TRANSPORTATION 310: PREVIOUS PAPER TOPICS
June 2022

First Paper: Case Study
A descriptive case study of a particular transportation or logistics firm or industry, or of a public policy debate.

Aviation
- O'Hare expansion plan
- Airline response to fuel price increases
- Capacity expansion at San Diego airport
- Foreign investment restriction in U.S. aviation
- US Airways / America West merger
- Airport privatization
- Low-cost air carriers in Asia
- Effect of videoconference on business air travel
- Anti-trust immunity and airline fares
- Evolution of air cargo hubs
- Economic development effects of high-speed passenger rail
- Growth of Emirates, Eithad and Qatar airlines
- Queuing models of airport security screening
- Aviation cabotage
- Transatlantic low-cost airlines
- Essential Air Service program
- Joint venture between American Airlines and Qantas
- Pilot shortage in commercial aviation
- Point-to-point versus hub and spoke service
- Pandemic-era start-up airlines
- American Airlines / US Airways Merger

Environment
- Transportation and the environment

Highways
- Highway privatization
• Effect of highway congestion pricing on retail stores
• Exclusive highway lanes for BRT and taxis
• New York East River crossing tolls
• Intersection design for bicycles

*Logistics / Supply Chain*
• Facility location for emergency services
• Dynamic routing for commercial trucks
• Fourth party logistics
• Reverse logistics in retailing
• Mapping for disaster preparedness
• IKEA’s supply chain
• Blockchain in logistics industry
• Logistics of blood supply

*Maritime*
• Developments in ocean shipping companies
• Container shipping possibilities on the Great Lakes
• Empty container repositioning models amid COVID-19 disruption

*Parking*
• Design of parking lots
• “Cashing out” of parking by employers
• Cruising for parking

*Rail: Freight*
• Capacity problems for Union Pacific Railroad
• Railroad track maintenance
• Railroad regulation in the United States
• Defining captive shippers of railroads

*Rail: Passenger*
• Passenger rail in the United States
• Electronic ticketing for commuter rail
• Effect of California high-speed passenger rail on land use
• Economic impact of Japanese high-speed trains
• The Hyperloop

*Taxis / Ride-hailing*
• Long-distance ride sharing

*Travel Demand*
• Activity-based travel demand models
Trucking
• Regulation of motor carriers
• Autonomous trucks

Urban Mass Transit
• The Chicago area transit financial crisis of 2007
• Transit in Colorado Springs
• Rail transit in Los Angeles
• Barriers to domestic Bus Rapid Transit development
• Express rail service to O'Hare
• ADA Paratransit finances
• Transit expansion in suburban Atlanta
• Honolulu light rail project
• Light rail in Minneapolis-St Paul
• COVID-19 and transit
• Suburban transit hub design principles

Urban Planning
• The Chicago Metropolis 2020 plan
• Urban growth boundaries
• Effect of urban growth boundary in Portland, Oregon
• Equity in transportation planning

Second Paper: Research Paper
An extended, analytical, paper that evaluates a specific public policy initiative or a business issue.

Aviation
• Effect of competition on air fares
• Essential Air Services program evaluation
• Effect of flight restrictions on Dallas Love Field on fares at Dallas-Fort Worth airport
• Effects when an airport ceases to be a hub (two separate student papers)
• Cabotage in aviation
• Effect of travel across time zones on performance of professional baseball players
• Effect of fuel prices on airline financial performance
• Air cargo to Hawaii
• Effect of airline capacity reductions in 2008
• Worldwide airline stock prices
• Stability of duopoly in airline markets
• Competition and fares on air routes from Las Vegas
• Effect of airline baggage fees
• Growth of transcontinental air service
• Airline market power and flight delays
• Airport security screening
• Effect of “bad news” on airline stock prices
• Optimal locations for hub airports in the United States
• Airfare premium for non-stop flights
• Introduction of “basic economy” air fares
• Pilot shortage in commercial aviation
• Strategies of Ultra-Low-Cost Carriers in the US
• Effect of entry of Allegiant Air on airport demand
• Market share changes after American Airlines / US Airways merger

Environment
• Carbon emissions in supply chains

Highways
• Design of Lincoln Street / Sheridan Road intersection
• Cost-benefit analysis of exclusive highway lanes for BRT and taxis
• Effect of texting bans on highway fatalities
• Conditions for implementing “road diets”
• Chicago’s “Loop Link” bus lanes
• Analysis of traffic crash severity in Chicago

Logistics / Supply Chain
• Oil and gas exports from Russia to Europe
• The effect of ethanol as a fuel on food production
• Effect of self-distribution laws on development of craft breweries

Maritime
• Competition between container shipping companies
• Modeling container traffic at Ports of Los Angeles and Long Beach

Parking
• Parking policies on Northwestern’s Evanston campus

Rail: Freight
• Financial feasibility of Positive Train Control
• Pedestrian deaths on the railroad
• Market power in coal transportation from the Powder River Basin
• Development in railways in the Soviet Union 1917-1932

Rail: Passenger
• High speed passenger rail feasibility in the United States
• Effect of population growth on commuter rail ridership
• Financial performance of high-speed passenger rail
• Ranking U.S. corridors for high-speed passenger rail development
• Effect of new high-speed rail service on land use in Takaoka, Japan
Taxis / Ride-hailing
- Changes in taxi demand by neighborhood in Chicago after the entry of Uber/Lyft etc.
- Modeling demand for long-distance car sharing in France
- Outsourcing of Northwestern University’s Saferide system to Via
- Taxi demand following a tax on ride-hailing trips in downtown Chicago

Travel Demand
- Effect of e-shopping on shopping trips
- How the valuation of time may vary by mode

Trucking
- Effect of truck driver safety violation notification system

Urban Mass Transit
- Population density and transit performance
- ADA paratransit provision
- Transit investments association with the Olympic Games
- Comparison of transit provision in five cities
- Effect of network expansion on ridership of Los Angeles rail transit
- Comparison of BRT versus LRT ridership in Los Angeles
- Fare elasticities for subway and commuter rail services
- Origin-Destination matrix for the Chicago Transit Authority rail system
- Ridership changes at stations on Dubai’s mass transit rail system
- Ridership changes at stations on the Chicago Transit Authority rail system
- Light rail expansion in Minneapolis-St Paul
- Delay propagation on CTA Purple Line express
- Transportation equity in Chicago neighborhoods
- Transit in Jackson, Wyoming