Urban Automobile Use and Local Transportation Impacts

Transport Chicago
June 7, 2013

Chris McCahill, Ph.D.
cmccahill @ engineer.uconn.edu

Based on research at:
University of Connecticut
Center for Transportation and Livable Systems

With Norman Garrick, Associate Professor
The Walking, Biking, Transit-Friendly City
One Decade Later: Hartford 1965
14 cities
~100,000 people
Built up before 1960
Varying auto use

Parking Analysis
Key factor influencing auto use
Best indicator of auto infrastructure and land use
Two Distinct Types of Cities

Auto Use
- Alameda, CA: 85%
- Albany, NY: 65%
- Hartford, CT: 0%
- Lowell, MA: 20%
- New Haven, CT: 40%
- Palo Alto, CA: 60%
- San Leandro, CA: 80%
- San Mateo, CA: 0%
- Silver Spring, MD: 22k
- Arlington, VA: 12k
- Berkeley, CA: 85%
- Cambridge, MA: 65%
- Evanston, IL: 0%
- Somerville, MA: 20%

Parking
- Residents and employees per square mi (thousands):
  - Alameda, CA: 0.54
  - Albany, NY: 0.26
  - Hartford, CT: 0
  - Lowell, MA: 10
  - New Haven, CT: 40
  - Palo Alto, CA: 60
  - San Leandro, CA: 80
  - Silver Spring, MD: 12k
  - Arlington, VA: 85%
  - Berkeley, CA: 65%
  - Cambridge, MA: 0
  - Evanston, IL: 20
  - Somerville, MA: 0

Density
- Percent of commuters traveling by automobile:
  - Alameda, CA: 85%
  - Albany, NY: 65%
  - Hartford, CT: 0%
  - Lowell, MA: 20%
  - New Haven, CT: 40%
  - Palo Alto, CA: 60%
  - San Leandro, CA: 80%
  - San Mateo, CA: 0%
  - Silver Spring, MD: 22k
  - Arlington, VA: 12k
  - Berkeley, CA: 85%
  - Cambridge, MA: 65%
  - Evanston, IL: 0%
  - Somerville, MA: 20%
Parking in Downtown Hartford
c. 1960
Parking in Downtown Hartford

[Map showing parking lots and streets in downtown Hartford around 2000]
Downtown Hartford
Local Automobile Use
(trips within city)

Percent of Local Commuters Driving

Lowell
Arlington
Hartford
New Haven
Berkeley
Cambridge

1960 1980 2000

Local Automobile Use
(trips within city)
Local Travel Modes
(trips within city)

Auto
Transit
Walk
Bike

Percent of Local Commute Trips

Cambridge
Berkeley
New Haven
Hartford
Arlington
Lowell

Percent of Local Commute Trips
How important are local trips?

- Cambridge: 14%
- Berkeley: 17%
- New Haven: 17%
- Hartford: 15%
- Arlington: 11%
- Lowell: 12%

Percent of Trips Local

- 6k local drivers: Cambridge 14%, Berkeley 17%, New Haven 17%
- 12k local drivers: Hartford 15%, Arlington 11%, Lowell 12%
Summary of Findings

• “Automobile cities” accommodate more **driving**, not more **drivers**.

• More than 60% of local commute trips can be made by transit, walking, biking.
  – Walking ranges from 10 to 50%.
  – Transit less than 25%.

• Local travel is important in urban areas; travel choices are linked to infrastructure and land use patterns.