2015 CEEES Junior Class Field Trip
New York City Behind-the-Scenes Infrastructure
Wednesday, September 30 – Sunday, October 4, 2015

PURPOSE OF THE CEEES JUNIOR CLASS ANNUAL FIELD TRIP: To expose students to some of the biggest and most innovative infrastructure design and construction efforts going on in the United States; to provide an opportunity to see first-hand that the need to rebuild our often failing infrastructure is huge; to learn about the complexity of the structural, transportation, water resources, and environmental projects that keep our nation productive, efficient and healthy; and to interact one on one with project and design engineers. These trips help students see the wide range of opportunities available to become innovative leaders and also help connect the classroom to the outside world.

Wednesday, September 30

5:00am Bus to NYC, meet at Eck Visitor Center bus stop (by bookstore)

11 hour drive, 1 - 2 hours of stops, maybe 1 1/2 hours of traffic

7:30pm Dinner at Katz’s Delicatessen
205 E. Houston Street, New York, NY 10002

Founded in 1888, one of New York’s oldest kosher-style delis, each week serves 10,000 pounds of pastrami, 5,000 pounds of corned beef, 2,000 pounds of salami and 12,000 hot dogs. Yes, the deli in When Harry Met Sally...

9:00pm Walk to Brooklyn Bridge (35 minute walk) and walk to midway point of bridge for views of Manhattan and to see this iconic bridge up close

10:30pm Pick up by bus on Brooklyn side of bridge, corner of Centre and Chambers Streets (just north of the promenade entrance), ride to hotel
BROOKLYN BRIDGE
Considered a brilliant feat of 19th-century engineering, the Brooklyn Bridge was a bridge of many firsts. It was the first suspension bridge to use steel for its cable wire. It was the first bridge to use explosives in a dangerous underwater device called a caisson. At the time it was built, the 3,460-foot Brooklyn Bridge was also crowned the longest suspension bridge in the world.

But the Brooklyn Bridge was plagued with its share of problems. Before construction even began, the bridge's chief engineer, John A. Roebling, died from tetanus which resulted from a construction site accident. The project was taken over and seen to its completion by his son, Washington Roebling. Three years later, Roebling developed a crippling illness called caisson's disease, known today as "the bends." Bedridden but determined to stay in charge, Roebling used a telescope to keep watch over the bridge's progress. He dictated instructions to his wife, Emily, who passed on his orders to the workers. During this time, an unexpected blast damaged one caisson, a fire damaged another, and a cable snapped from its anchorage and crashed into the river. Despite these problems, construction continued at a feverish pace.

By 1883, 14 years after it began, Roebling successfully guided the completion of one of the most famous bridges in the world -- without ever leaving his apartment. Although he was physically able to leave his apartment, Washington Roebling refused to attend the opening celebration honoring his remarkable achievement. The bridge opened to the public on May 24, 1883, at 2:00 p.m. A total of 150,300 people crossed the bridge on opening day. Each person was charged one cent to cross. The bridge opened to vehicles on May 24, 1883, at 5:00 p.m. A total of 1,800 vehicles crossed on the first day. Vehicles were charged five cents to cross. Today, the Brooklyn Bridge is the second busiest bridge in New York City. One hundred forty-four thousand vehicles cross the bridge every day.

http://www.pbs.org/wgbh/buildingbig/wonder/structure/brooklyn.html

11:00pm  
Check-in Hilton Garden Inn New York/West 35th Street  
63-67 W. 35th Street, New York, NY 10001  
(Bus driver to stay at the Hilton Meadowlands, Two Meadowlands Plaza, East Rutherford, NJ 201-896-0500 – all items must be taken off of the bus)
Thursday, October 1

(Construction attire today until dinner time, raingear/umbrella if needed)

6:30am-8:00am  Breakfast is available in hotel

8:15am  Meet in lobby for walk to Empire State Building (5 minute walk) – need valid photo ID for security entrance to ESB

8:30am  Check-in and escort up to HNTB offices

9:00am-noon  HNTB Design offices

HNTB Corporation is an architecture, engineering, planning, civil engineering consulting management firm that was founded in 1914. We will learn about what they do and how they do it and learn about some current projects.

A very small sampling of their many, many projects:

- San Diego Convention Center Expansion
- Tres Rios Ecosystem Restoration and Flood Control Project
- Minneapolis St. Paul International Airport Light Rail
- Florida Citrus Bowl Reconstruction
- Mary Ave Bicycle Footbridge, Cupertino CA
- San Francisco BART Station
- Interstate 465 Reconstruction, Indiana
- Leonard Zakim Bunker Hill Memorial Bridge, Boston
- Tacoma Narrows Bridge
- Washington Dulles International Airport Tunnel
The Old: The Kosciuszko Bridge is a truss bridge that spans Newtown Creek between Brooklyn and Queens. It is also known as the Brooklyn Queens Expressway or BQE. The bridge opened in 1939, and was named after a volunteer in the American Revolutionary War. The current bridge has six lanes and no room for bikes or pedestrians and is on the list of most troubled state-owned elevated roadways, with an estimated lifetime of only three more years. According to The New York Times, the Kosciuszko Bridge is “perhaps the city’s most notorious (bridge), hated and feared by drivers and synonymous in traffic reports with bottlenecks, stop-and-go and general delay.” (Feb. 18, 210, Andy Newman “A Tired Old Bridge Gets a New Look”)

The New: With a joint venture of Skanska, Kiewit, and HNTB as lead design firm, the first stage of the replacement is underway, a $544 million cable-stayed bridge, building an eastbound viaduct to be completed in 2016. The existing eastbound structure will then be demolished. The westbound viaduct will be replaced in a future project, ultimately adding three lanes, bike path and walkway. This is the largest single contract ever awarded by the NY State Department of Transportation

1:00pm-4:00pm   **K Bridge Site visit**, both the Queen’s side and Brooklyn side

| lunch | Au Bon Pain box lunches in HNTB offices |
| noon | Bus to Kiewit’s Queen’s offices of the Kosciuszko Bridge construction project 35-18 Laurel Hill Boulevard, Maspeth NY 11378 (some GPSs will direct one onto 1278, which is the bridge above the office trailer complex. Best to use the intersection of Laurel Hill Boulevard and 56th Road, Maspeth, NY 11378 for GPS directions) |
4:00pm  Bus back to hotel
5:00pm-7:30pm  Free time
7:30pm  Meet in lobby for walk to dinner  
(15 minute walk)
8:00pm  Dinner at  John’s of Times Square  
all you can eat NY pizza and calzones  
260 W. 44th Street New York, NY 10036

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260 W. 44th Street New York, NY 10036 |

**Friday, October 2**

*(Construction attire today until dinner time, business casual for dinner, raingear/umbrella if needed)*

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<tr>
<td>6:30am-8:00am</td>
<td>Breakfast available</td>
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<tr>
<td>8:15am</td>
<td>Meet in lobby</td>
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| 8:30am       | Walk to 347 Madison Ave.,  MTA headquarters, between 44th and 45th, 6th floor  
(15 minute walk) for beginning of East Side Access tour |

**East Side Access** is one of the largest transportation infrastructure projects currently underway in the United States with a history that reaches back to the 1950’s when discussions were first held regarding regional transportation planning. The project encompasses work in multiple locations in Manhattan, Queens and the Bronx and includes more than 11 miles of tunneling.
The East Side Access project is being undertaken by the Metropolitan Transportation Authority (MTA) and is designed to bring the Long Island Rail Road (LIRR) into a new East Side station to be built below, and incorporated into, Grand Central terminal. The new connection will increase the LIRR’s capacity into Manhattan, dramatically shorten travel times to Long Island and eastern Queens, and will provide easier access to JFK airport from Grand Central Terminal.

When completed, East Side Access will serve approximately 162,000 customers a day, providing a faster and easier commute from Long Island and Queens to the east side of Manhattan in a new 8-track terminal and concourse below Grand Central Terminal.

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| 9:00am – 11:00am | **Grand Central Terminal East Side Access tour**  
Guided tour through the GCT caverns and Manhattan and Queens tunnels |
| 11:30am | Pick-up by bus (347 Madison Ave. is between 44th and 45th Streets. The bus driver will pick up on one of the cross streets. We will stay together as group to meet bus.  
Box lunches on way to **Goethals Bridge** |
| 11:30am – 12:30pm | Bus to 137 Bayway Avenue, Elizabeth, NJ – **Kiewit** complex – **Goethals Bridge**  
*(approx. 1 hour drive)* |
| 1:00pm – 4:00pm | Tour **Goethals Bridge** |

The **Goethals Bridge** is one of three Staten Island bridges linking New York and New Jersey. The current bridge, a steel truss cantilever, opened in 1928, and was named in memory of Major General George W. Goethals, builder of the Panama Canal and the first consulting engineer for the Port Authority. It has two ten foot wide lanes in each direction, short of the twelve foot...
requirement of modern highway design, and there are no shoulders for emergency traffic or for pedestrian or bike traffic. Kiewit Weeks Massman AJV is building the new cable-stayed bridge, three twelve foot lanes in each direction, a twelve foot outer shoulder and a five foot inner shoulder in each direction, and a ten foot walkway/bikeway. The area between the eastbound and westbound roadways will be capable of accommodating a possible future mass transit link.

4:00pm  Bus back into hotel (approx. 1 hour drive)
5:00pm-7:00pm  Free time
7:00pm  Meet in lobby for walk to dinner (10 minute walk)
7:30pm  Dinner at The Capital Grille Chrysler Center
         155 East 42nd Street
         New York, NY 10017
History of The **High Line**: Out of Use Railroad Trestle to Public Landscape (*from thehighline.org*)

1934  As part of the West Side Improvement Project, the High Line opens to trains. It runs from 34th Street to St John's Park Terminal, at Spring Street. It is designed to go through the center of blocks, rather than over the avenue, carrying goods to and from Manhattan's largest industrial district.

1980s  Following decades-long growth in the interstate trucking industry, the last train runs on the High Line in 1980, pulling three carloads of frozen turkeys. A group of property owners lobbies for demolition while Peter Obletz, a Chelsea resident, activist, and railroad enthusiast, challenges demolition efforts in court.

1999-2014  From conception by two residents of the High Line neighborhood, Joshua David and Robert Hammond, to planning studies, to ideas competition, to design selection, to ownership transfer to the City, to groundbreaking, and finally development in four stages/sections, the dream becomes a reality.

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### Saturday, October 3

*(Casual clothes, comfortable walking shoes, raingear/umbrella if needed)*

7:00am-9:15am  Breakfast available in hotel

9:30am  Meet in lobby for bus ride to the **High Line** (*15 minute ride*), Gansevoort & Washington Streets
10:00am-11:15am  Guided tour of the High Line – meet at the Gansevoort entrance on the High Line. Walking from street level, we can take either the elevator or stairs at the park entrance on Gansevoort and Washington Streets, finish at West 30th and 10th Ave.

11:30am – 1:00pm  Walk to and presentation at LANGAN, 21 Penn Plaza, 360 West 31st Street, 8th floor about their work on the High Line and Hudson Yards projects, Saint Patrick’s Cathedral renovation, and other projects in the city.

New York bagels!
1:00pm-7:30pm  Time to explore NYC (15 minute walk back to hotel from LANGAN, if you want, or here are some suggestions of places you might like to visit this afternoon.)

A Few Places You Might Consider Visiting

<table>
<thead>
<tr>
<th>Place</th>
<th>Description</th>
<th>Image</th>
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<tbody>
<tr>
<td>Staten Island Ferry</td>
<td>to see the Statue of Liberty</td>
<td><img src="image1" alt="Statue of Liberty" /></td>
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<tr>
<td>Boat tours of the harbor</td>
<td>– check out <a href="https://www.circline42.com/">https://www.circline42.com/</a></td>
<td><img src="image2" alt="Boat tours" /></td>
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<tr>
<td>One World Trade Center</td>
<td>(amazing observation deck)</td>
<td><img src="image3" alt="One World Trade Center" /></td>
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<tr>
<td>World Trade Center PATH station</td>
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<td><img src="image4" alt="World Trade Center" /></td>
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<tr>
<td>National September 11 Memorial and Museum</td>
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<td><img src="image5" alt="National September 11 Memorial and Museum" /></td>
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<tr>
<td>Metropolitan Museum of Art</td>
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<td><img src="image6" alt="Metropolitan Museum of Art" /></td>
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<tr>
<td>or Museum of Modern Art</td>
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<td><img src="image7" alt="Museum of Modern Art" /></td>
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<tr>
<td>Walk through Central Park</td>
<td>Skinny high rise buildings that Jon Galsworthy talked about in Challenges:</td>
<td><img src="image8" alt="Walk through Central Park" /></td>
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<tr>
<td>432 Park Avenue and 111 West 57th Street</td>
<td>Top of the Rock – spectacular views – 3 levels – you can see St. Patrick’s</td>
<td><img src="image9" alt="Top of the Rock" /></td>
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<td></td>
<td>Cathedral, Yankee Stadium, WTC, Brooklyn Bridge, Central Park – civil</td>
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<tr>
<td></td>
<td>engineering in every direction!</td>
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<tr>
<td>The Newtown Creek Digester Eggs and nature walk, Greenpoint, Brooklyn</td>
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<td><img src="image10" alt="The Newtown Creek Digester" /></td>
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<tr>
<td>Bryant Park – called the most beautiful four acres in Manhattan</td>
<td>American Museum of Natural History</td>
<td><img src="image11" alt="Bryant Park" /></td>
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<tr>
<td>American Museum of Natural History</td>
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<td><img src="image12" alt="American Museum of Natural History" /></td>
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<td>New York’s Catholic Heritage: St. Peter’s Roman Catholic Church, St.</td>
<td>New York Public Library</td>
<td><img src="image13" alt="New York Public Library" /></td>
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<tr>
<td>Elizabeth Ann Seton Shrine, Tammany Hall, Lower East Side Tenement</td>
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<td>Museum</td>
<td>Battery Park City</td>
<td><img src="image14" alt="Battery Park City" /></td>
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7:30pm Meet at hotel for walk to Public House for game watch and dinner 15 minute walk)

8pm Public House NYC
140 E 41st St, New York, NY 10017
(212) 682-3710

Sunday, October 4
(clothes for Mass)

7am – 8:00am Breakfast available

8:15am Meet in lobby with all luggage – checking out of hotel to board bus for St. Patrick’s Cathedral (15 minute drive)

9am Mass at St. Patrick’s Cathedral – the scaffolding is down!

10am Drive back to Notre Dame (11 ½ hour drive without stops, but we will be stopping)

Trip Coordinators: Diane Westerink, 574-286-9696; Joannes Westerink, 574-532-3160