



NYU

**ROBERT F. WAGNER GRADUATE
SCHOOL OF PUBLIC SERVICE**

URPL-GP 2641

Urban Transportation Planning

Spring 2021

Instructor Information

- Nicole Bucich
- Email: nb124@nyu.edu
- Office Hours: Via Zoom by appointment, weekdays after 5pm

Course Information

- Class Meeting Times: 6:45-8:25pm
- Class Location: Virtual via Zoom

Course Prerequisites

- None

Course Description

This course will offer an introduction to urban transportation planning, including both theoretical and practical approaches. This course will provide an understanding of the evolution and role of urban public transportation modes, systems and services. Subjects in general will include characteristics of different modes (rail, bus, and air), project development, data collection/mapping, transit oriented development, and public involvement. While primarily focused upon transportation issues in New York City, national and international transit systems may be used as comparative study cases. The course will include a combination of lectures, guest speakers, and research/readings.

Course and Learning Objectives

The objective of this course is to expose students to the multi-disciplinary field of urban transportation planning. Students will gain an understanding of the steps of the Transportation Planning and Alternative Development process and will have the opportunity to use information described in course lectures in a real-world application. Another objective is to provide students with relevant background to pursue transportation planning-related careers.

Required Readings

See Detailed Course Overview.

Assessment Assignments and Evaluation

- Writing Assignments, 50%
- Class Attendance/Engagement/Preparation, 25%
- Final Project Presentation/Written Submittal, 25%

Late Submission Policy for Assignments

1. Extensions on assignments will be granted only in case of emergency or special circumstances. This policy is adopted out of respect to those who abide by deadlines despite equally demanding schedules. Assignments handed in late without authorized extensions will be penalized one-third of a grade per day.
2. Assignments are due prior to 6:45 pm on the dates indicated on NYU classes.
3. I accept late work (that is, having a time stamp later than the time and date on which assignments are due) after the due date only by prior arrangement.

Overview of the Semester

The course will start with an overview of the Transportation Planning/Alternatives Analysis (AA) process. Throughout the following weeks, sessions will focus on relevant topics related to the AA process, focusing on NYC project examples – BQX; East Side Access, Second Ave Subway; Penn Station Access; Hudson Tunnel; 7 Line Extension to Secaucus, etc. The final group project/presentation will be an application of the AA process.

- **Week 1 – February 3**
 - Topic: Orientation, Transportation Planning Process/Alternative Analysis & Evaluation
 - Writing Assignment #1 (due Feb 17)
- **Week 2 – February 10**
 - Topic: Introduction to Major NYC Transportation Projects & Transportation and the Environment
- **Week 3 – February 17**
 - Topic: Role of Federal Government, MPOs & Funding/Financing
 - Writing Assignment #1 due
 - Writing Assignment #2 (due March 10)
- **Week 4 – February 24**
 - Topic: Technology Applications for Planning (GIS and Visualization) & Data Collection/Big Data
- **Week 5 – March 3**
 - Topic: Bus/Bus Rapid Transit and Ferry Planning
- **Week 6 – March 10**
 - Topic: Rail Planning

- Writing Assignment #2 due
- Writing Assignment #3 (due March 31)
- **Week 7 – March 17**
 - Topic: Ridership, Transit Operations, and Pedestrian Modeling
- **Week 8 – March 24**
 - Topic: Cost Estimation & Airport and Terminal Planning
- **Week 9 – March 31**
 - Topic: Resiliency Planning, Public Outreach & Final Presentation Discussion
 - Writing Assignment #3 due
- **Week 10 – April 7**
 - Topic: Transportation and Land Use/Transit Oriented Development, Bike/Ped Planning
 - Final Presentation outline due
- **Week 11 – April 14**
 - Topic: Transportation Planning Job Opportunities & Student Presentation break-out/review sessions
- **Week 12 – April 21**
 - Topic: Future of transportation (CAV/AV, Uber Elevate) – New Mobility
- **Week 13 and 14 – April 28 and May 5**
 - Topic: Student Presentations
 - Final project written submittal due

Letter Grades

Letter grades for the entire course will be assigned as follows:

Letter Grade	Points
A	4.0 points
A-	3.7 points
B+	3.3 points
B	3.0 points
B-	2.7 points
C+	2.3 points
C	2.0 points
C-	1.7 points
F	0.0 points

Student grades will be assigned according to the following criteria:

- (A) Excellent: Exceptional work for a graduate student. Work at this level is unusually thorough, well-reasoned, creative, methodologically sophisticated, and well written. Work is of exceptional, professional quality.
- (A-) Very good: Very strong work for a graduate student. Work at this level shows signs of creativity, is thorough and well-reasoned, indicates strong understanding of appropriate methodological or analytical approaches, and meets professional standards.
- (B+) Good: Sound work for a graduate student; well-reasoned and thorough, methodologically sound. This is the graduate student grade that indicates the student has fully accomplished the basic objectives of the course.
- (B) Adequate: Competent work for a graduate student even though some weaknesses are evident. Demonstrates competency in the key course objectives but shows some indication that understanding of some important issues is less than complete.

Methodological or analytical approaches used are adequate, but student has not been thorough or has shown other weaknesses or limitations.

- (B-) Borderline: Weak work for a graduate student; meets the minimal expectations for a graduate student in the course. Understanding of salient issues is somewhat incomplete. Methodological or analytical work performed in the course is minimally adequate. Overall performance, if consistent in graduate courses, would not suffice to sustain graduate status in “good standing.”
- (C/-/+) Deficient: Inadequate work for a graduate student; does not meet the minimal expectations for a graduate student in the course. Work is inadequately developed or flawed by numerous errors and misunderstanding of important issues. Methodological or analytical work performed is weak and fails to demonstrate knowledge or technical competence expected of graduate students.
- (F) Fail: Work fails to meet even minimal expectations for course credit for a graduate student. Performance has been consistently weak in methodology and understanding, with serious limits in many areas. Weaknesses or limits are pervasive.

Detailed Course Overview

Recommended Readings for Week 1

- [Route 110 Alternatives Analysis Executive Summary](#)
- [Route 110 Alternatives Analysis Final Report](#)
- [CONNECT NEC 2035](#)

WEEK 1: ORIENTATION, TRANSPORTATION PLANNING PROCESS/ ALTERNATIVE ANALYSIS & EVALUATION (Feb 3)

Assignment

Writing Assignment #1 due Feb 17: Submit a 3-4 page paper comparing your transportation experience growing up vs. your experience today (pre-COVID). Graphics, photos and maps are encouraged.

Recommended Readings for Week 2

- [Brooklyn-Queens Connector \(BQX\)](#)
- [East Side Access Program](#)
- [Second Avenue Subway](#)
- [Penn Station Access](#)
- [7 Line to Secaucus](#)
- [Gateway Program](#)
- [NEC FUTURE -](#)
- [FTA NEPA](#)
- [NEPA](#)
- [NEPA](#)
- [CEQR Technical Manual](#)

WEEK 2: INTRODUCTION TO MAJOR NYC TRANSPORTATION PROJECTS & TRANSPORTATION AND THE ENVIRONMENT (Feb 10)

Assignment

None

Recommended Readings for Week 3

- The Transportation Planning Process Briefing Book
- Fixing America's Surface Transportation Act
- The Benefits of Reliable Federal Funding for Public Transportation
- How to Pass A Mega Transportation Measure

WEEK 3: ROLE OF FEDERAL GOVERNMENT, MPOS & FUNDING/ FINANCING (Feb 17)

Assignment

Assignment #1 due.

Writing Assignment #2 due March 10: The transit industry has been devastated by COVID-19. Write a 3-4 page paper focusing on either a specific city (i.e. New York City) or mode (i.e. aviation) describing the impacts and your thoughts about how transportation planning efforts should change to address these challenges.

Recommended Readings for Week 4

- Leveraging Big Data in the Public Transportation Industry
- Meisterlin, Leah. 2014. "[The City is Not a Lab: How \(not\) to experiment in a volatile, uncertain, complex and ambiguous world](#)". In Applied Research Practices in Architecture Journal.
- Schweitzer L, Afzala N. 2017. "[Four Reasons Why AICP Needs an Open Data Ethic](#)". In Journal of the American Planning Association.
- Talen, Emily. 2000. "Bottom-Up GIS." In Journal of the American Planning Association. (See NYU Classes Resources tab)
- Misra A, Gooze A, Watkins K, Asad M, Le Dantec C. 2014. "Crowdsourcing and Its Application to Transportation Data Collection and Management". In Journal of the Transportation Research Board. (See NYU Classes Resources tab)
- [National Transit Database](#)

WEEK 4: TECHNOLOGY APPLICATIONS FOR PLANNING (GIS AND VISUALIZATION) & DATA COLLECTION/BIG DATA (Feb 24)

Assignment

None

Recommended Readings for Week 5

- [Bus Network Redesign; Staten Island Express Network Redesign Update; Staten Island Express Bus Network Redesign](#)
- [Staten Island North Shore Project; Alternative Analysis Report](#)
- [Staten Island West Shore Project -;Staten Island West Shore Alternatives Analysis; Staten Island West Shore Alternatives Analysis Newsletter #1](#)
- [BRT Design Guidelines](#)
- [Bus Transit Capacity \(Transit Capacity and Quality of Service Manual, Third Edition \(2013\) Chapter 6](#)
- [NYC Ferry Expansion Study](#)
- [Ferry Transit Capacity \(Transit Capacity and Quality of Service Manual, Third Edition \(2013\)\) Chapter 9](#)

WEEK 5: BUS/BUS RAPID TRANSIT AND FERRY PLANNING (March 3)

Assignment

None

Recommended Readings for Week 6

- [Urban Transit Systems and Technology, Vukan R. Vuchic, Chapter 6: Rail Transit: Streetcars/Tramways, Light Rail, Rapid Transit and Regional Rail \(See NYU Classes Resources tab\)](#)
- [Light Rail & Streetcar Systems How They Differ; How They Overlap](#)
- [High-Speed Rail Resources](#)
- [Track Basics](#)
- [Glossary of railroad signal terms](#)
- [Rail Transit Capacity Part 3](#)

- [Rail Transit Capacity](#) (Transit Capacity and Quality of Service Manual, Third Edition (2013)) Chapter 8

WEEK 6: RAIL PLANNING (March 10)

Assignment

Writing Assignment #2 due.

Writing Assignment #3 due March 31: Submit a 2-3 page paper with your reactions to a selected story from [The Future of Transportation](#) (downloadable).

Recommended Readings for Week 7

Read the following information on the Metro Washington Transportation Planning Board Ridership Modeling Process (Tabs on the right of the page, hyperlinks below):

[Transportation Modeling](#)

[Process](#)

[Inputs and Outputs](#)

[Four-Step Model](#) (Note, please read the pages on each of the Four Steps. This is the heart of the subject matter)

[Pedestrian/Station Capacity Planning - Rail Transit Capacity \(Transit Capacity and Quality of Service Manual, Third Edition \(2013\)\) Chapter 10](#)

WEEK 7: RIDERSHIP, TRANSIT OPERATIONS, AND PEDESTRIAN MODELING (March 17)

Assignment

None

Recommended Readings for Week 8

- ACRP Airport Passenger Terminal Planning and Design (Chapters 1-3)
- [USDOT Airport Terminal Planning \(Chapters 1-4\)](#)
- [Airport Passenger Terminal Planning and Design](#)
- [Capital Cost](#)

- [Operating and Maintenance \(O&M\) cost](#)

WEEK 8: COST ESTIMATION & AIRPORT AND TERMINAL PLANNING (March 24)

Assignment

None

Recommended Readings for Week 9

- [“Transportation During and After Hurricane Sandy.”](#) Sarah Kaufman, Carson Qing, Nolan Levenson, and Melinda Hanson. November 2012.
- [NYS 2100 Commission, Recommendations to Improve the Strength and Resilience of the Empire State’s Infrastructure.](#) (Transportation Chapter, pages 43-78).
- [USDOT Public Outreach Guidance](#)
- [Public Outreach Techniques](#)
- [Virtual Community Engagement toolkit](#)

WEEK 9: RESILIENCY PLANNING & PUBLIC OUTREACH & FINAL PRESENTATION DISCUSSION (March 31)

Assignment

Writing Assignment #3 due.

Final Presentation Assignment (teams of 3 or 4).

Recommended Readings for Week 10

- [NYC Green Wave Bike Plan](#)
- [Pennsylvania Active Transportation Plan](#)
- [Atlanta Regional Commission Bike-Ped Plan](#)
- [FTA TOD](#)

- [RPA TOD](#)

WEEK 10: TRANSPORTATION AND LAND USE/TRANSIT ORIENTED DEVELOPMENT & BIKE/PED PLANNING (April 7)

Assignment

Final presentation outline due (1 per group).

Recommended Readings for Week 11

None

WEEK 11: JOB OPPORTUNITIES IN TRANSPORTATION PLANNING (PUBLIC VS. PRIVATE) & STUDENT PRESENTATION BREAK-OUT/REVIEW SESSIONS (April 14)

Assignment

None

Recommended Readings for Week 12

- Preparing for the Future of Transportation
- Shared Mobility and the Transformation of Public Transit
- Public Transit Increases Exposure to Automated Vehicle Technology
- The New Accountability: Lyft, Uber and the Future of American Cities

WEEK 12: FUTURE OF TRANSPORTATION (CAV/AV, UBER ELEVATE) – NEW MOBILITY (April 22)

Assignment

None

Recommended Readings for Week 13

None

WEEKS 13 and 14: STUDENT PRESENTATIONS (April 28 and May 5)

NYU Classes

All announcements, resources, and assignments will be delivered through the NYU Classes site. I may modify assignments, due dates, and other aspects of the course as we go through the term with advance notice provided as soon as possible through the course website.

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by [Wagner's Academic Code](#). All Wagner students have already read and signed the [Wagner Academic Oath](#). Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about what is expected of you and how to abide by the academic code, you should consult with me.

Henry and Lucy Moses Center for Students with Disabilities at NYU

Academic accommodations are available for students with disabilities. Please visit the [Moses Center for Students with Disabilities \(CSD\) website](#) and click the **“Get Started”** button. **You can also call or email CSD** (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

NYU's Calendar Policy on Religious Holidays

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.

NYU's Wellness Exchange

[NYU's Wellness Exchange](#) has extensive student health and mental health resources. A private hotline (212-443-9999) is available 24/7 that connects students with a professional who can help them address day-to-day challenges as well as other health-related concerns.