

## DART LIGHT RAIL PROJECT

The \$1.6 billion DART Green Line project spans the northwest and southeast corridors of the Dallas region.



# DART is Moving Ahead

One of the Dallas area's greatest transit projects is being led by a strong joint venture of three leading companies that take a progressive approach to construction.

By HANNA ARONOVICH

Not only will the Dallas Area Rapid Transit (DART) Light Rail project help shape the economy and population of the area, but its process may also shape the way the construction industry approaches projects.

More than 200,000 passengers per day rely on DART's rail, bus and express services to travel across the 700-square-mile service area, including Dallas and 12 surrounding cities.

The organization's mission is to build, establish and operate a safe, efficient and effective transportation system that provides mobility, improves the quality of life and stimulates economic development.

In July 2006, DART received a \$700 million full-funding grant agreement from the Federal Transit Administration to expand its 45-mile rail system to more than twice its size.

One of the first projects involves the construction of the \$1.6 billion Green

Line, which spans the northwest and southeast corridors of the area. After years of planning, engineering and lobbying for federal funding, the expansion is underway.

### Winning Team

The DART Light Rail project is a joint venture among Archer Western Contractors, Brunson Technical Associates and CARCON Industries. Founded in 1983, Archer Western is a general contractor, construction management and design/build firm.

It is headquartered in Atlanta, but it operates a regional office in Arlington, Texas. As a subsidiary of the Wash Group, Archer Western is ranked as one of the nation's top-20 contractors.

Brunson, headquartered in Dallas, was founded in 1997 by Al Brunson, after he served six years as a rail station designer and bus facilities construction manager, and another six years as director of construction and assistant vice president for DART. Brunson's services include construction management, general contracting, planning and project management.

DART Light Rail project

[www.waishgroup.com](http://www.waishgroup.com)

Project budget: \$1.6 billion

Headquarters: Dallas

Joe Lee, project director:

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Also headquartered in Dallas, CARCON was founded by Arcilia Carrasco Acosta in 2000. A woman-owned, minority firm, CARCON is a general contractor that serves commercial, industrial and institutional markets.

#### **Bringing Talent to the Table**

Archer Western Project Director Joe Lee explains that this team came together after Archer Western interviewed several firms.

"We were looking to create a strong joint venture to go after the DART project, and both Brunson and CARCON have a long history in the area," he explains.

Al Brunson worked for many years as a DART manager, and he brought an owner's perspective to the project. "Brunson has a lot of expertise in transit stations, which was an asset to the team."

CARCON also offered experience in transit work, as well as strong community relationships.

"Arcilia has been a key leader in communicating to the community and to DART," Lee says. "CARCON's involvement has also given us a small-company perspective on the project."

Acosta adds that CARCON has been working with DART since its inception and was excited to participate in the light rail project.

"Our firm grew up with DART," she notes. "We started with a small contract with them and grew. We were thrilled with the opportunity to work on this joint venture."

#### **A New Approach**

The DART Light Rail project is using a construction management/general contracting (CM/GC) approach to remain on schedule and budget.

This strategy employs extensive design reviews to ensure issues are addressed immediately, and labor and resources are allocated properly.

This approach also means that the entire Archer Western, Brunson and CARCON team was involved in the preconstruction phases.

"We submitted a cost proposal to DART and were selected based on our resume, experience, our approach to

construction, our preconstruction plans and the price," Lee notes.

"Because of escalating material costs, the preconstruction involvement we had and the CM/GC approach really allowed us to adjust the project as necessary and keep the project in line," Acosta adds.

"It would have been a lot harder to make adjustments if we took a different approach to construction, and I think the whole country is going to be look-

ing at this project as an example of a successful CM/GC."

"I've think we'll see CM/GC become the preferred approach around the country," Lee says.

"It allows the project to be reworked to get back in line with the budget without going through a complete redesign.

"It also results in fewer change orders and fewer claims," he adds.

"We're seeing transit systems in



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Phoenix and Salt Lake City use CM/GC, and this approach is becoming the preferred choice of hard bids."

### Breaking Ground

The DART Light Rail project broke ground in August 2006. Currently, the team is in the process of realigning the light rail and how it enters the area from the north.

"We're tying the existing rail line into the new rail line that will run south-east," Acosta says. "The project will change the landscape of the eastern

downtown area, and transit will expand into more communities."

### Cost-Reduction Challenges

Lee explains one of the greatest challenges came during the preconstruction phase, when the team had to find \$55 million in cost-reduction ideas. One of the ways this was done was by changing the geometry and designing a vertical alignment of the guideway.

"We also reduced the embankment and the square footage of the retaining walls, which resulted in huge savings,"

he says. "We redesigned the type of retaining walls, and made an H-pile wall so we could drive pile next to the track without shoring."

### The Next Phases

When completed in 2010, the new Green Line will serve several important regional destinations, including the Deep Ellum arts and entertainment district, Baylor University Medical Center, Fair Park, Victory Park, the Dallas Market Center, the University of Texas Southwestern Medical District and Love Field Airport, as well as the northwest cities of Farmers Branch and Carrollton.

Lee says the next big milestone will occur in September 2009, which is when the light rail system is expected to be installed in the Fair Park area.

"The Texas State Fair will occur then, and the rail system will be up and running," he notes.

"In general, the area is going to see more economic development from the new rail line, and we'll see the population shift," Acosta adds. "It's an amazing expansion, and it's wonderful to watch all this growth happen." ■