HxGN Connect: Reimagining collaboration for transportation networks

Transportation agencies are responsible for maintaining infrastructure, managing traffic operations and enhancing and connecting multimodal networks. This requires extensive investments in sensor technology and routine data-sharing relationships with local, state and regional stakeholders.

Tightening infrastructure budgets and an emphasis on zero fatality initiatives and sensor integration for projects such as smart corridors and autonomous vehicles have spurred agencies to think beyond point solutions and enlist technology that is affordable and multi-functional.

Collaboration hurdles

Technology barriers   **People barriers**

How successfully these networks communicate internally and with external stakeholders can affect safety, traffic flow and the speed of capital project completion. To stay innovative while getting the most from new technology, agencies can benefit from versatile systems with tools that integrate disparate data, detect patterns and trends and provide a secure collaboration platform to share and receive data.

But collaborating with others and creating a single system to view relevant data can be challenging. Technology barriers, such as integration to systems, Internet of Things (IoT) devices and applications, as well as people barriers, such as politics over data ownership and exchange standards, can doom these projects from the start.

Many organizations resort to operating within silos, which can lead to:

- Disparate sensors and devices
- Duplicated or conflicting work
- Higher cost of operations
- Greater safety risks
- Lack of community engagement

Intraorganizational data sharing can be just as difficult. When internal teams operate in silos, it can lead to low employee engagement and morale, conflicting decisions, lost opportunities and major missteps.

Real-time incident command center as a service

Gartner® recently named Hexagon as a Sample Vendor for real-time incident command center as a service in three

Hype Cycle™ reports. HxGN Connect, Hexagon's solution to manage real-time incidents, links transportation agencies to the information and people they need to break down communication silos, reduce accidents and better plan and execute infrastructure projects. This cloud-native, SaaS collaborative platform brings data and people together in a unified view for shared awareness, coordination and action.

HxGN Connect's cloud-native system includes collaboration channels to receive shared data and coordinate action based on diverse types of data, including assets, accidents, cameras, sensors, signals and more. HxGN Connect complements organizations' existing systems by creating a collaborative space to expand on originally sourced data. It provides a richer, more unified view of information with channels to enable day-to-day, ad hoc engagement and ongoing, structured partnerships. With HxGN Connect, agencies can easily connect and update data, message and assign tasks to users and break down barriers between departments, agencies, community partners and regional stakeholders.
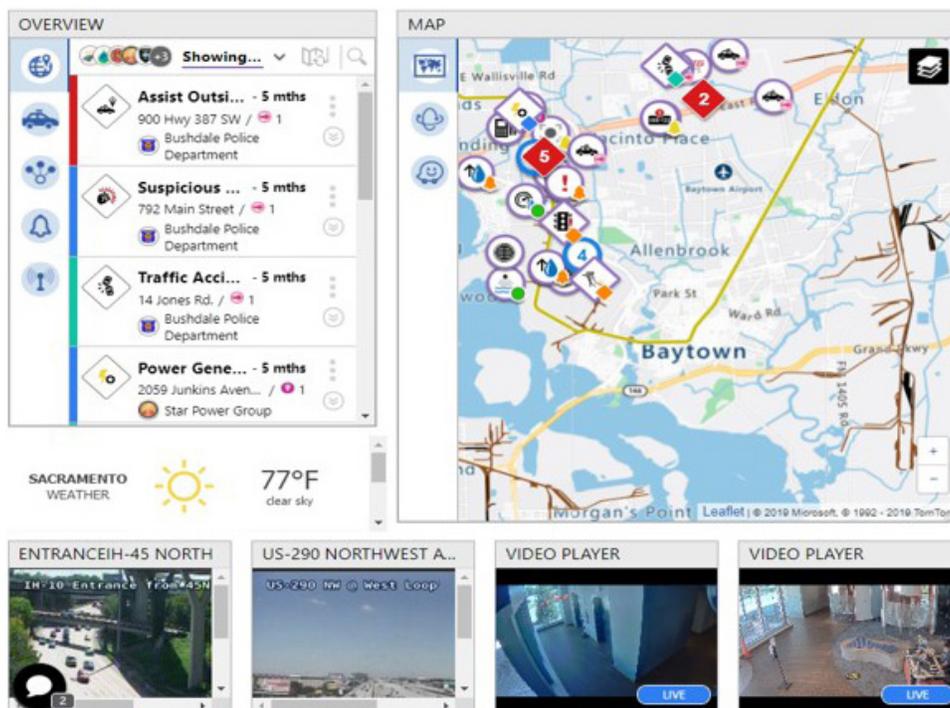
Features

- **Real-time data network:** Get instant access to real-time data from internal and external sources and share data from accidents / incidents, fixed or moving assets, IoT sensors / devices, video and more
- **Simplified data integration:** Easily normalize disparate data with Hexagon's proven, in-house data

integration platform and leverage our DIY approach to build, manage and maintain your own interfaces

- **Data-sharing controls:** Set what data is shared with whom and for how long using intuitive data-sharing controls and make changes any time, while maintaining full ownership of originally sourced data
- **Subscription-based cloud collaboration:** Reduce entry barriers, simplify deployment and quickly onboard new users during an emergency by leveraging the cloud-native system
- **Responsive, ad hoc capabilities:** Leverage flexible, easy-to-use tools to set up new layouts, change data-sharing rules, scale to the scope of an event and create collaboration channels where users can dynamically add related people and assets
- **Embedded, assistive AI:** Address accidents faster, pinpoint problem areas for accidents or traffic congestion and link disparate systems easily with intuitive, proactive notifications generated by embedded, assistive AI
- **Intuitive user experience:** Create ad hoc layouts in seconds using an aesthetically pleasing, customizable user interface

Implementation examples

Transportation networks are typically comprised of several different departments. HxGN Connect allows these networks to share information across internal departments so teams are aware of current and future plans.

HxGN Connect can integrate video and weather data, display incidents on a real-time map and incorporate data and feeds from multiple organizations, including public safety and public works.

State / provincial departments of transportation (DOTs)

State and provincial DOTs are tasked with maintaining infrastructure such as roads, bridges and ports, as well as managing traffic operations, projects to minimize congestion and connections of multimodal networks. To be successful, DOTs have a growing need to connect sensors and share and receive data with partners.

With HxGN Connect, state and provincial DOTs can:

- Collaborate quickly and securely internally and with external agencies (e.g., other DOTs, public safety, utilities) during planned (e.g., construction) and unplanned (e.g., crashes) events

- Access a common operational picture to track assets, integrate weather data, monitor roadside assistance programs and more

- Capitalize on blended datasets such as crash data with road network data to support zero-fatality initiatives like Vision Zero or Target Zero

- Enhance work zone safety with tracking and monitoring of construction and roadway maintenance

- Support smart corridor development by leveraging autonomous and connected vehicle data from traffic flow sensors, cameras/IoT devices and more
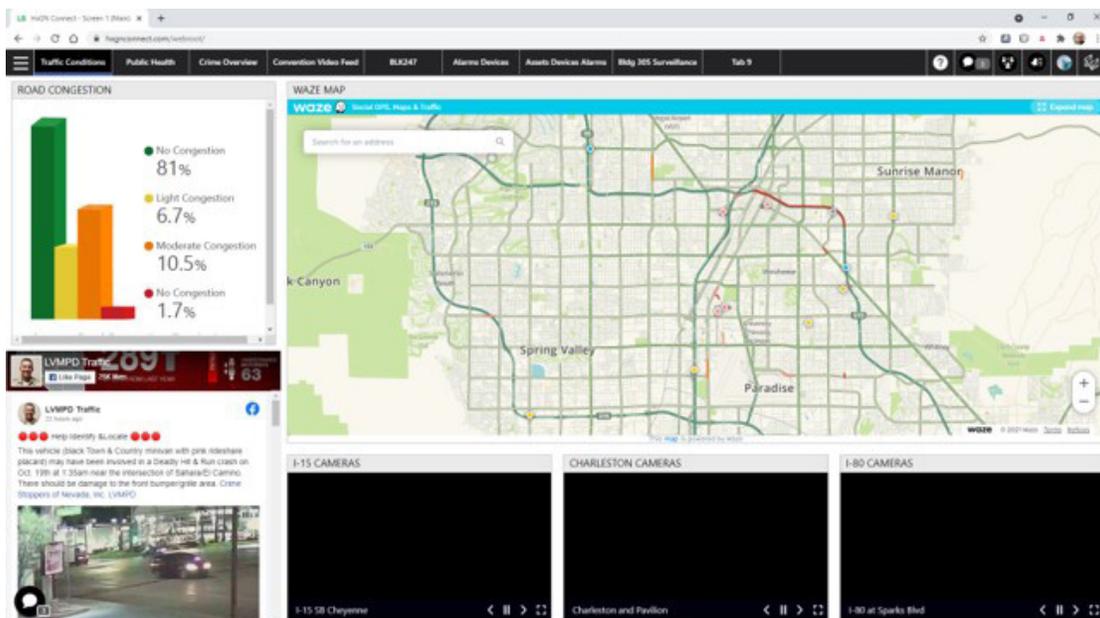
Local government DOTs

Local DOTs focus on reducing congestion, monitoring commercial vehicles, rehabilitating infrastructure, implementing sustainability programs and facilitating quality-of-life projects such as sidewalks and dedicated bike lanes. They also work with municipal partners to monitor intersections, integrate sensors and traffic cams and engage with citizens on social media.

At the local level, there is higher demand for collaboration. For example, after a major storm, they might work together on road closures, malfunctioning traffic signals and downed power lines with public works, law enforcement, utilities, fire and EMS.

With HxGN Connect, local government DOTs can:

- Achieve unified situational awareness using live map of crashes and incidents

- Manage planned construction and track assets with integrated infrastructure data

- Share data and collaborate with internal teams, municipal partners, neighboring agencies and the community on capital street projects, smart city initiatives, traffic studies and more

HxGN Connect can display real-time maps with an overlay of traffic congestion to determine areas in need of maintenance or upgrades.
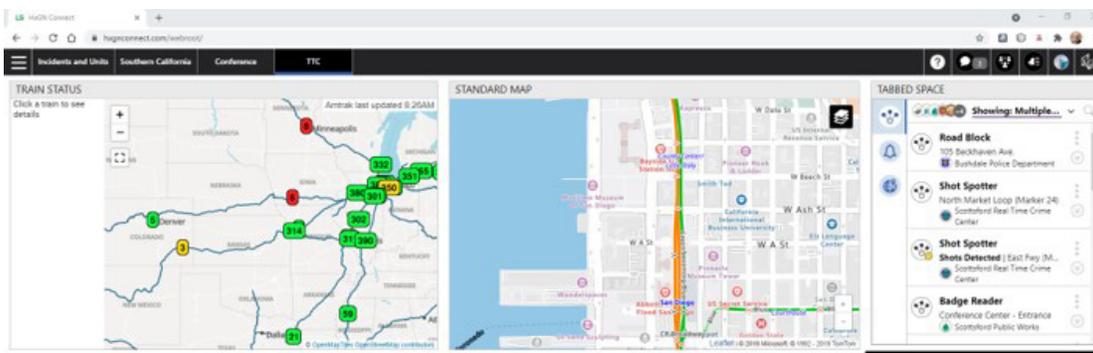
Rail and transit organizations

Rail and transit organizations rely on video streaming and sensor integration to ensure passengers and freight arrive safely and on time. Because of the interconnectedness of rail networks, operators need to collaborate with internal teams, neighboring agencies and community partners spread across large territories.

With HxGN Connect, rail and transit organizations can:

- Achieve unified situational awareness using real-time maps to view video streams, sensor data, assets, alarms and incidents

- Integrate infrastructure data including track, switch and signal locations, electric system components and platforms/station information

- Collaborate and securely receive/share data with widely dispersed teams, emergency services, neighboring networks and local governments

| **Discover** more about HxGN Connect today.

HxGN Connect offers a real-time map view of the rail transportation network to display and monitor disruptions.

Attributes:

Gartner, Hype Cycle for Emerging Technologies, 2021, Brian Burke et all., 11 August 2021

Gartner, Hype Cycle for Business Continuity Management and IT Resilience, 2021, David Gregory, Jerry Rozeman, 12 July 2021

Gartner, Hype Cycle for Public Safety and Law Enforcement, 2021, Bill Finnerty, Michael Brown, 4 August 2021

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications. Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Safety, Infrastructure & Geospatial division improves the resilience and sustainability of the world's critical services and infrastructure. Our solutions turn complex data about people, places and assets into meaningful information and capabilities for better, faster decision-making in public safety, utilities, defense, transportation and government.