

Citywide Roadway Lighting Consulting Services

LOCATION:

Chicago, Illinois

CLIENT:

Chicago Department of Transportation

CONSTRUCTION COST:

Varies Annually

SCOPE OF SERVICES:

- Preliminary Design
- Final Design
- Technical Advisor

AWARDS:

2014 Engineering Excellence Special Achievement Award from the American Council of Engineering Companies of Illinois.



PROJECT DESCRIPTION

Since 2001, Ciorba Group has served as the Chicago Department of Transportation's (CDOT) Technical Advisor for the maintenance of the City's lighting and traffic signal standards and specifications. During this time, we have also served as the prime consultant for the design of the City's ongoing annual local street lighting program. Ciorba has designed over 4,000 blocks of street and alley lighting, which have been successfully installed to improve nighttime visibility and safety.

Our scope of services includes the design of arterial and residential street, viaduct, and alley lighting throughout the City's 50 wards. Services include plan and specification preparation, performing surveys to identify trees and other structures that may block illumination, circuitry verification, photometric analysis, calculating voltage drop, utility coordination, permit attainment, and construction coordination. Ciorba reviews the design plans and specifications prepared by other CDOT consultants for various public street and viaduct lighting improvements and private developments for conformance with the City standards. Ciorba continually updates the City-wide lighting grid plan, adding all new lighting installations to the database.

Through our close ties with the Illuminating Engineering Society of North America (IESNA) and the International Commission on Illumination (CIE), Ciorba provides CDOT with the latest lighting advancements and policies. We research new technologies and evaluate respective material tests, manage CDOT's pilot test studies and update the City's Lighting Standards and Technical Specifications. In 2007, Ciorba Group assisted CDOT in exploring the replacement of the City's existing high pressure sodium lighting with more energy efficient fixtures. After an extensive study based on CDOT and IESNA standards, ceramic metal halide fixtures were selected for use.

In 2012, we researched the new advancements in LED light fixtures to determine their suitability for providing adequate illumination on residential and arterial streets. Ciorba Group oversaw the evaluation process for the LED lighting technology. Technical data from LED light manufacturers was reviewed and several invited to install sample fixtures for extended evaluation along Ashland Avenue. Our evaluation included light output, color temperature shift, and even light distribution. Luminaires were then inspected to determine if there were concerns with damage from heat, moisture, dirt, or insects. CDOT has since implemented LED fixtures as the City standard based on the outcome of the studies, producing additional energy cost savings.

We developed specifications for the replacement of the remaining 210,000 High Intensity Discharge luminaires in the City with LED light fixtures for the Chicago Infrastructure Trust.