



Introduction to Transportation Systems

Joseph M. Sussman
JR East Professor
Professor of Civil & Environmental
Engineering and Engineering Systems
Massachusetts Institute of Technology
Cambridge, MA



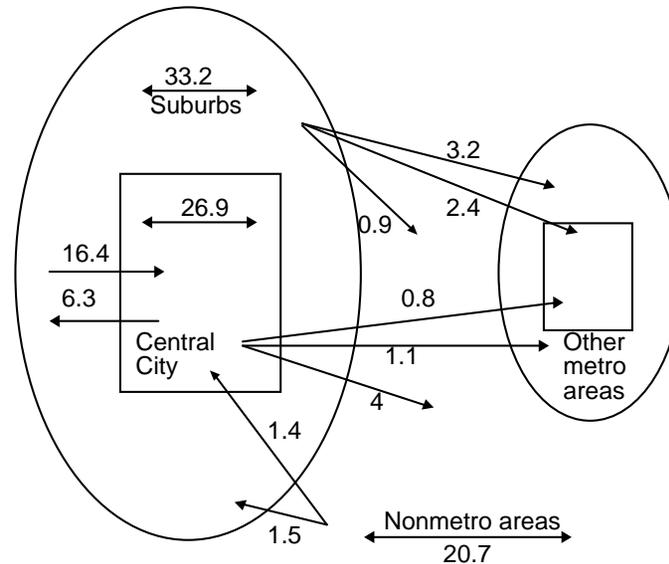
PART III:
TRAVELER
TRANSPORTATION



Chapter 22:

Commuting Safety and Some Transportation History

National Commuting Flow Patterns in the U.S. (Millions of Daily Trips)



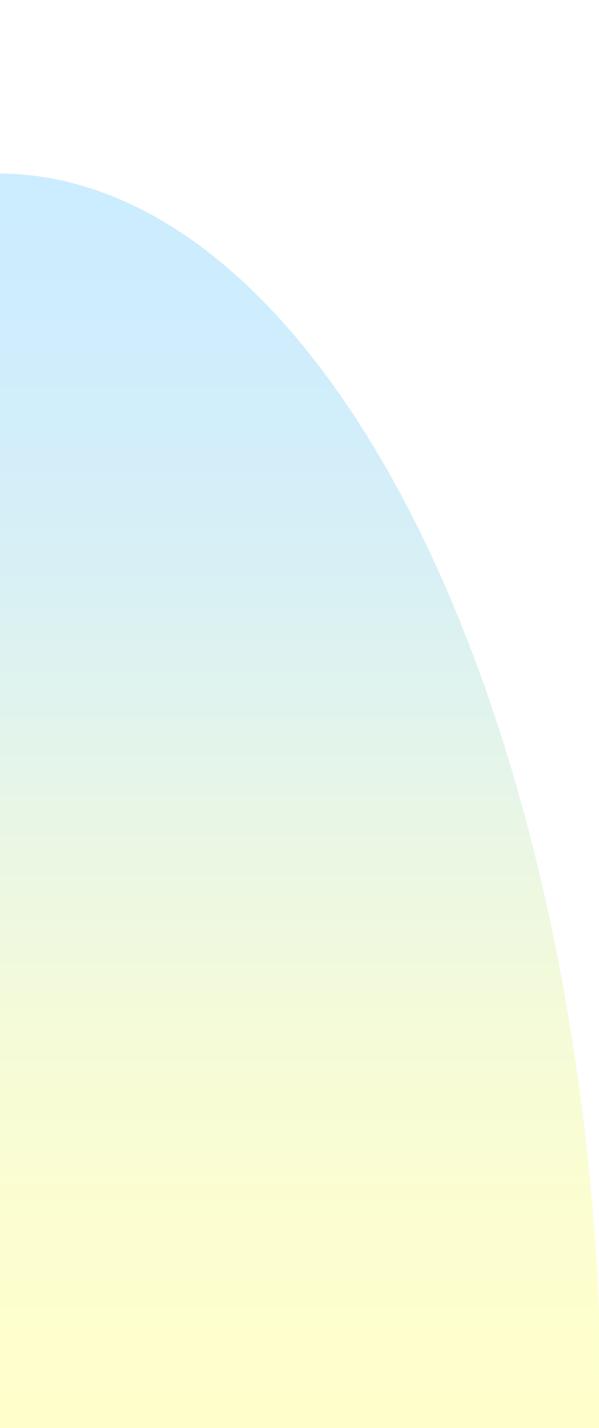
CLASS DISCUSSION
WHAT ABOUT KUALA LUMPUR?
OTHER CITIES?

Figure 22.1

Some Transportation History

Lay begins with carts, coaches and stage coaches, and the use of horses for transportation.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles that Used Them*, Rutgers University Press, New Brunswick, NJ, 1992.



As Lay mentions, the cost of a round-trip from Paddington Station to another station in London in 1800 by horse-drawn vehicle was about 1% of the annual wage of a typical worker, where the comparable trip today would be about .02% of the annual wage of that same worker.

System safety was several orders of magnitude poorer in antiquity than they are now. 40,000 people a year die on U.S. highways. But if one looks at the safety of transportation systems in these more primitive times, they were several orders of magnitude less safe than today.

What Enabled Transportation to Advance?

- ◆ Technological Developments
- ◆ Automobile Dominance
- ◆ The Gas Tax
- ◆ Construction Jobs

Environmental Concerns

CLASS DISCUSSION