Driving the future of public transportation

City Tech Collaborative, the Chicago Transit Authority, and Genetec are paving the way for tomorrow's smart cities — starting with smarter, safer buses with Intel® technology at the edge.

Chicago is home to the second largest transportation system in the U.S.[1]

+760k
bus riders[2]
(on an average weekday)

10,768
bus stops[1]

129
bus routes[1]

Yet from 2019 to 2020, city bus ridership fell by almost 50%.[2]

Everyday life in Chicago revolves around public transportation. However, social distancing measures amid COVID-19 as well as traffic, weather, and other everyday logistical hiccups, can lead to crowded buses, long wait times, and unplanned delays.[3]

To deliver better rider experiences, cities like Chicago need to simplify operations and create better data — now and in the future.

Edge technology is helping CTA riders get from point A to point B — faster, smoother, and more safely.

New IoT technology — such as LIDAR sensors and onboard Wi-Fi beacons — is installed and integrated with existing fare systems and onboard video feeds.

AI aggregates and analyzes data at the edge, then shares the data with CTA operators in near–real time.

A machine learning algorithm helps CTA operators deploy city buses more effectively without needing to replace their current fleet management system.

This flexible, open-architecture solution can be easily expanded to other vehicles to deliver long-term improvements citywide.

City Tech Collaborative is leveraging its expertise as an urban solutions accelerator to create a scalable, open-architecture fleet-monitoring platform.

The Chicago Transit Authority is using one of its busiest locations — the 79th Street bus corridor — as a test bed for measuring transit occupancy.

Genetec is creating projection models that leverage new and existing data streams — including weather data, time of day, and events — to proactively manage fluctuations in transit demand as they happen.

Intel Corporation is enabling the transformation of CTA buses into IoT ecosystems that use video and sensor feeds to show up-to-the-minute vehicle utilization.

By optimizing Chicago's public transit experience, City Tech, Genetec, and Intel are helping the CTA create the transportation system of tomorrow.

AI tracks and analyzes rider demand in real time using passenger fare data.

Video, LIDAR, and onboard Wi-Fi sensors determine when buses are getting full.

Projection models use live weather and traffic data to help bus networks adapt to new situations.

This pilot program is helping the CTA create an agile, adaptable platform for tackling short-term operational challenges and pursuing future innovation and growth.

Technology at the edge makes city transit systems flexible, seamless, and scalable

FLEXIBLE

Cities can use existing infrastructure to improve day-to-day operations without overhauling their entire system.

Riders reach their destinations on time with buses that can adapt to weather, ridership spikes, and traffic.

SEAMLESS

Cities can create transit systems that better serve their communities based on more accurate, data-driven insights.

Riders can use accurate bus capacity data to follow social distancing guidelines more consistently.

SCALABLE

City transit agencies can connect data from multiple systems to create a platform for continuous, insight-driven innovation.

Riders have better experiences more often with transportation systems that embrace innovative technologies.

By transforming legacy infrastructure with technology at the edge, cities can use their data as a vehicle for change.

Learn more at intel.com/SmartTransportation

1. Chicago Transit Authority, "Facts at a Glance" 2017.

2. Chicago Transit Authority, "Annual Ridership Report, Calendar Year 2019" January, 16, 2020.

3. City Tech, "Finding a Space of Your Own, Together" December 14, 2020.

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