

Case Study:
PUBLIC SERVICES

FOR DART, SMARTER VEHICLES MEAN BETTER CUSTOMER SERVICE

DALLAS AREA RAPID TRANSIT

With a fleet of more than 1,000 vehicles transporting over 300,000 passengers a day, Dallas Area Rapid Transit (DART) is a natural candidate for the nationwide Intelligent Transportation Systems (ITS) program. In ITS, information and communications technologies are being deployed to better manage and improve how transportation providers such as governments, transit agencies and truckers offer services to the public. DART—like other transit agencies undertaking a local or regional ITS deployment—wants to overcome the deficiencies inherent in its traditional data collection methods: inaccurate data entry by bus operators; fare collection systems' inability to dis-

tinguish denominations of paper currency; and manual estimation of passenger volume, to name a few. DART also desired that its ITS Intelligent Vehicle Initiative (IVI) would automate the collection and transmission of vehicle data while reducing voice communications. However, unlike other agencies, DART has chosen to utilize off-the-shelf technologies that are commercially available and non-proprietary to deliver a scalable, open-architecture solution across the entire enterprise. To help ensure successful delivery of what has become known as the Vehicle Business System (VBS) project, DART turned to BearingPoint.

PROJECT LIFE CYCLE MANAGEMENT

With responsibility for overall project management of this multimillion-dollar ITS/IVI program, BearingPoint's primary task was to develop an acquisition strategy for an integrated system that included transit coach, light rail, commuter rail and paratransit modes of transportation. The process encompassed defining DART's business requirements, documenting the system's functional requirements, evaluating technology applications, and assessing and recommending vendors that could deliver the required technology solution.



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RAYMOND SUAREZ,

DART’s Assistant Vice President of Operations Technology

Says Raymond Suarez, DART’s assistant vice president of operations technology, “[BearingPoint] has been instrumental in providing project management resources throughout the

entire life cycle of this project. They’ve been involved from the start of the R&D phase all the way through integration of the VBS with our back-end, client/server systems.”

RESULTS

BearingPoint’s skilled project management resources ensure the successful deployment of a comprehensive on-board systems across an entire transportation department.

The new system positively impacts how DART does business:

- Delivering improved service to customers through better performance monitoring.
- Improving safety and reliability of vehicles through vehicle health monitoring and digital video surveillance systems.
- Enabling real-time schedule modifications for paratransit routes.
- Increasing efficiency on fixed routes.

THE WORLD-PREMIER DEPLOYMENT OF ON-BOARD SYSTEMS

BearingPoint’s contribution to the VBS began with extensive interviews of DART personnel and documentation of each department’s business requirements to determine how to improve operations and customer service throughout the entire agency. These departments and their associated functions included:

- Treasury (fare collection, ridership)
- Operations (schedule and route adherence, passenger counting, driver performance, route scheduling, field supervisor assignment)
- Maintenance (vehicle performance)
- Marketing (customer satisfaction, passenger information)
- Risk management (video surveillance)

- Customer service (passenger information, complaints, commendations)

Next, BearingPoint analyzed several technologies to help ensure the optimum configuration of the VBS:

- Next-stop annunciators/destination signs (for information and Americans with Disabilities Act compliance)
- Video surveillance cameras (risk management)
- Automatic vehicle locators (schedule and route adherence, scheduling information, real-time passenger information)
- Automatic passenger counters (scheduling and operational analysis)
- Automatic fare collection (fast, secure revenue collection/processing, “smart” fare media)
- Mobile data terminals (driver information, data communications, system control interface)
- Vehicle and driver performance information systems (system and personnel performance)

Then, upon determining exactly what technology DART needed to achieve its goal of a fully tested and validated VBS, BearingPoint undertook the monumental task of evaluating and recommending vendors that could deliver the required systems integration, on-board computers, mobile data terminals and software applications. The result, Suarez says, is “the world-premier deployment of on-board systems for mass transit.”

A MYRIAD OF BENEFITS

The VBS, says Suarez, “is a state-of-the-art deployment because no other agency has such a system deployed across the entire transportation department.” Suarez continues, “VBS will deliver tons of benefits. We can improve service to our customers through better performance monitoring of vehicles. We’ll have better information on our customers and which routes are most traveled so we can align our services more closely with what our customers want. We’ll improve the safety and reliability of our vehicles through vehicle health monitoring and digital video surveillance. We’ll be able to do real-time schedule modifications

for our paratransit routes, and we’ll be able to increase efficiency on our fixed routes. The VBS really will impact how we do business.”

BACK-END SYSTEMS INTEGRATION

Of course, getting the vehicle data to DART’s back-end systems is a critical piece of the project’s success, “and that is another area in which [BearingPoint] has been very valuable to us,” remarks Suarez. “Since [BearingPoint] implemented DART’s client/server system, they have been instrumental in designing the data migration path between the vehicles and our server systems. They make sure that all the data gathered by our vehicles gets to the appropriate system application in the correct format.”

Basically, says Suarez, “[BearingPoint’s] responsibility is to deliver a fully tested and validated product to DART. That has involved everything from managing the different contractors to help ensure that their technologies deploy as expected to reviewing and assessing system design and performance.”

TANGIBLE RESULTS

With the VBS now completing a pilot phase at DART, the agency has a better idea of exactly how its new ITS/IVI system will improve business operations:

- Accurate fare-collection data that is auditable, by fare box
- Accurate ridership data collection requiring no operator intervention
- Reductions in voice and data communications, freeing communications bandwidth to be used more effectively (or leased out)
- Superior vehicle location information, promoting consistency in route and schedule adherence
- Consistent stop announcements, providing greater compliance with the Americans with Disabilities Act requirements
- Accurate passenger count data at a lower cost, providing a greater ability to plan routes that meet rider demand
- Reductions in man-hours to facilitate data off-loading

**BUSINESS AND
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BearingPoint provides business consulting and systems integration to Global 2000, government and education organizations. Our approximately 17,000 professionals in 39 countries leverage extensive industry and technology domain experience and flexible tools and methodologies to successfully deliver on time and on budget. We get the job done for our clients because we do whatever it takes to deliver on our promises with speed and purpose.

As our name implies, at BearingPoint we help our clients set the direction to reach their goals. As business systems integrators, we align our clients' business processes and information systems to enable them to access the right information at the right time, empowering them to achieve their desired business results and create enterprise value. To learn more about BearingPoint, please contact us at 1.866.BRNGPNT (+1.703.747.6748 from outside the United States and Canada) or visit our Web site at www.bearingpoint.com.



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