PRESENTATION

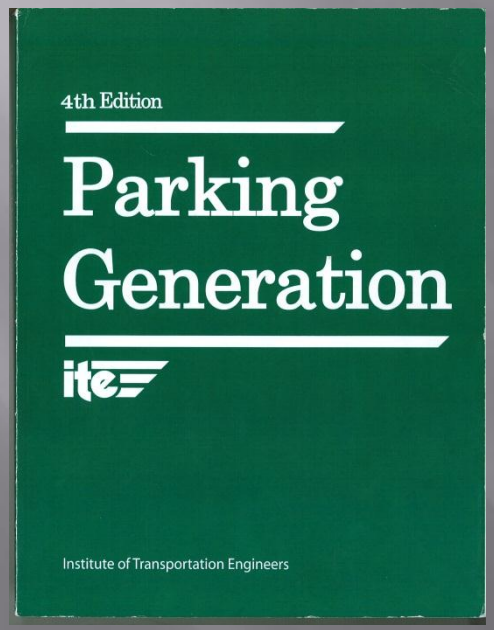
Using ITE Parking Generation Manual and its Limitations

Gordon Meth, PE, PP, PTOE, PTP

May 26, 2011

OFF-STREET PARKING REQUIREMENTS

- To address concerns about parking from specific land uses using too much of available on street parking, municipalities across the country began requiring off-street parking



- Over time, the number of parking spaces required by these ordinances have often been based on data collected in the ITE Parking Generation Manual, either directly or via other publications

OFF-STREET PARKING REQUIREMENTS

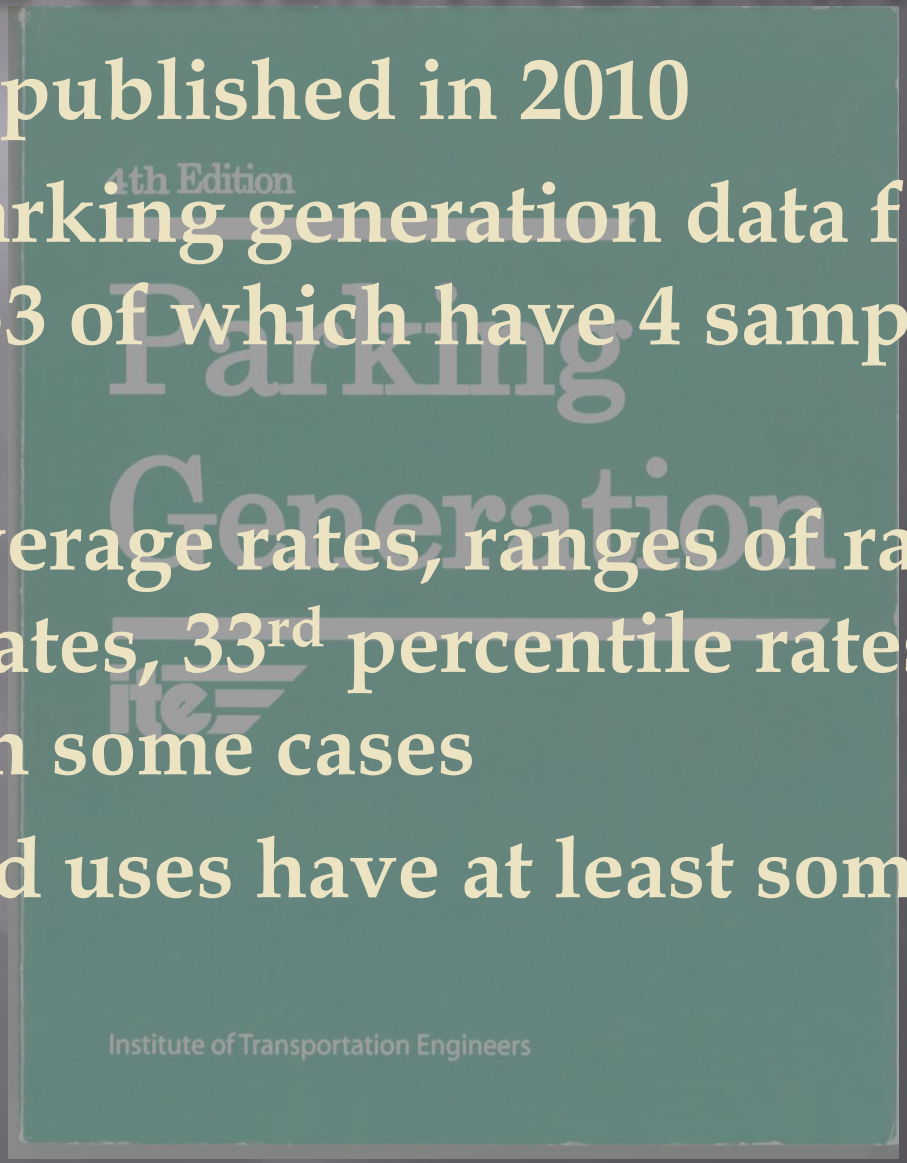
- One of the land-mark books – Parking, by Weant and Levinson (published by the Eno Foundation) – used the 85th percentile parking demand, and added 10% for recommendations regarding parking
- This strategy makes sense, since if one used the average parking rate, theoretically half of all sites would be under-parked
- Many ordinances require enough parking for each individual use (i.e. no shared parking)

THE RESULT

- Many parking spaces go **unused** most of the time, at great cost to the public
- Land use development patterns make transit, walking, and bicycling more difficult than necessary due to the need to cross parking lots to access buildings
- Potential on street parking spaces go unused
- We have to treat far **more storm-water**, due to additional impervious surfaces
- Older buildings are closed to many potential uses due to a lack of available parking, so older areas remain blighted
- Entry costs for new businesses are **higher** than they need to be

PARKING GENERATION MANUAL

- 4th Edition published in 2010
- Contains parking generation data for 106 land uses (53 of which have 4 samples or less)
- Contains average rates, ranges of rates, 85th percentile rates, 33rd percentile rates, and equations in some cases
- Over 50 land uses have at least some time of day data



USE WITH CAUTION!!

- Example:

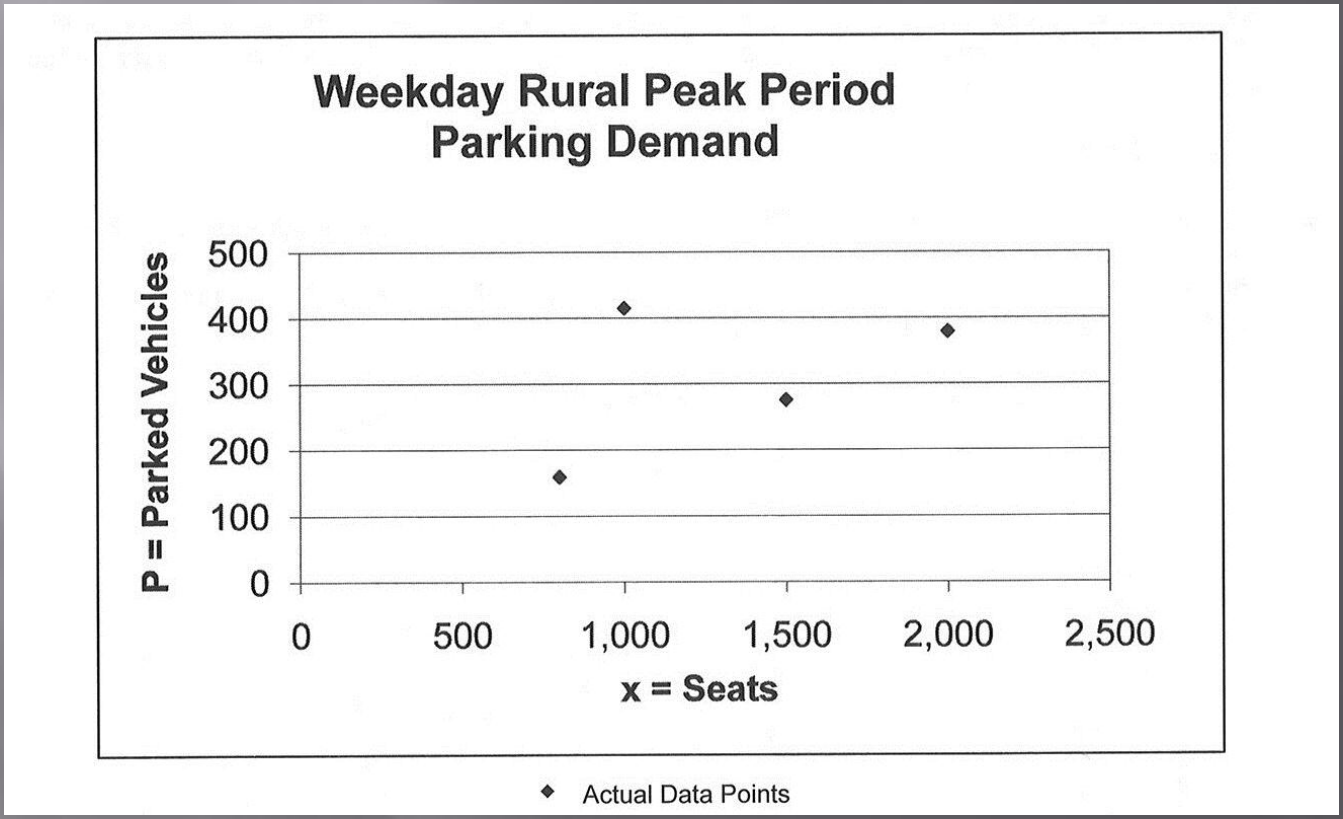
Land Use: 441
Live Theater

Average Peak Period Parking Demand vs. Seats
On a: Weekday
Location: Rural

Statistic	Peak Period Demand
Peak Period	8:00–10:00 p.m.
Number of Study Sites	4
Average Size of Study Sites	1,300 seats
Average Peak Period Parking Demand	0.25 vehicles per seat
Standard Deviation	0.11
Coefficient of Variation	46%
Range	0.18–0.42 vehicles per seat
85th Percentile	0.32 vehicles per seat
33rd Percentile	0.19 vehicles per seat

USE WITH CAUTION!!

- How is the data spread?



A CONSERVATIVE APPROACH

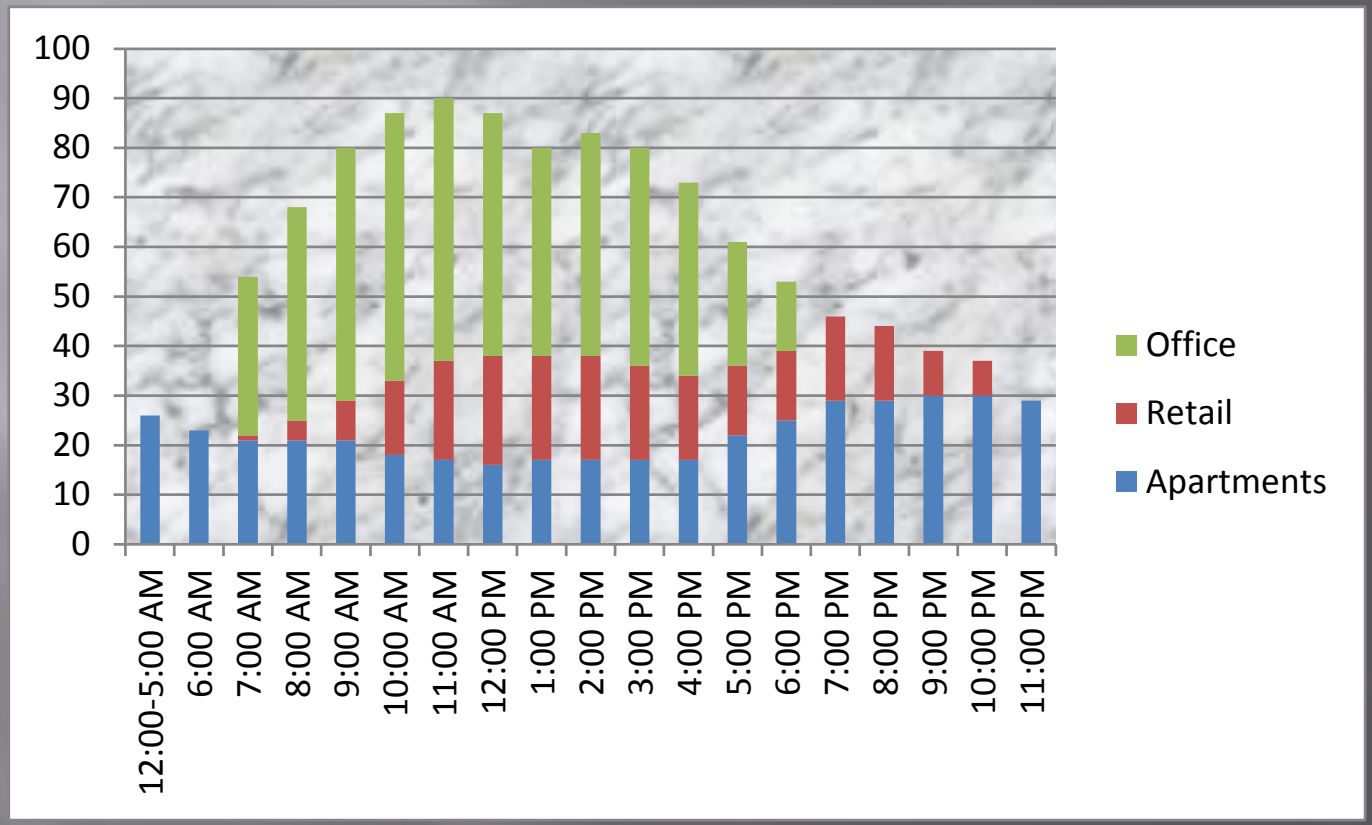
- We focus on 85th percentile parking demand for setting ordinances to be "appropriately conservative"
- Samples are submitted by numerous individuals from a range of geographies, years, and time periods – unverified
- There may be conservatism in the selection of sample sites
- All of this leads to a lot of **unused** parking!!

HOW TO USE MANUAL TO IMPROVE STATUS QUO

- **Use time of day analysis to enhance shared parking analysis**
- ***Watch for mix-matched data and statistical significance***
- **Shared parking can often reduce peak demand by 10-20% depending on the land use mix**

SHARED PARKING ANALYSIS

- Example:



OTHER STEPS

- Update ordinance requirements
- Use difference between Average Rate and 85th Percentile Rate for land banking
- Allow leasing of parking at shopping centers during weekdays for park and ride uses or other uses based on ITE data
- Give credit for on-street parking, transit, and walking, especially in older CBDs