



MAXIMIZING THE VALUE OF VIDEO SURVEILLANCE FOR TRANSPORT

BriefCam

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CHAPTER 1

THE EVOLUTION OF INTELLIGENT VIDEO SURVEILLANCE FOR TRANSPORT

Whether via ground, rail, sea, or air, from cargo shipping and freight, to public and private transportation ports, terminals and stations of all kinds, the complex transport sector shoulder the responsibility of protecting cargo as well as people. For many years, video surveillance has been a critical security enabler, but the adoption of video analytics into existing surveillance networks has propelled these organizations' abilities to meet the growing demands caused by rapid globalization within the industry.

Intelligent video surveillance relies on Deep Learning and artificial intelligence technologies to extract, identify, and classify objects from video. Through exposure to multitudes of tagged imagery, deep neural networks are trained to enable the software to detect and recognize objects and people in video. Once the video is processed, video content analytics enables city managers, transit operators, and security teams to get the most value out of their video surveillance network by making video searchable to accelerate investigations, actionable to increase situational awareness, and quantifiable to derive operational intelligence from video footage.



CHAPTER 2

VIDEO CONTENT ANALYTICS FOR THE TRANSPORTATION INDUSTRY

Historically, video surveillance networks for transportation have focused primarily on security. Today's intelligent video surveillance can be used to increase the situational awareness of public and private transport organizations and enhance their understanding of the events taking place in surveilled spaces. This enables them to make intelligent operational and security decisions based on actionable insights derived from video. As video analytics technologies continue to evolve, so does the list of possible applications and use cases. Whether it be public transit agencies, airports and transport hubs, or logistics and shipping authorities, video analytics can be leveraged to streamline the safety and transit of both travelers and cargo, driving efficiency and productivity for the providers.

- Improve situational awareness to drive real-time response to developments
- Rapidly investigate incidents and crimes
- Uncover and understand traffic and visitor demographic trends over time
- Optimize public transport operations and effectivity



CHAPTER 3

IMPROVING SITUATIONAL AWARENESS

Transit managers and security personnel can leverage video analytics software to increase situational awareness across transport infrastructure and facilities by configuring real-time, rule-based alerts for the objects detected and extracted from the video. By triggering a call to action, the video intelligence system brings relevant events to the forefront, so that security personnel can make intelligent decisions about whether to monitor the situation or deploy responders to intercede. Once the organization establishes behavior and activity norms, alerting logic can be developed to trigger notifications when anomalous or suspicious objects or behaviors are detected.

ENCOURAGING ON-SITE SAFETY COMPLIANCE

Video analytics can also be applied to protect the employees of transportation agencies, terminals, and ports with real-time alerts that can help detect safety violations before an emergency or accident occurs. From triggering alerts when a hard hat isn't detected or when people are detected in areas designated for vehicles only, this helps keep everyone safe.



BriefCam's real-time alerts enable a major U.S. regional transit system to oversee the safety of over 100 million passengers by detecting and alerting to:

- Loitering and line crossing near tracks
- Suspicious or anomalous passenger behavior
- Unauthorized personnel in sensitive areas
- Events that require immediate assessment and response





BriefCam enables an international U.S. airport to maximize security and gain actionable insights into various events through alerts and analysis.

- Quantifying the cars entering parking lots
- Identifying pedestrian traffic bottlenecks and crowding hotspots

MANAGING CROWDS, QUEUES & OCCUPANCY

In an airport or transit terminal, count-based alerts make it possible to proactively detect and respond to crowding and queuing. By configuring people counting alerts transit organizations can increase situational awareness and accelerate response times to help prevent inefficiencies as well as emergencies, including violent outbreaks, accidents and medical injuries, while significantly enhancing the traveler experience with streamlined movement through the terminal.

PREVENTING & MONITORING SECURITY BREACHES

Security is a primary concern of every transit authority, and there are a number of behaviors for which real-time alerts enable security and safety personnel to respond dynamically and quickly to developing situations:

- Users can be notified about **lighting changes**, such as when lights go on or off at unusual times.
- By detecting **loitering or dwelling**, operators can address anomalous behavior with proactive intervention.
- Where allowed, **face and license plate recognition** can notify operators about the activity of unauthorized vehicles in order to investigate, while appearance similarity filters can help alert to objects of interest without personal identification.

CHAPTER 4

RAPIDLY INVESTIGATE CRIMES & INCIDENTS

While alerts enable transit managers to respond preventatively and proactively as events unfold, video content analysis is also critical for reacting after a security event or crime has transpired. Post-event, it is often necessary to review video footage to understand what occurred and extract evidence. Video content analytics dramatically accelerates these investigations by enabling operators to quickly filter and search for relevant details in video, bringing the most useful and critical information to the forefront.

When inventory is detected missing from a store or restaurant at a transport terminal, investigators can granularly filter video based on witness accounts and available information to review only the relevant footage. By focusing their investigation on only the most relevant footage, investigators can more effectively pinpoint suspects and understand the timeline of events as they unfolded.

Another common occurrence at large airports and train stations is missing children. When a person is reported missing, video can rapidly be searched using either face recognition or person attribute filters, such as clothing color or whether or not they were carrying a bag, to find appearances of that individual across cameras, locate him or her and reunite the travel party.



A world-leading cruise line used facial recognition and integration with a Passenger ID card to enable security and operations managers to:

- Detect missing guests
- Avoid port departure delays
- Issue penalty fees for late returning passengers

Video review was key to swiftly clear false claims and reduce litigation.

CHAPTER 5

UNCOVERING & UNDERSTANDING TRENDS

Beyond the proactive and reactive security and operations enablement, video intelligence software drives the aggregation of video data over time, and further equips transport agencies with business intelligence to increase security and efficiency. Operators can create and populate dashboards and reports based on video data, making it easier to identify patterns and trends and leverage the information for directing future operation strategies, specifically surrounding crowd control and traffic flow.

Video data can be transformed into easy-to-understand, comprehensive intelligence: For example, transit managers can create customized dashboards that illustrate peak travel times/days, so they can make data-driven decisions about scheduling and services. In airports, for instance, the ability to assess occupancy and traffic patterns empowers operators to formulate data-driven strategies in response to high trafficked security checkpoints and bottlenecks in the check-in experience. Intelligent video surveillance can guide decision-making and management for streamlining security and operational efficiency, as well as guest engagement.





The same is true for planning construction projects, triggering maintenance and sanitation and drawing leasing agreements: Based on actionable and quantifiable intelligence about pedestrian, vehicle and bicycle traffic patterns, transit hub managers can make informed decisions and demonstrate usage statistics to back proposals. Also, because video analytics software can classify video objects based on a broad set of classes and attributes, merchandising, marketing and business departments can obtain data about the quantities and demographics of guests and develop strategies to better serve.

One of the top 10 busiest EMEA airports uses BriefCam to surveil over 80 million annual travelers across their 7,000-acre estate. Within the airport, they were able to apply the actionable insights gathered from the video analytics platform to optimize the store location, pricing and leasing strategies based on insights gathered from traffic flow monitoring and trend analysis.

CHAPTER 6

OPTIMIZING OPERATIONAL EFFECTIVITY

Much like video intelligence solutions derive insights about human behavior, it can also be used by transit companies and governmental authorities for optimizing public transit operations and urban planning. Vehicle traffic patterns can be analyzed to determine problem hotspots, identify necessary infrastructure – such as traffic lights, crosswalks, bike lanes, and more – and inform future strategies for urban development and transportation expansion.

By studying traffic peaks and patterns over time, city managers and transit operators can adjust schedules and offerings for maximum efficiency and usability, while minimizing delays, traffic bottlenecks and congestion on the roads and in public parking lots. These insights can also be leveraged for developing contingency plans for both expected and unexpected traffic changes, to alleviate congestion quickly and seamlessly.

Using the vehicle counting capability, the Cœur Côte Fleurie community maximized the use of its video surveillance network for:

- Detecting traffic violations, patterns and trends
- Developing data-driven strategies to prevent congestion
- Effectively enforcing frequently violated traffic laws

CHAPTER 7

THE VALUE OF BRIEFCAM

For transportation managers looking to maximize the value of their surveillance network and extend its utility beyond security, video content analytics is the clear solution and adds valuable insights into the ways a city or organization can leverage video surveillance.

DISCOVER THE VALUE THAT VIDEO ANALYTICS PROVIDES FOR TRANSPORTATION

[READ CŒUR CÔTE CASE STUDY](#)

[DOWNLOAD AUSTIN BERGSTROM INTERNATIONAL AIRPORT CASE STUDY](#)

[READ WORK IN SAFE CITIES CASE STUDY](#)



ABOUT BRIEFCAM®

BriefCam is the industry's leading provider of VIDEO SYNOPSIS® and Deep Learning solutions for rapid video review and search, face and license plate recognition, real-time alerting and quantitative video insights. By transforming raw video into actionable intelligence, BriefCam dramatically shortens the time-to-target for security threats while increasing safety and optimizing operations.

BriefCam's award-winning products are deployed by law enforcement and public safety organizations, government and transportation agencies, major enterprises, healthcare and educational institutions, and local communities worldwide.