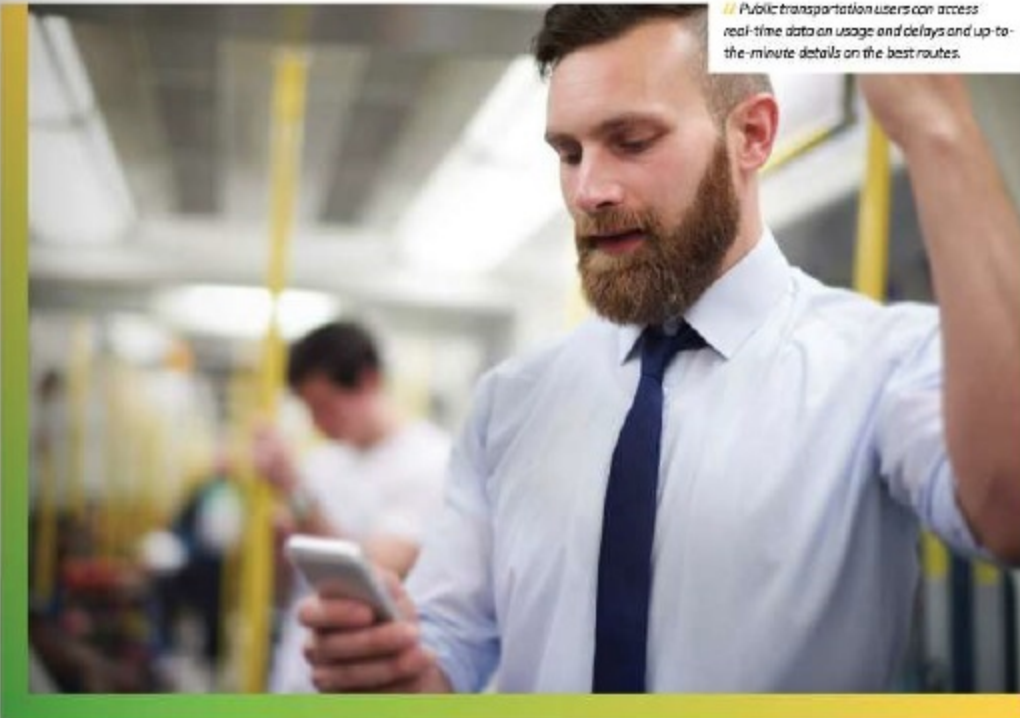


THE
 front

Public Transportation
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Public transportation users can access real-time data on usage and delays and up-to-the-minute details on the best routes.

SMART TRANSPORTATION

The era of intelligent transportation services has arrived as technology is changing the way mass transit works. *By Mitch Bierman*

Smart technology has arrived, making transportation easier for travelers and everyday commuters. People can find the fastest way to get from their homes to their destinations using buses, commuter rail, people-movers and ride-sharing services. They will also be able to purchase e-tickets and track them in real time, all on their smart phones from wherever they are. Imagine doing all that and also being

able to receive vouchers for discounts at nearby stores and restaurants in the area, all pushed to your device. As they say, "there's an app for that." The time of intelligent transportation systems (ITS) is here. Mobile apps and wayside signage now provide real-time information on the location and progress of buses, trains, trolleys and street cars. Passengers have access to real-time information on usage and

delays and up-to-the-minute details on the best routes on their smart phones and tablets. This makes public transportation more user-friendly, predictable and efficient. Communities will benefit tremendously from upgrading their transit technology. Use of public transportation is certainly on the rise, but there is room, and a great need, for major growth. Commuters in various cities are

rapidly nearing the point at which traffic frustration levels, caused by congestion and delays, will approach those faced by residents of Los Angeles. For example, many residents of my hometown in south Florida already face commutes of 90-120 minutes and are spending \$50-\$100 per week on tolls.

ITS provides some measure of hope as transportation professionals throughout North America begin to address these issues. The problems multiply exponentially in major international cities with growing populations of car users like Shanghai, Mumbai and Sao Paulo. The emergence of smart technology linking various modes of transportation – bus rapid transit (BRT), heavy

rail, commuter trains, light rail, people movers, ride-sharing services like Uber and Lyft, as well as para-transit – could lure more riders as public transit becomes more convenient. This is because passengers know when the ride is going to arrive, when and where the tightest connections are available, when they need to plan a route change and how much the service will cost.

Urban Renewal

Cities such as Chicago, New York, London and other major metro markets have turned the convergence of big data and smart technology into powerfully intelligent solutions for their mass transit riders.



Smart technology that links modes of transportation could attract more riders as public transit becomes more convenient.

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The Chicago Transit Authority's smart phone app is the second-most-popular government app in the city, after its public schools website. Using real-time passenger information (RTPI), live data is continuously streamed to apps or public display terminals to report when the next train, bus or BRT will arrive – not just when it's scheduled to arrive. Chicago users avoid long outdoor waits in the Chicago winter, waiting in nearby coffee shops until their devices alert them that the next bus or train is about to arrive. Tourists and locals alike can use the app to find the best route – including connections or transfers – to a given

destination. Users can then swipe their smart phones to pay fares or have fares debited from existing accounts. Consumers won't be the only winners. For the transit agency, ITS delivers vast improvements over traditional systems. The emergence of "big data," or large stores of digital information, will allow public agencies and private mass transit providers to capture and analyze vehicle or rider trends to deliver more effective solutions. Maintenance departments have access to real-time diagnostic data as every major mechanical subsystem on the vehicle is monitored in real time. This allows them to service vehicles before they break down, thus avoiding

major service disruptions that would otherwise significantly inconvenience the passengers. By linking unprecedented amounts of data from buses, trains, GPS transponders and even cameras, dispatchers can reroute vehicles around trouble spots, track user statistics and payment trends, even monitor vehicle status and alert the garage regarding maintenance issues. Moreover, computers can track and log driver acceleration, deceleration and general performance. So, if a bus or train is in an accident and a rider or other party makes a claim, investigators can establish how fast the vehicle was traveling or how long it took to brake.

This can help determine the validity of a claim or defend against it in court.

Such tools have other applications that cross transportation modalities. A mass transit app can provide information to private car drivers about available parking and allow them to reserve and pay for a parking space at a park-and-ride facility and then conveniently ride and transfer across multiple modes of public transit. Meanwhile, the system can determine when lots are full and steer users to other destinations.

Miami-Dade Transit is implementing a new ITS system for its bus and Metro-Rail service designed by Clever Devices of New York and a new cloud-based mobile ticketing system designed by Cubic Transportation Systems. Other counties are exploring solutions of their own. But to make them work effectively across a multi-jurisdiction region stretching from Miami-Dade through Broward to Palm Beach counties and even the Orlando area with planned launch of All Aboard Florida, city and county leaders will have to choose solutions that integrate seamlessly together.

Just as we see more vehicle toll solutions beginning to be accepted across state lines, eventually ITS for mass transit will be a ubiquitous solution. One smartphone app might open the door to public transportation, routing maps and fare payments around town and across the country.

ITS will provide analytic data and solutions that will make transit faster, safer and more efficient by putting everything literally right in the rider's hand. ■

Mitch Bierman is a member of law firm Weiss Serota Heffman Cole & Bierman. He focuses his practice in government affairs and public/private transactions, with an emphasis on public transportation and airports. He currently chairs the Greater Miami Chamber of Commerce Transportation Committee.