

**PPD 531L: Transportation Studio
Fall Semester 2021**

**Tuesday 6:30pm – 9:20pm Pacific Time
VPD 107**

**The New Landscape of Supply Chain Resilience:
*Infrastructure, Workforce, Planning, Policy and Global Competition***

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Course Objectives:

1. View the quickly evolving goods movement through the lens of urban planning and public policy
2. Examine the complex yet interrelated relationship between public investments, workforce development, and volatile global supply chain by modes, commodity, and/or trades
3. Gain understanding of goods movement and its impact on transportation planning practice, infrastructure development, project deliveries and traffic operations in Southern California
4. Explore the roles of planners and opportunities in the new landscape of supply chain resilience

I. COURSE DESCRIPTION

Welcome to PPD531L Fall 2021. As we embark on the 15-week journey together after 18 months of virtual learning, maintaining your physical and mental health should be your top priority for having a productive experience. Our collective goal is to explore a series of real-world goods movement/supply chain issues during this unprecedented moment in our lifetime - in real-time.

This course is structured to reflect a “real-world”, task-oriented, and building-block style of learning. Through reading, breakout sessions, and lectures, You will gain thorough understanding on goods movements and its impacts on transportation planning practices. You will have access to a wide range of technical practices, policies, standards, regulatory constraints, and land use and zoning practices at various levels of governments that affect freight movement. You will apply planning theories, working knowledge, and conduct yourself in an environment that mimics a professional workplace.

You will watch several pre-recorded interviews with distinguished guests (1 hour max/each) then submit summaries in the form of technical memorandums. You will thoroughly examine one commodity and produce an individual report in writing and in multimedia format. The assignment is due by Week 8. You will be working in pre-assigned design teams to examine one of the topics associated with goods movements/supply chain resiliency:

- Prioritization on infrastructure development
- Workforce development
- Planning practices, environmental justice, and social equity
- Global competition

Each design team will thoroughly examine one specific topic, conduct research, and produce a professional-grade group written report and a multimedia presentation (not to exceed 10 minutes). The design project is due by Week 15.

For young professionals who are interested in transportation planning, policy, funding, and engineering like you, it is important to recognize that goods movement/freight has been and will always be part of our urban fiber. Goods movement is an integral part of achieving sustainable and safe cities. It warrants additional planning, research, and design to ensure the safe and efficient use of different transportation modes.

II. BACKGROUND

On March 18, 2020, a day to be remembered as the Los Angeles Mayor Eric Garcetti issued the Shelter in Place order, followed by an identical region-wide order. Our congested freeways and crowded public spaces became empty overnight as thousands of USC students, faculty, and employees along with millions of Angelenos stopped commuting to work and schools. Government agencies, private companies and hospitals were desperately looking for Personal Protective Equipment (PPEs) supplies globally. Consumers began hoarding toilet paper, drinking water, disinfectants, and so on throughout the country. Anxious citizens drove to limited COVID-19 testing sites and waited for hours to get tested while every transportation node was sitting empty. These images clearly illustrate that the demand for transport is a derived demand, that is, as users, we select the mode(s) of transportation to access the service or to receive services. When we stop traveling or accessing services, the needs for transportation stop as well.

Nevertheless, the logistics industry never stopped during the COVID-19 pandemic. From ships to shores, from ports to inland distribution centers, cargo continues to flow from one mode of transportation to another until their contents are delivered to stores or to our homes. According to a report by the Transportation Research Board, truck traffic in the U.S. experienced “steady growth pre-pandemic, rising at a faster rate than passenger travel, but long-haul truck traffic was down 10% nationwide in April 2020. By July 2020, that reduction was cut in half, although metro areas saw decreases of 25% in the spring and are still at about 7% reduced now, based on IRIX data”¹.

Despite the goods movement industry endurance throughout the pandemic, it hasn't emerged unscathed. At seaports and airports, revenue sharply decreased because of the pandemic during the first 6-9 months of the global pandemic. According to the Association of American Railroads, rail freight had been in a slow, steady decline since mid-2018. Class 1 railroads had expected further decline during and after COVID-19.

The pandemic has exposed vulnerabilities along the U.S. supply chain, particularly within suppliers and semi-products that rely on foreign sources from a single country. In 2004 and 2015, many shippers adopted the four-corner strategy after severe congestion at the Ports of Los Angeles and Long Beach arose after labor disputes. Early on during the COVID-19 lockdown, many companies reconsidered their supply chain system either to on-shoring, where they find domestic supply sources, or distributing their suppliers between different countries. Contrary to the initial projected decline at many gateway regions, the Ports of Los Angeles and Long Beach began to experience a significant rebound in container throughputs in August 2020. Much of the imposed tariffs against China by the Trump Administration has resulted in a sharp decline in American exports to the Far East in the last two years. Despite the high tariffs placed on goods produced in/by China, American consumers continue to rely on cheaper imports over costlier domestic products. As recent as mid-August 2021, the Ports of Los Angeles, Long Beach and Oakland continue to face severe congestion.

E-commerce continues to gain market share among consumers due to accessibility, convenience and affordability. Door-to-door deliveries drive additional truck trips to and from distribution centers and last-mile deliveries meaning that there are more trucks on highways, arterials, and local streets. Shortages of drivers and warehouse workers due to health concerns continue to add pressure on freight handling. Furthermore, communities across the country have witnessed the closure of traditional mega shopping malls due to the loss of anchored tenants. Some of these mall spaces have

¹ <http://www.trb.org/main/blurbs/181115.aspx>

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partially pivoted to become fulfillment centers for online retailers as many of these shopping malls have sat empty – before, during, and possibly after the pandemic.

How should cities and regions adapt to the ever-changing logistic industry? How would the short-range and long-range transportation plan account for more door-to-door freight deliveries? Even if more vehicles, trucks, and trains are using renewable fuels and switching to zero-emission engines, how will we contain the growth in vehicle-miles-travelled by passengers and for freight delivery?

As most universities do not incorporate goods movement in their transportation planning curricula, students in this studio class will have a unique opportunity to examine the evolving industry while the COVID-19 pandemic continues to reshape the world's economy and stability.

III. REFERENCES & RECOMMENDED READINGS

- [LA County Goods Movement Strategic Plan 2021](#)
- [California Freight Mobility Plan 2020](#)
- [National Freight Strategic Plan 2020, USDOT](#)
- [SCAG Freight Works](#)
- [City of Seattle \(WA\) Freight Master Plan 2016](#)
- [NCFRP Report 13: "Freight Facility Location Selection: A Guide for Public Officials"](#)
- [NCFRP Report 16: "Preserving and Protecting Freight Infrastructure and Routes"](#)
- [NCFRP Report 19: "Freight Trip Generation and Land Use"](#)
- [NCFRP Report 20: "Guidebook for Assessing Evolving International Container Chassis Supply Models"](#)
- [NCFRP Report 23: "Synthesis of Freight Research in Urban Transportation Planning"](#)
- [NCFRP Report 24: "Smart Growth and Urban Goods Movement"](#)
- [NCFRP Report 29: "Making Trucks Count: Innovative Strategies for Obtaining Comprehensive Truck Activity Data"](#)
- [TRB Special Report 297: Funding Options for Freight Transportation Projects](#)
- *"Ninety Percent of Everything – Inside Shipping: The invisible industry that puts clothes on your back, gas in your car, and food on your plate".* Rose George.
- Additional reading materials will be assigned throughout the course

IV. SCHEDULE – Tentative

Week #	Date	Course Presentations/Contents	Readings and/or Deliverable(s) Due
1	08/24/2021	Welcome & Course Overview Goods Movement Through the Lens of Urban Planning & Public Policy	Submit personal statement, brief bio, and resume to Professor Shen by 8/24/2021
2	08/31/2021	International Trade – Tariff Wars before COVID, during COVID, and after COVID	Watch recorded interview #1 submit Technical Memorandum #1 via email & <u>the commodity you'll examine</u> by 7pm Pacific Time on 8/30/2021. After watching videos, prepare to discuss during 8/31/2021 class
3	09/07/2021	Infrastructure: "What got us here today, won't get us there tomorrow."	Finalize individual topic on the commodity flow assignment Schedule a mandatory Zoom for the between 9/8-9/14 on the progress of individual project scope, research etc. Submit a proposed topic and abstract for the team project by 7pm Pacific Time on 9/13/2021
4	09/14/2021	Infrastructure: What's the Future Like?	Watch recorded interview assignment #2 then submit Technical Memorandum #2 via email by 7pm Pacific Time on 9/20/2021. After watching videos, prepare to discuss during 9/21/2021 class
5	09/21/2021	Urban Freight – Too complicated to deal with?	Submit progress report on the individual project via email via 7pm Pacific Time on 9/27/2021 Schedule a mandatory Zoom for the between 9/22-9/28 on the progress of team project scope, research etc.
6	09/28/2021	Logistic Industry: Who are the movers and shakers?	Watch recorded interview assignment #3 then submit Technical Memorandum #3 via email by 7pm Pacific Time on 10/4/2021. After watching videos, prepare to discuss during 10/5/2021 class
7	10/05/2021	Plans, plans, plans – How and when to take actions besides writing plans?	Individual project: "Follow the Commodity" multimedia and companion Technical Memorandum due via email via 7pm Pacific Time on 10/11/2021.
8	10/12/2021	Freight Tour (tentative)	Submit progress report on the team project via email via 7pm Pacific Time on 10/18/2021

9	10/19/2021	Policy – Top-down or Bottom-up?	To be amended
10	10/26/2021	Funding – Who pays and who gets? Earmarks vs discretionary/competitive grants.	Watch recorded interview assignment #4 then submit Technical Memorandum #4 via email by 7pm Pacific Time on 11/01/2021. After watching videos, prepare to discuss during 11/02/2021 class
11	11/02/2021	Infrastructure Delivery – The good, bad, and ugly.	To be amended
12	11/09/2021	Environment and Regulations: Are zero-emission vehicles/trucks/trains/warehouses the solutions to congestion and freight in urban regions?	To be amended
13	11/16/2021	Technology and beyond: Impact on low-skilled and low-paying jobs in logistic industry	To be amended
14	11/23/2021	Workforce Development: How do we align training and job opportunities in logistic industry?	FINAL Video production due by 5pm Pacific Time on Monday 11/29/2021
15	11/30/2021	FINAL – Team Projects	

IV. STUDENT EVALUATION (subject to change)

Category	Percentage
Four Technical Memorandums (letter grade), each worth 10%	40%
“Follow the Commodity” Report & Podcast (letter grade)	30%
Final Presentation	30%
TOTAL	100%
Individual Participation/Responsiveness (bonus)	5%

v. IMPORTANT DUE DATES (all in Pacific Time)

Date & Time	Item
08/30/2021 by 7pm	Technical Memorandum #1
08/30/2021 by 7pm	The name of commodity you'll examine
09/07/2020 in class	Each student to receive a finalized topic on the commodity flow assignment
09/08/2021 – 9/14/2021 (preferably after 4pm)	Mandatory 15-min. Zoom meeting on the progress of individual project scope, research etc.
08/30/2021 by 7pm	Proposed topic(s) and abstract for the team project
09/20/2021 by 7pm	Technical Memorandum #2
09/22/2021 – 9/28/2021 (preferably after 4pm)	Mandatory 15-min. Zoom meeting on the progress of team project scope, research etc.
09/27/2021 by 7pm	Progress report on the individual commodity flow assignment
10/04/2021 by 7pm	Technical Memorandum #3
10/11/2021 by 7pm	Individual project: "Follow the Commodity" multimedia and companion Technical Memorandum
10/18/2021 by 7pm	Team project progress report
11/01/2021 by 7pm	Technical Memorandum #4
11/29/2021 by 7pm	FINAL Video production

VI. SCHOOLWIDE POLICIES, EXPECTATIONS AND RESOURCES**Pre-Recorded Interviews with Guest Speakers**

The links to interviews with guest speakers will be published via emails.

Relevant Documents & Resources

Note to students: Do not solely rely on Wikipedia for reference. When necessary, attempt to contact public agencies or private companies to inquire about relevant information for completing your individual project or group project. That is part of your "real-world" training.

Lecturer's Expectations

Please participate in course discussion enthusiastically; communicate with me (in person, via email or phone call or Zoom) openly; respond to my assignments/inquiries promptly; and collaborate, coordinate, cooperate with your team members. These are fundamental skills in the workplace.

Etiquette - Expected Social Behaviour

- 1. Be on time** - We will begin each class promptly at 6pm PDT.

2. To the extent possible, we will take **two 5-10 minutes of break**.
3. **Present yourself in a professional manner.** This course is part of a professional degree program and students are expected to act and present themselves accordingly. Adhere to the same **standard of behavior** in the classroom, online environment as you would in real life.
4. **Speak in a professional manner:** e.g., use neutral language, avoid labels and stereotypes or overgeneralizations about groups/populations.
5. Promote participation and **foster respect** among fellow students
6. Establish norms/standards/roles when you enter a breakout room
7. Every student is encouraged to participate actively in breakout discussion
8. When joining in discussion, provide thoughtful, succinct, and non-argumentative contributions to the discussion
9. **No multitasking**

Statement on Academic Conduct and Support Systems

Academic Conduct

"Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences." ("Academic Policies - USC Viterbi | Current Students") Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriatesanctions>.

Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>. ("Academic Policies - USC Viterbi | Current Students")

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. ("DSW Policies | USC School of Social Work") "This is important for the safety of the whole USC community." ("USC CSCI-570: Policies") "Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person." ("USC Dornsife Economics 203: Principles of Microeconomics") *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources. (Additional updated links will be provided when they become available).

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. ("Thematic Option > USC Dana and David Dornsife College of ...") Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.