**Urban Transportation**

 Major determinant of the form urban areas take

 Older cities more dense due to transport costs at time of development

Mode of transport to work [table 1](http://milesfinney.net/440/hand/journey.pdf)

Commuting patterns within metro area (1990)

 32.5% central city to central city

 7.6% central city to suburb

 19.8% suburb to central city

 40.1% suburb to surburb

Which pattern would monocentric model imply?

**Evaluation of private auto transport**

A. Cars represent large fixed capital cost

 Auto expenditure (purchase, gas, insurance, upkeep) typically second largest expenditure by households

 [Access to private autos decreases as household income declines](https://www.bts.gov/archive/publications/highlights_of_the_2001_national_household_travel_survey/table_a04)

B. Autos on average lower marginal cost of decision to take a trip

 Cars save time on average

Commute to work: 2013-2017 American Community Survey 5-Year Estimates

|  |  |
| --- | --- |
| **Cars, truck or Van** |  |
| Under 15 minutes | 26.23% |
| 15 to 30 minutes | 37.90% |
| 30+ minutes | 35.86% |
|  |  |
| **Public Transportation** |  |
| Under 15 minutes | 3.49% |
| 15 to 30 minutes | 15.03% |
| 30+ minutes | 81.48% |

New York has the highest average commute time (39 minutes) of any large US city

C. Environmental Impact

D. Congestion Effects

E. Accidents

**Evaluation of public transportation**

**Benefits**

A. Scale economies achieved transporting many people per vehicle

Fewer resources used per passenger

B. Less polluting

C. Less congestion

**Costs**

A. Convenience: Time costs generally greater than cars

B. Less flexible in terms of possible routes compared to cars

C. Possible safety

Public transport to form:

1. Bus

2. Fixed Rail

 a. heavy rail (subway)

 b. light rail above ground

[Phases of commuting trip](http://milesfinney.net/440/lecture/pub_trans-1.pptx)

[Cost of Modal Choice](http://milesfinney.net/440/hand/mode.xls)