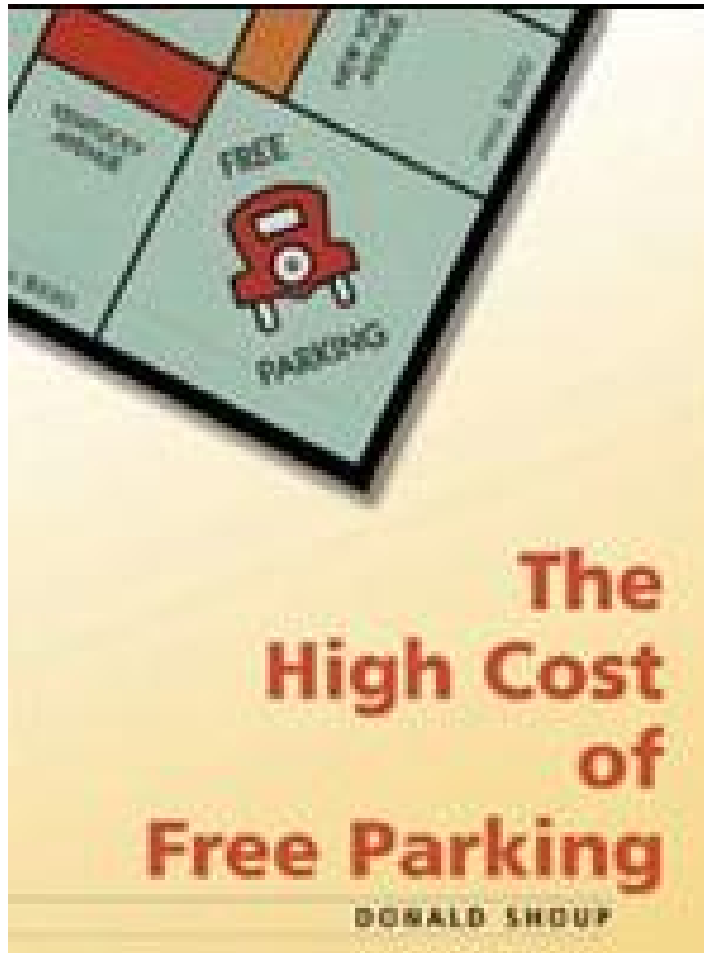


# THE HIGH COST OF FREE PARKING

Amy Ford-Wagner, Parsons Brinckerhoff  
At the ITE Northeastern District Annual Meeting  
May 26, 2011



# What is this about?



# All transportation systems have three basic elements



## Vehicles

Trains

Airplanes

Ships

Bikes

Cars

## Rights of way

Train tracks

Sky

Oceans

Bike paths

Roads

## Terminal capacity

Train stations

Airports

Seaports

Bike racks

Parking spaces

# Automobile travel is unusual in two ways



- It requires enormous terminal capacity
- The cost of parking has been shifted out of the transportation sector and into the prices for everything else.

# WHO PAYS FOR FREE PARKING?

Everyone but the motorist.

# Problem Statement

- ❑ Cost of parking is hidden in higher prices for everything else
- ❑ Free parking imposes many other hidden costs on cities, the economy, and the environment
- ❑ And the crazy thing is – it's required!

WHY??



# A little history...



- Rapid growth in car ownership in early 1900s → parking problem
- 1930s: cities begin including off-street parking requirements in their zoning code
  - ▣ “In connection with the use of each lot, sufficient off-street parking space shall be provided to meet the demand created by all activities on the lot.”
- 1946: 17% had off-street parking requirements
- 1951: 70% had off-street parking requirements

# How Do Cities Set the Rate?



- Zoning requirements
  - ▣ Commonly based on a “per square foot” requirement
  - ▣ Cities commonly look to other cities’ requirements
- OR
  - ▣ Consult the ITE Parking Generation and Trip Generation Rates

# Circular Planning

## Parking Generation Rates

- Free parking, no transit

## Urban Sprawl

- Planners limit density so that new development will not generate more trips
- Lower density spreads land uses apart

## Transportation system design

- Planners consult minimums in other cities or trip generation rates

## Trip Generation Rates

- Produced based on sites with lots of free parking and no transit

## Minimum Parking Requirements

- Max. observed demand becomes min. supply

## Ample Free Parking

- People can park for free, so they drive

# Problems with this logic

- *Peak parking occupancy*  $\neq$  *parking demand*
- Peak parking occupancy = the quantity of parking demanded at a zero price at the time of peak demand
- What happens when use doesn't change, but occupancy does?
- Many other factors affect overall travel demand:
  - ▣ Density, presence of transit, economic conditions, number of employees, area income, sales volume...

# What *Can* Predict Parking Need?



- 2002 Study commissioned by Home Depot
  - Zoning required 5 parking spaces per 1,000 sq. feet
  - Finding: “No correlation between the square footage of a store and its resultant peak parking demand.”
  - Peak parking occupancy at a store best correlated to its sales revenue

# How Accurate Are Requirements?

Method	Number of parking spaces	Compared with sales figures	Extra land area square footage for parking
Sales figures	316		
ITE parking generation rate	420	33% more	26,000
ITE regression equation	524	66% more	52,000
Parking supplied	530	67% more	53,500
Zoning (5 per 1,000 sq. ft)	639	102% more	80,750

# Collectivizing the Cost of Parking



- Because off-street parking is required by zoning...
  - ▣ Cost of parking is hidden in the prices of other goods and services
    - No one can pay less for parking by using less of it
- Because parking and driving are complements
  - ▣ Skews travel choices toward cars and away from public transit, cycling, and walking

# Changes How We Build



# Changes What Gets Built

STREETSBLOG.ORG

Developer: I've Walked Away From Projects Because of Parking Minimums  
by Noah Kazis on April 28, 2011

Friday, February 11, 2011

13 Comments

## Parking Minimums Make NYC Housing More Expensive, NYU Report Finds

by Noah Kazis on February 11, 2011



Parking minimums forced Alan Bell to put a parking lot directly next to the playground in this East New York building. It sits almost completely unused.

# Changes how we think

## ↑ **TRANSPORTATION** **NATION**

**After  
Hundreds Of  
Millions Of  
Dollars Of  
Public  
Subsidies,  
Barely Used  
Yankees  
Parking  
Garages Face  
Financial  
Collapse**

Posted on May 19, 2011.



This garage was built on a park in the Bronx at behest of the Yankees. Two-thirds empty on game days, the garage is now facing financial collapse

# Alternatives to Minimum Requirements



- Remove requirements entirely – let development market decide
- Require in-lieu fees
- Require participation in shared parking schemes
- Promote alternative modes of travel

# What about on-street parking?



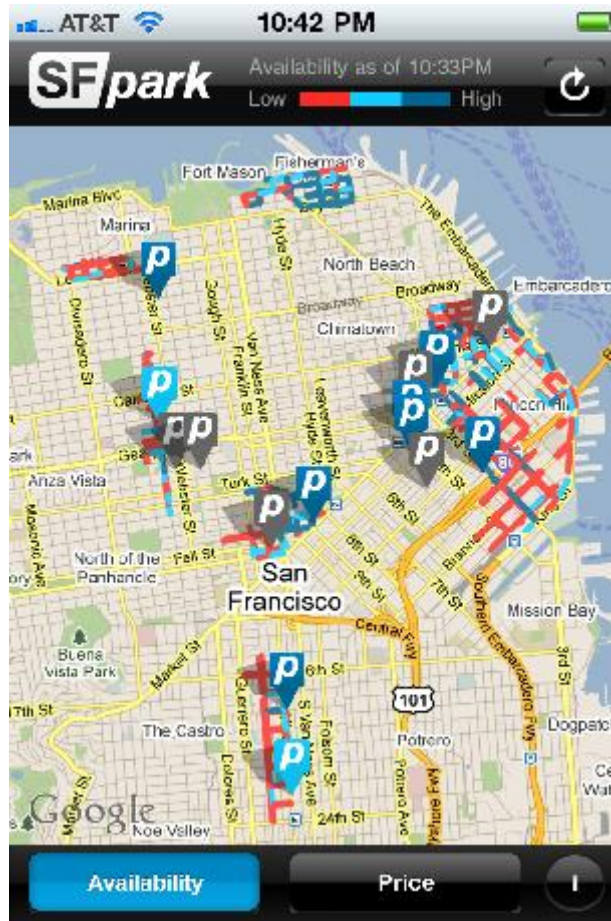
- Occupancy of on-street spaces affects amount of traffic cruising
- Cruising leads to congestion with resultant air quality impacts
- To reduce cruising, try to achieve an 85% occupancy rate for on-street parking
- And – do that with pricing that varies to reflect – and help manage - demand

# Variable Pricing in Action: NYC

- Six month pilots turned permanent
  - Greenwich Village, Manhattan
    - Parking space occupancy declined in peak
    - Motorists parked for slightly shorter amount of time
  - Park Slope, Brooklyn
    - Parking duration: -20%
    - Number of unique vehicles: +18%
    - Overall peak-period occupancy remained above 85%



# Variable Pricing in Action: San Fran



# San Francisco: More Availability



# San Francisco: Less Availability



# Become a Shoupista!

The screenshot shows a Facebook interface with a blue header. On the left is a navigation sidebar with the user's name 'Amy Ford-Wagner' and profile link, and a list of menu items: News Feed (5), Messages (3), Events (3), Friends, The Shoupistas (selected), UCLA New York Tr..., APA Transportati... (3), Create Group..., See All, APA NY Metro Tra..., Marketplace (2), Game Requests (46), App Requests (43), and More. The main content area is for the 'The Shoupistas' group, an 'Open Group' with 'Edit Settings' and a search bar. Below the group name is a share menu with options: Post, Link, Photo, Video, Question. A text input field contains 'Write something...'. The first post is by 'Len Conly' with a 'NUCLEAR FREE ZONE' profile picture. The post text reads: 'Opinion, Washington Post Raising parking fees is a win-win for D.C. By Tommy Wells, Published: May 20 Wells represents Ward 6 on the D.C. Council. Raising parking fees is a win-win for D.C. www.washingtonpost.com Graduated residential fees would free up spaces and support improved transit. It would also be a much fairer way to allocate a finite public resource. 8 hours ago · Like · Comment · Share · Subscribe'. The second post is also by 'Len Conly' with the same profile picture. The text reads: 'The trustees have not engaged in any creative thinking about how to avoid paving 20,000 sq. ft of garden and adding 200 parking spaces. The Sierra Club has written a letter asking them to reconsider the plan, but at this point it will take legal action to stop the project. College of San Mateo parking lot draws protests www.sfgate.com The trees on campus may not be put into a tree museum, but trustees for the College of San Mateo did just this week to pave'. On the right side, there is a 'Members (1000)' section with a 'See All' link and a grid of member profile pictures. Below this are options: 'Add Friends to Group', 'Create Doc', 'Create Event', 'View Photos', 'Edit Group', and 'Leave Group'. At the bottom right is a 'Sponsored' section with an advertisement for 'PARSONS Employee?' from 'marquisdentalspa.com'. The ad features a photo of a woman and text: 'Marquis Dental Spa is giving PARSONS employees w/dental insurance a LASER Teeth Whitening, Cleaning, Exam for only \$29. Click Now!'. The bottom of the page shows an 'Internet' status indicator.

