



CASE STUDY:


## **Capitol Connections**

Washington DC Silver Line  
Rail Extension, Virginia

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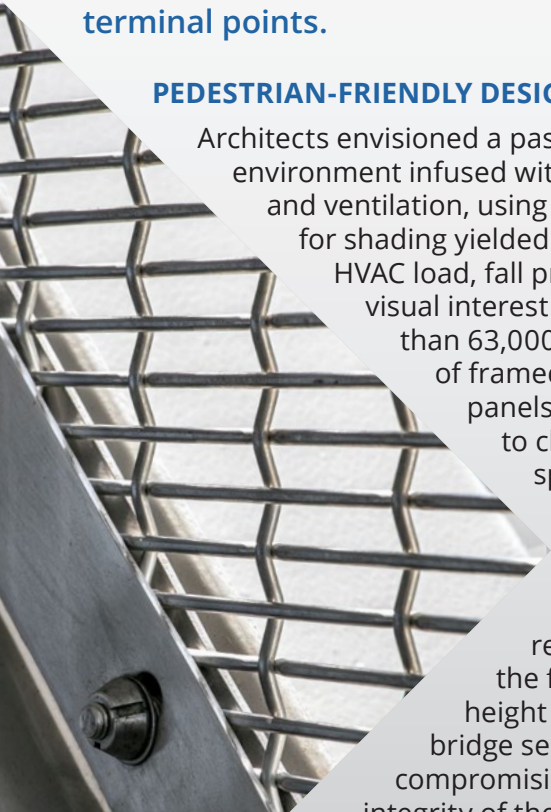
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The Silver Line Rail Extension brings a new phase of transit to the Washington, DC Capitol region by providing new rail connections to Washington Dulles International Airport. This generational infrastructure investment in Northern Virginia, spearheaded by the Washington Metropolitan Area Transit Authority (MWATA), called for six new stations: Reston Town Center, Herndon, Ashburn, Loudoun Gateway, Innovation Center, and Washington Dulles Airport. To make new rail connections pedestrian-friendly, architects called for a combination of pedestrian bridges and tunnels to connect stations to parking and terminal points.

#### PEDESTRIAN-FRIENDLY DESIGN



Architects envisioned a passenger environment infused with natural light and ventilation, using metal mesh for shading yielded reduced HVAC load, fall protection, and visual interest. In all, more than 63,000 square feet of framed metal mesh panels were required to clad bridge spans, stair infill, turnstiles, and curtainwall.


The mesh was required to span the full length and height of pedestrian bridge sections, without compromising the safety and integrity of the infrastructure. Using multiple framed panels, with attachment hardware that enabled crews to pre-install the panels under tension while also accommodating movement within the bridge sections, GKD metal fabrics met and exceeded the project expectations.

With its expansive weaving looms and turnkey engineering services, GKD was the natural choice for both the oversized metal mesh framed panels and the engineered hardware required to attach them properly.

#### LARGE LOOMS

"When a design calls for large custom panels, we have the advantage of tapping into the GKD arsenal of state-of-the-art looms, which are the largest in the industry," says Shawn Crismond, Regional Sale Manager, GKD-USA. "Nobody else can offer that range of customization while also maintaining the quality finished product that GKD provides every day."

As the only full-service metal fabric system supplier with engineering, design, fabrication and installation under one roof, GKD was also uniquely positioned to design attachment hardware and meet the project's lead time.



GKD's engineering team worked directly with project architects to design panels and attachment solutions. Wind loads, snow loads, and live loads per code were engineered into the attachments that tension each mesh panel within the bridge sections. To add visual interest, the design team specified two weaves of rigid stainless steel mesh, Ellipse 2 and Ellipse 14. Both weaves feature warp wires spaced to emphasize a horizontal pattern as a prominent visual element across all 63,327 square feet of GKD metal mesh.

#### MAKING THE CONNECTION

The Silver Line Rail Extension opened to the public in November 2022 as one of the largest capital construction projects in the US. It includes 11.4 miles of new track, six new Metrorail stations, and a 90-acre railyard with storage capacity for 168 railcars and maintenance facilities to service the trains. As of May 2023, there have been more than 1.1 million trips on the new extension. GKD metal fabric serves as a unifying and functional design element as passengers head to home, work and points beyond.



**PROJECT TEAM:**

**Washington Metropolitan Area Transit Authority,**  
Owner

**Dulles Transit Partners, LLC**  
Architect

**Capital Rail Constructors**  
Design Build Contractor

