Parking Strategies for Transit Oriented Development and Smart Growth

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Smart Growth and TOD Trends

- “Every Decade between now and 2050, the US will add approximately 30 million people” – *ULI Infrastructure Report 2010*

- Baby Boomer generation (age 44-62) are becoming “empty nesters”, want to trade down, live in an urban or semi-urban setting with access to transit and amenities (Jeffrey Otteau)

- Generation Y (age 14-31), is entering the housing market, more likely to be childless, and prefer a more urban lifestyle with access to transit. (Jeffrey Otteau)

- The next generation of projects will orient to infill, urbanizing suburbs, and transit-oriented development….People will continue to seek greater convenience and want to reduce energy expenses.” – ULI’s *Emerging Trends in Real Estate 2010*
Structured Parking – Critical To TOD and Smart Growth

- Often need replacement parking
- Necessary to achieve density
- A Critical economic factor
- Primary planning / design concern
- Traffic concern

*Smart Growth requires smart parking strategies!*
Cost of Structured Parking

**Spaces**

Major land uses
- Retail: 2 to 5 spaces per KSF
- Restaurant: 10 to 15 spaces per KSF
- Office: 2.8 to 4 per spaces KSF
- Residential: 1 to 2 spaces per unit
- More space for cars than humans!

**Cost – Residential**

- $15K - $20K / space
- 500 space facility: $7.5M - $9M
- 1.5 spaces per unit: $24K per unit
- Operating cost - $35- $40 / month
- $200- $225 rent / month

**Commercial** - 4/1000 ratio: $6-8 square foot

**Retail** - 5/1000 ratio: $8-10 per square foot
Right Size Parking

• Maximizes development
• Reduces building mass
• Reduces impervious areas
• Reduces energy consumption
• Critical to TOD financial feasibility
  – capital cost
  – On going operational / maintenance costs
TOD’s are overparked

- Transit Cooperative Research Program – August 2008

  - TODs best practices still not “legal” at most suburban TOD’s
  - Often require painful variances
  - Incorporation of actual TOD parking data critical to next wave of TOD development
Gaslight Commons, South Orange NJ

- 200 Residential units - rental
- 1/2 mile from NJ Transit South Orange Station
- 1.7 space / unit requirement
- 338 spaces
- Actual use: 200-210 spaces
- Unnecessary parking cost - $500K- $2 million
Parking Strategies for Smart Growth and TOD

- Apply appropriate parking ratios
- Apply Parking Maximums vs. Minimums
- Share Parking
- Maximize on-street
- Reduce demand - shared car / bike services
- Apply market rate parking fees / Unbundle parking costs
- Use high standard parking design and planning
- Integrate with other uses
- Make it sustainable
- Identify creative partnerships and financing
- Use Technology - convenience
- Manage parking as a system
Establish flexible parking requirements based on:

- Availability of other modes
- Census data
- Demographics of residential developments (age, income, other auto-ownership factors)
- Parking studies of similar projects
- Unbundled parking fees
- Establish maximums vs. minimums - especially for infill development and adaptive reuse
- Allow phased development to inform future requirements
- TODS own fewer vehicles because they are smaller HH’s
- Different incomes have different car ownership rates Car ownership = $8 - $12K per year
Reduce Demand - Shared Car Services

- Reduces demand – replaces need for first or second car
- Reduced parking requirements for new development
  - Van Ness and Turk residential project - San Francisco: Car sharing reduced parking requirement by 50%

Hoboken Corner cars
- 42 special on street parking spots for the shared cars
- City participants receive free membership and use credits
Reduce Demand - Bike Sharing

• Bike sharing programs throughout Europe and have become an integrated part of public transportation

• US Programs – Denver, NYC, Chicago, Minneapolis, Portland, Washington, D.C. …

• TOD’s have 3.5 times more walking and cycling

• Increasing use of E-bikes
  – Can go up to 20 mph
  – Rechargeable batteries
Maximize Use of On-Street Parking

- Allow on-street parking to meet development requirements
- Provides convenient, high turnover parking
- Contributes to street level vibrancy - Calms traffic
- Buffers sidewalk activities
- Allow angled parking
- Oklahoma City – 800 spaces added on street

“Each parking space removed from downtown costs adjacent businesses $10K in sales.”

Nat’l Main Street Center
Shared Parking

- Adjacent, complementary uses share parking and reduce the amount that would be built independently
- Interaction of uses where internal trips can be made without a car
- Improves financial feasibility
  - Maximizes land value
  - Shared capital cost
  - Shared operational costs
  - Increased parking revenue
- Enhanced activity / security
- Commuter parking can be shared!
The Project: Shared-Use Case Study

Development Program

- 750 commuter spaces
- 350 residential units at 1.25 spaces per unit
- 100 room hotel
- 5,000 sf convenience retail
- 8,000 sf dining (fine dining and family)
- 3000 sf bar/club
- 5000 sf health club
### The Project – Impact of Shared Use

<table>
<thead>
<tr>
<th></th>
<th>Commuter</th>
<th>Mixed-Use Development</th>
<th>Commuter with Mixed-Use</th>
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</thead>
<tbody>
<tr>
<td>Separate garages, without shared-use</td>
<td>750 spaces</td>
<td>828 spaces peak demand (weekend)</td>
<td>1,578 spaces</td>
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<tr>
<td>Combined garage, with shared-use for commuter and TOD</td>
<td>750 spaces</td>
<td>616 spaces peak demand (weekend)</td>
<td>1,197 spaces peak demand (weekend)</td>
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<tr>
<td>Construction Savings</td>
<td></td>
<td></td>
<td>381 spaces</td>
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<tr>
<td>Operational Savings</td>
<td></td>
<td>$6-8 million</td>
<td>$150K - $175K / year</td>
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“Parking is part of the mosaic of the city.”

Tom Murphy – Former Mayor of Pittsburg
Parking Planning and Design

- Miami Bach Parking Deck
- Herzog & de Meuron,
  - designed the Olympic stadium in Beijing (the Bird’s Nest).
- Event space rents for $12,000 to $15,000 a night.
Use Parking to Create “People Places”
TOD Parking Planning and Design

Design as a Place
- First and last impression
- Gateway to the community
- People Generator / foot traffic
- Mixed-use integration
- Connect to adjacent land uses

Represent the Quality of the Development
- Architectural elements
- Stair elevator towers
- Vestibules
- Lighting levels / paint
- Landscaping
- High quality graphics / signage
Parking Planning and Design

- Bright – lighting and color
- Smart Management
- Signage, Wayfinding, treatments
- Advertising
- Active
- Glass - security
Sustainable Parking Design

• Efficient Lighting
• Solar arrays
• Bike facilities
• Charging stations
• Preferred parking
Parking Technology

• Parking should be convenient - not free!
• Pay by Cell
• Parking Apps
  – Meter and garage pricing adjust to real time demand
  – Sensors allow drivers to find open parking spaces with their smart phones
  – Reduces congestion and cruising for parking spaces
• Congestion Pricing
Best Applications

- Constrained sites
- Infill development
- Residential / hotel
- High density / urban
- High Land and parking value!

Considerations

- Throughput requirements
- Redundancy needs
- Operating costs
Creative Financing

• Public / Private Partnerships
• TIF financing
• Payment in lieu of parking
• Leverage the parking system
• Public / Public Partnerships – True stimulus!
• True stimulus! - Public Investment in smart parking projects
Urban Transit Hub Tax Credit

• Commercial and residential developers can apply for tax credits for their capital costs if they build in a designated transit hub.

• Receive up to 100% tax credit with a minimum $50 million investment in a facility located in one of the Urban Transit with at least 250 FTE’s.

• Residential projects can receive a 35% tax credit.

• 657 space deck shared by commercial, residential and retail uses.
Smart Parking Management

- Manage as a system and asset
- Parking management districts
- Increase effective supply through sharing
- Employ Technology for convenience, maximize use and revenues
- Reinvest revenues to support:
  - economic development,
  - parking demand management
  - New facilities
Cost of Structured Parking – Replacement Parking

Commuter Lot TOD
• 3 acre lot
• 425 spaces

Replacement parking
• 425 spaces @ $18K / space = $7.65M
• 240 residential units
• 80 units per acre
• $32K per unit land cost
Highlands at Morristown, NJ

Picture Courtesy of Roseland / Woodmont Properties