



Wacker Drive Viaduct Reconstruction

Location:	Chicago, IL
Submitted by:	Alfred Benesch & Company
Owner:	Chicago Department of Transportation
Architect:	N/A
Engineer(s):	Alfred Benesch & Company and T.Y. Lin International Group
Contractor(s):	James McHugh Construction Co. and F.H. Paschen Construction
PT Supplier(s):	DYWIDAG-Systems International USA, Inc. and VSL International Ltd.
Other Contributors:	Transystems Corporation, Parsons Brinkerhoff, Burns & McDonnell, and Omega & Associates

Project Overview:

The Wacker Drive reconstruction project is a remarkable example of massive urban construction. Born out of the need to increase the roadway's safety features and structural longevity, the project involved the cooperation of countless consultants, contractors, city officials, and impacted stakeholders.

The drive's reopening in December 2012 marked the first time in which both the lower and upper levels were fully open to the public since 2010. Lower Wacker Drive is now a streamlined thoroughway for both public and personal transit, incorporating 21st-century signalized intersections and service drives with controlled access points. A fresh streetscape now provides aesthetic improvements for pedestrians on the upper level, as well as safer pedestrian features such as larger refuges between traffic lanes at the intersections.

Post-tensioning was the single most critical element used to accomplish the project's main objectives, affording exceptional flexibility in the design of every major infrastructure component. The project team was able to accommodate heavy loads, unbalanced spans, and geometric anomalies by adjusting the horizontal layout and vertical drape of the strands, which is not feasible using other systems. In addition, the post-tensioning systems allowed for reuse of existing foundations, increased vertical clearance, and additional park space.

Using a combination of streamlined aesthetics, practical design, and state-of-the-art engineering practices, the new Wacker Drive is a testament to engineering and transportation innovation. It would be hard to find another project that was able to accomplish so much, all of which was facilitated by the use of post-tensioning.

Jury Comments:

- Project exhibited multiple uses of PT to address extremely challenging site conditions.
- Excellent example of a public project that serves millions of people that could not have been done with any other structural system.
- Exceptional in size and scope, this urban reconstruction project utilizes post-tensioning to its fullest, resulting in many notable accomplishments in structural engineering.