LEARNING OBJECTIVES

1. Understand how challenging sites and user needs lead to optimal design and construction solutions. Gain insight into common design constraints in densely populated urban areas.

2. Increase knowledge of multimodal planning challenges and design considerations.

3. Learn how to navigate regulatory challenges, including Lake Front protection ordinance and superfund site. Understand the partnership with the Chicago Park District and MPEA to complete this project.

4. Understanding the impact and importance of the aesthetic of major infrastructure.

OVERVIEW

The Navy Pier Flyover Pedestrian Bridge is a 1,700-foot elevated, multi-use (pedestrian/bicyclist) path along the Chicago Lakefront and Navy Pier, which attracts nearly 9 million tourists per year. Initiated by the City of Chicago and led by the Chicago Department of Transportation, the Navy Pier Flyover will create a new artery for the heart of Chicago’s Lakefront Trail when it is complete.

LAKEFRONT TRAIL FACTS

- 18 miles long (71st Street - Ardmore Ave)
- 50 access points
- 30,000 pedestrians daily (Summer)
- Major traffic artery
- 30% of users are bicyclists
- 1,200 to 1,600 bicyclists per hour
- One of the Top 10 Urban Trails per USA Today Survey
EXISTING SITE CONDITIONS

The Navy Pier area of the Lakefront Trail is characterized by heavy pedestrian and bicycle traffic competing for path space and conflicting with vehicles at Illinois Street and Grand Avenue. Between the Chicago River and Illinois Street, the path runs along Lower Lake Shore Drive with cyclists and pedestrians sharing a narrow sidewalk next to heavy vehicle traffic. These factors, combined with poor path surface conditions, contribute to accidents along the Trail. Additional design constraints for the Navy Pier Flyover include limited vertical and horizontal clearances as well as a Superfund site at DuSable Park.
PROJECT OBJECTIVES
• Separate pedestrians and vehicle traffic
• Eliminate shared crossing points
• Improve access to Navy Pier
• Reduce ped congestion at Jane Addams Park
• Improve path surfaces, signage & pavement markings
• Develop DuSable Park, a Superfund Site

DESIGN SOLUTION
• Elevated serpentine bridge superstructure comprised of 30-inch steel pipe element with steel ribs spaced 8 feet apart and connected perpendicular to the steel spine. The spine-rib structure supports a 6-inch thick reinforced concrete deck.
• Main path runs north-south adjacent to the existing Lake Shore Drive roadway structure, which required removal of the east shoulder of Upper Lake Shore Drive. In this manner, the path alignment could continue north and be placed behind the existing Lake Point Tower building.
• Path extends from the Chicago River Bridge on the south to Jane Addams Park on the north.
• A separate east-west ramp structure connected to the main north-south path serves as a new access point to Navy Pier.
• Pedestrian congestion along narrow Lower Lake Shore Drive sidewalk leading to Illinois Street eliminated by shifting the new path alignment across DuSable Park.
PHASE 1 FEATURES

- Delineation of pedestrian space and use separation
- Re-organized and revitalized Jane Addams Park
- Elimination of vehicle and bike-ped conflicts at Illinois Street crossings
PHASE 2 SEGMENT AT NAVY PIER

PHASE 2 PLAN AND SECTION ELEVATION

TRAIL STRUCTURE OVER GRAND AVENUE

PHASE 2 LANDSCAPE PLAN

MODEL VIEW OF STRUCTURE OVER GRAND AVENUE, LOOKING NORTH
PHASE 2 FEATURES

- Direct Trail access to Navy Pier
- Tie into Lake Shore Drive structure
- Congestion relief for Navy Pier pedestrian traffic
- Separation of bicycle and pedestrian users
FOR FURTHER READING

• HTTP://WWW.CHICAGOJOURNAL.COM/NEWS/12-16-2009/FLYOVER_SEEN_FOR_CONGESTED_POINT_ON_TRAIL
• HTTP://FEATURESBLOGS.CHICAGOTRIBUNE.COM/THESKYLINE/2011/02/LAKEFRONT-OVERPASS-GETS-APPROVAL-FROM-PLAN-COMMISSION-.HTML
• HTTP://FEATURESBLOGS.CHICAGOTRIBUNE.COM/THESKYLINE/2011/02/NEWLY-APPROVED-LAKEFRONT-OVERPASS-IS-NO-BRIDGE-TO-NOWHERE-.HTML
• HTTP://CHICAGO.CURBED.COM/ARCHIVES/2011/02/18/NAVY-PIER-FLYOVER-PHP
• HTTP://CHICAGO.CURBED.COM/ARCHIVES/2014/03/18/NAVY-PIER-FLYOVER-RECREATION-TRAIL-TO-BEGIN-CONSTRUCTION-SOON-PHP
• HTTP://CHICAGO.CURBED.COM/ARCHIVES/2014/06/18/CHECKING-IN-ON-CONSTRUCTION-OF-THE-NEW-NAVY-PIER-FLYOVER-PHP
• HTTP://CHICAGO.CURBED.COM/ARCHIVES/2014/06/18/CHECKING-IN-ON-CONSTRUCTION-OF-THE-NEW-NAVY-PIER-FLYOVER-PHP
• HTTP://WWW.DNAINFO.COM/CHICAGO/20150405/STREETERVILLE/NAVY-PIER-FLYOVER-TAKES-SHAPE-NEAR-LAKE
• HTTP://WWW.CHICAGOTRIBUNE.COM/NEWS/COLUMNISTS/CT-LAKEFRONT-TRAIL-GETTING-AROUND-MET-0420-20150419-COLUMN.HTML
• HTTP://CHICAGO.CURBED.COM/ARCHIVES/2015/09/15/NAVY-PIER-FLYOVER-UPDATE-PHP

CLIENTS / OWNERS

DESIGN TEAM

CONSTRUCTION TEAM