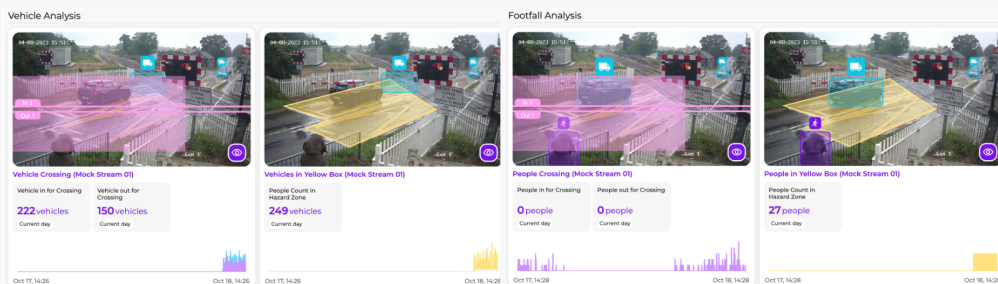
Crossing misuse cases run into the thousands each year. In 23/24 in the UK, there were 466 incidents of misuse (that were reported) and 28 near misses on the Wessex route alone, a 24% increase in reported misuse incidents.

SiYtE Smart Analytics for Crossings

SiYtE combines analytics from existing **cameras** and can utilise **sensors and third-party data** to collate and report on safety and operational metrics (near misses, usage, etc), with an integrated workflow tool that creates **multichannel, flexible and consistent alerts**.

This is being deployed at level crossings in Wales and Anglia to report on:

- **Improved risk planning and awareness with increased and automated visibility:**
    o Reporting on crossing usage.
    o Reporting on crossing misuse, near misses & incidents for risk assessment.
- **Safety Reporting & Assisting Emergency Service Reviews:**
    o People & vehicles misusing crossings or trespassing.
    o People & vehicles stuck on crossings (e.g. person on ground, vehicle stopped).
    o People and vehicles crossing UWCs when unsafe.
    o Gates left open at UWCs and barrier misfunction at level crossings.

SiYtE can be integrated into existing or new cameras and run off-net with small 4G connected compute at site. Where required wired or solar powered cameras can also be deployed.

For more information or demonstration please contact info@purpletransform.com