

CASE STUDY

Pasadena Transit,
City of Pasadena, California



**PASADENA
TRANSIT**

Happiness is a reliable bus service.

In this study, we reveal how Pasadena Transit used modern Intelligent Transportation System technology to improve bus arrival and departure times, attract more bus users, and improve overall service.

Pasadena Transit is a local city-operated bus service in Pasadena, located northeast of downtown Los Angeles, California. Originally formed in 1994 to coincide with the kick-off of the World Cup at the Rose Bowl.

The service runs six circular routes across 80 directional miles and connects with six Metro Gold Line Stations, as well as numerous regional lines. Over 1.5 million passengers rely yearly on Pasadena Transit buses to get to their destination.

INTELLIGENT TRANSIT DEPLOYMENT IN PASADENA HELPS ENCOURAGE RIDERS AND IMPROVE SERVICE

By 2012, with buses not running on time or departing early there was an increased source of customer frustration, and Pasadena Transit was eager to find a solution. At the time Pasadena was receiving a high volume of customer phone calls regarding the reliability of the bus service. According to the transit staff they would receive numerous calls per hour, taking them away from more important service related tasks.

Manual attempts at tracking and improving service performance proved ineffective. The only methods being used at the time included surveyors and Managers spending, countless hours at stops assessing arrival times versus expected times. They needed an automated system that could capture live, useful data that would not only allow for immediate decisions for service improvement, but would also present predicted

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arrival information in real-time to passengers on bus signs and online. A successful solution could easily cut down on incoming calls while hopefully providing some data that can drive some much needed service improvements.

An RFP was released to find a supplier that could optimize fleet management and performance with an Intelligent Transit System (ITS). Against strong competition Pasadena Transit chose Connexionz' technology due to overwhelming support of the company's longstanding client relationships, commitment to product innovation, and history of great customer service.

A critical requirement of the solution is it needed to be reliable and dependable – the Connexionz solution is just that. The goal was to increase ridership and influence agency growth with accurate real-time notification of bus arrival times. The system ended up doing that and more.

CONNECTING WITH THE RIDER

The newly installed onboard system included the integration of products such as:

- › Ticketing and head-signs
- › GPS devices driving real-time passenger information of predicted bus arrival and departure times
- › Automatic Annunciation tools
- › Automatic Passenger Counters
- › Mobile Data Terminals for the operators
- › A Smartphone application for riders
- › Fleet management and dispatch tools
- › Mobile video surveillance equipment
- › Passenger signage

Prior to installation, their onboard systems were not integrated and meant that each system demanded individual operator attention. Connexionz worked closely with the Pasadena team to fully integrate these systems and direct all data feeds over the cellular network into the ITS dashboard in the control room. Further, the onboard unit from Connexionz would automatically sync with the connected systems to require less operator interaction upon the start of a shift or run.

The integration was seamless and within six months vehicle tracking and real-time passenger information services were fully operational. Passengers no longer needed a printed bus schedule to guess the next bus, they could access real-time status from the Bus Finder signs located at each stop, and see exactly how many minutes away their bus was. The powerful and accurate prediction also communicated information through public portals, native mobile applications, and the local 511 systems.



Passengers immediately noticed the difference.

"Before Pasadena Transit installed the information signs and real-time services, I had no way of knowing whether my bus was on time, late, or had left early. It was frustrating and stressful – especially if it made me late for work. Now with a mobile app showing where my bus is and bus signs displaying predicted arrival times, I'm fully informed all the way. It's taken away the uncertainty and made the commute a more enjoyable experience."

Carlos Torres – Pasadena Passenger

BETTER SERVICE FOR PASSENGERS

The system analytics and efficiencies created by the system continue to pay dividends to the agency:

- › Open a Smartphone app to plan your journey and see where the next bus is
- › Set alerts for your favorite vehicles; avoiding the stress of continuing to check for arrivals
- › Saved time with limited frustration waiting at bus stops – promoting preplanning and ridesharing with friends and family
- › Know when the next bus is arriving with LED signs and solar BusFinders at bus stops
- › More informed throughout the journey with audio announcements of next stops
- › Make a quick shopping detour on route knowing what time the next bus will arrive allowing for more frequent use of public transportation options

ENHANCING AGENCY PERFORMANCE

Since the Connexionz solution was installed in 2013, Pasadena Transit has achieved and maintained a 12% improvement in on-time performance. The access to live meaningful data enables transit managers to make decisions on schedule and service changes, along with optimized performance.

Pasadena Transit City Planner Sebastian Hernandez said, "Prior to making any changes, we used the system to establish a base on time performance (OTP). For Pasadena Transit, on time means departing at a time point within -1 to 5 minutes of the scheduled departure time. At the time, our base OTP was 82%, with about 5% noted as leaving early. Once we began using the Connexionz system to monitor vehicle movement, our initial focus was to address early vehicle departures. This was easily accomplished with Connexionz' user-friendly Daily Exception tool that enables us to quickly identify all vehicles not following the schedule - including vehicles running early, late, that went off-route, and other parameters we monitor. We could then decrease early departures immediately to less than 1% of our trips."

Pasadena Transit put their attentions on very late departures to determine where they needed to make schedule adjustments in order to provide better service for their passengers.

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"Taking advantage of the detailed user-friendly Connexionz travel time reports we worked with the drivers to adjust the schedules to reflect the actual travel time. As a result, we have increased and maintained consistently our on-time performance from 82% to 94%."

These reports also promoted the introduction of new routes and timetables for Pasadena transit.

INCREASING RIDERSHIP

Pasadena Transit has also experienced increased ridership year on year since installing their new Connexionz system.

"Connexionz technology and data reports helps us to provide a reliable service and real-time information," says Hernandez. "We recently had a new rail line enter Pasadena and an increase in service. This together with major investments in transit in Pasadena from both ourselves and other agencies is resulting in increased ridership."

In January 2016, to increase security for both drivers and passengers, Pasadena Transit contracted Connexionz to add on-vehicle video surveillance for their fixed-route and demand-response fleet. Plus, a further 80 electronic displays were installed throughout the network. The agency continues to rely on Connexionz data for ongoing service improvements.

AGENCY IMPROVEMENTS

- › Optimize routes and schedules to meet rider demand by Identifying schedule issues and improving routine maintenance and route planning
- › Automate itemized incident reporting and note capture
- › Determine effective distribution of service and schedule timing around long-term detours, holiday shopping traffic and road closures
- › Automate bus dispatch and driver assignment – providing dependable real-time data and report on any type of driver trip
- › Improve accuracy and passenger safety with automated passenger counters while providing more reliable data for crucial NTD reporting
- › Review automated service monitoring to address operational issues, on-time performance and driver related issues
- › Customize passenger information content for displays including arrival information, which is ADA compliant
- › Provide options on MDT's for drivers to message dispatch staff and enter manual counts of riders
- › Manage service alerts and special event notices – communicating them in real-time
- › Increase service reliability, and provide a more informed and satisfying rider experience