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CASE STUDY

Metro System/Riyadh, Saudi Arabia

Fast-Growing Riyadh Picks Up Pace With Major Metro System Upgrade

60 years ago, the city of Riyadh in Saudi Arabia was little more than a blip on the international radar. Its population at that time was around 156,000 people, only about 10,000 people more than the current population of Kansas City.

We are not in Kansas anymore when discussing Riyadh's population. It now has a population of more than 7.2 million, has increased by close to 12 percent since 2017, and is now ranked 50th in the world. The only U.S. city larger than Riyadh is New York, which has about 8.3 million residents, according to World Population Review.

The rapid increase has dramatically impacted the city's infrastructure, particularly its transportation systems. A new metro system is expected to fulfill the demands of the growing metropolis and reduce traffic congestion and improve air quality. There are more than 10 million trips per day in the city, but only 2 percent are by public transportation. Nearly 80 percent are by private cars.

The new system is expected to be fully operational in 2021. It will consist of six metro lines spanning nearly 110 miles. It will consist of 85 stations and is part of the Riyadh Public Transport Project, which also includes a bus system and other transport services in the Saudi Arabia capital. Work on the \$22.5 billion project began in 2014.

The metro system includes 73 floor access doors from BILCO to provide emergency egress from underground platforms at stations along the line. Doors of various sizes are used in the project, which is one of the largest orders in company history.

A collaborative effort with SchlegelGiesse helped BILCO secure the order. The company is a sister business of BILCO in the Tyman business portfolio. "BILCO is one of the leading companies in the sector, and the architect recommended them for this project," said Amal Joseph, who oversees technical support for SchlegelGiesse. "The doors also meet National Fire Association Protection requirements."

The project is being built by BACS, a consortium that includes Bechtel, Almbani, Consolidated Contractors Company and Siemens.



Photo: Métro de Riyad © Avant Première, courtesy of creativecommons.org



Photo: Courtesy of SchlegelGiesse

The doors are constructed with a channel frame for use in exterior applications where there is concern of water or other liquids entering the access opening. The doors feature aluminum construction and type 316 stainless steel hardware.

The engineered lift assistance of the BILCO doors was also critical to their use in this project. "BILCO uses spring-loaded pistons to operate the doors, which require less maintenance and more durability," said Shabeer Parambil, sales manager for SchlegelGiesse. "The chance of failure will be nearly zero compared to hydraulic or pneumatic piston-operated doors."

The doors will provide an important safety component for commuters as they seek to navigate around the heavily congested city. "The new public transit system provides citizens with advanced solutions for moving around the city easily," according to the project website. "It allows driverless trains equipped with cutting-edge technologies and Wi-Fi. You will feel the new century with this new revolutionary transit system."



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