Smart Growth Impact Fees

Presentation to National Impact Fee Roundtable

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Smart Growth and Impact Fees

• Enhanced ability to fund needed infrastructure:
  – Full cost recovery methodology vs policy based adjustments
• Improved equity from ‘right-sizing’
  – Lower fees when higher development standards reduce public infrastructure costs
  – Fees proportionate to system impact
• Level the playing field for developers in achieving Smart Growth development
  – Lower fees for targeted developments
  – Higher fees for higher impact development
2007 Metro SDC Study

- Metro
  - Regional government of Portland, Oregon- 25 cities

- Component of New Look at Regional Choices program (defines how the region’s long term plan is carried out)
  - Promote opportunities for efficient land use
  - Invest in centers, corridors; employment and industry centers

- Impact Fee (SDC in Oregon) Objectives
  - Real Cost Recovery – use of SDC revenue to fund infrastructure needed to build-out urban growth boundary
  - Sustainable Development Patterns – Use of SDCs to promote desired development patterns
Metro Study Scope

- Identify model approaches to SDCs used by other jurisdictions that:
  - Acquire the real costs of infrastructure development
  - Promote sustainable development by varying rates or other methods
  - Secure future infrastructure needs identified in a capital improvement plan

- Identify approaches that applicable for area jurisdictions

- Identify steps to overcome barriers to implementation
“Each community has a unique set of circumstances regarding existing infrastructure systems…… It is not possible, therefore, to make general quantitative conclusions that would apply to all communities about the costs savings associated with different development patterns. However, experience and logic support some reasonable general conclusions about the possible effects of different growth patterns on infrastructure costs.”

Do Development Cost Charges Encourage Smart Growth and High Performance Building Design? An Evaluation of Development Cost Charge Practices in British Columbia (Coriolis Consulting Corp)
Coriolis Study Findings

- All infrastructure systems potentially impacted by
  - number of occupants, building size, in some cases, density of lot or area
- Transportation system demand also a function of development configuration
- Location can be a factor in determining cost of service due to:
  - Cost differentials (e.g., land prices or specific facilities)
  - Differences in level of service standards
  - Impact (e.g., proximity to service or differences in demographics)
Model Approaches - Transportation

- City of Tucson:
  - House size and type
  - Location (reduced fees for central city)
- City of Olympia: Location (central city)
- City of Atlanta: Proximity to rail transit
- City of Albuquerque
  - House size
  - Location (employment centers)
- Kelowna, BC: Density
- Prince George, BC: Density
Metro Study Recommendations

- Integrate development characteristics into SDC methodology and schedule:
  - System plans should clearly identify facility design standards and impact assumptions for different land use types/locations.
  - Beyond system plans, explore other local data sources to support differentials (census data, household travel surveys, etc).
  - Supplement local data with regional and national data sources.
Metro Study Recommendations

- Consider policy based adjustments
  - Building/site design features
  - Proximity to service
Follow-Up

• Metro is conducting a follow-up study
  – Provide more detail to local jurisdictions of how system plans can better support SDC methodology
  – How regional transportation model might be modified to incorporate study findings
  – How future household travel survey may be developed to address study data needs
• Jurisdictions considering applicability of findings/recommendations in SDC studies
Smart Growth and More

- Factors Affecting Smart Growth
  - The ‘D’s’
  - Effects on Travel
- Smart Growth Examples
  - California
  - Washington
  - Portland
7 “D” factors that influence trip generation:

- Density dwellings, jobs per acre
- Diversity mix of housing, jobs, retail
- Design connectivity, walkability
- Destinations regional accessibility
- Distance to Transit bus, rail proximity
- Development Scale: population, jobs
- Demographics household size, income
Density (jobs and dwellings per acre)

- Shortens trip lengths
- More walking/biking
- Supports quality transit
Diversity (mix of housing, jobs, retail)

- Links trips, shortens distances
- More walking/ biking
- Allows shared parking
Design (connectivity, walkability)

- Improves walking experience
- Shortens routes
- Improves safety
Destinations (accessibility to regional activities)

Development at infill or close-in locations reduces vehicle miles
Distance to Transit

- Transit shares higher within ¼ mile and ½ mile of station
Development Scale (acres, population, jobs)

Critical mass for basic services, schools
Sufficient variety of options, balance of opportunities
Demographics

- Household size, income and employment influence trip-making
## 4D Elasticity Ranges

<table>
<thead>
<tr>
<th>Source</th>
<th>Vehicle Trips Per Capita</th>
<th>VMT per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>4% to 12%</td>
<td>1% to 17%</td>
</tr>
<tr>
<td>Diversity</td>
<td>1% to 11%</td>
<td>1% to 13%</td>
</tr>
<tr>
<td>Design</td>
<td>2% to 5%</td>
<td>2% to 13%</td>
</tr>
<tr>
<td>Destinations</td>
<td>5% to 29%</td>
<td>20% to 51%</td>
</tr>
</tbody>
</table>

*Sources: National Syntheses, Twin Cities, Sacramento, Holtclaw*
• Smart Growth Development Types

TOD

MXD

IND

TND

Atlantic Station
Latest Findings on Smart Growth Trip Generation

- National studies of Mixed Use, TOD and Infill development
- Statistical analysis, empirical validation

<table>
<thead>
<tr>
<th>Trip Discount</th>
<th>MXD</th>
<th>TOD</th>
<th>Infill</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35%</td>
<td>44%</td>
<td>36%</td>
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</tbody>
</table>

Examples: San Diego, Seattle, Portland, Sacramento, Houston, Atlanta, Boston
Sources: EPA MXD, SANDAG SG TG, TCRP 128, Caltrans 1221
• Challenge:
• Conventional Technical Methods & Models

ITE allows trip rate adjustments:

... if there is evidence, for example through market analysis, that the site may be better or different than average

... to reflect the use of alternative modes
Shortcomings of Conventional Travel Models in Assessing Smart Growth

- **Primary use is to forecast long-distance auto travel on freeways and major roads**
- **Secondary use is to forecast system-level transit use**
- **Short-distance travel, local roads, non-motorized travel modes are not addressed in model validation**
Typical Model “Blind Spots”

- Abstract consideration of distances between land uses within a given TAZ or among neighboring TAZ’s
- Limited or no consideration intra-zonal or neighbor-zone transit connections
• Typical Model “Blind Spots”
  • Sidewalk completeness, route directness, block size generally not considered.
• Typical Model “Blind Spots”

• Little consideration is given to spatial relationship between land uses within a given TAZ (density)

• Interactions between different non-residential land uses (e.g. offices and restaurants) not well represented
California AB 3005 (Adopted Aug 08)

- Applies to housing within ½ mile of community retail, including food
- Applies to new fees only, not increases in fees (until 2011)
- Housing must provide only the minimum amount of parking
- Located within one-half mile of a transit station and have direct access to the transit station along a barrier-free walkable pathway
Washington State

- Growing interest in smart growth impact fees and concurrency
- Limiting state legislation = “streets and roads”
- Examples:
  - Activity center trip rate reductions: Bellevue, Olympia
  - Multi-modal concurrency: Redmond
City of Olympia

- Reduced Downtown Impact Fees due to:
  - Lower range of trip generation rates
  - Higher pass-by trip percentage
  - Shorter trip lengths
  - Supported by national research
## City of Olympia

<table>
<thead>
<tr>
<th>Land Use (ITE Category)</th>
<th>ITE Average Trip Rate (PM peak Hour)</th>
<th>50% of Standard Deviation (SD)</th>
<th>Modified Trip Rate (Average-50% SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk-in Bank (911)</td>
<td>33.15</td>
<td>14.67 **</td>
<td>18.48</td>
</tr>
<tr>
<td>Supermarket (850)</td>
<td>11.51</td>
<td>2.38</td>
<td>9.13</td>
</tr>
<tr>
<td>Fast Food (without Drive-Through Window) (883)</td>
<td>26.15</td>
<td>5.26</td>
<td>20.90</td>
</tr>
<tr>
<td>Convenience Market (Open 15-16 Hours) (852)</td>
<td>34.57</td>
<td>8.81</td>
<td>25.77</td>
</tr>
</tbody>
</table>

### Scenario Trips to/from Olympia CBD

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Trips to/from Olympia CBD</th>
<th>Average City Trips</th>
<th>Olympia CBD Trip Lengths compared with Average City Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trips</td>
<td>2.3 mi</td>
<td>3.7 mi</td>
<td>-39%</td>
</tr>
<tr>
<td>Home Based Work Trips</td>
<td>2.7 mi</td>
<td>3.0 mi</td>
<td>-12%</td>
</tr>
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</table>
### City of Olympia Impact Fee

<table>
<thead>
<tr>
<th>Land Uses</th>
<th>Unit of Measure</th>
<th>Other Areas</th>
<th>Downtown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi Family Residential - Townhouse, Duplex</td>
<td>Dwelling</td>
<td>$1,091</td>
<td>$504</td>
</tr>
<tr>
<td>Senior Housing/Accessory Dwelling</td>
<td>Dwelling</td>
<td>$413</td>
<td>$209</td>
</tr>
<tr>
<td>Asst. Living/Nursing Home, Group Home</td>
<td>bed</td>
<td>$330</td>
<td>$224</td>
</tr>
<tr>
<td>Daycare</td>
<td>Sq ft/GFA</td>
<td>$10.60</td>
<td>$2.88</td>
</tr>
<tr>
<td>Health Club</td>
<td>Sq ft/GFA</td>
<td>$5.05</td>
<td>$2.88</td>
</tr>
<tr>
<td>Bank</td>
<td>Sq ft/GFA</td>
<td>$18.40</td>
<td>$7.89</td>
</tr>
<tr>
<td>Hotel/Motel</td>
<td>Room</td>
<td>$1,266</td>
<td>$939</td>
</tr>
<tr>
<td>Movie Theater</td>
<td>seat</td>
<td>$73</td>
<td>$61</td>
</tr>
<tr>
<td>Marina</td>
<td>berth</td>
<td>$284</td>
<td>$174</td>
</tr>
<tr>
<td>Restaurant</td>
<td>Sq ft/GFA</td>
<td>$10.93</td>
<td>$2.88</td>
</tr>
<tr>
<td>Fast Food Restaurant</td>
<td>Sq ft/GFA</td>
<td>$18.58</td>
<td>$10.65</td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 49,999 sq ft</td>
<td>Sq ft/GFA</td>
<td>$3.48</td>
<td>$1.65</td>
</tr>
<tr>
<td>50,000 - 99,999 sq ft</td>
<td>Sq ft/GFA</td>
<td>$3.05</td>
<td>$1.65</td>
</tr>
<tr>
<td>100,000 - 199,999 sq ft</td>
<td>Sq ft/GFA</td>
<td>$2.98</td>
<td>$1.65</td>
</tr>
<tr>
<td>200,000 - 299,999 sq ft</td>
<td>Sq ft/GFA</td>
<td>$2.71</td>
<td>$1.65</td>
</tr>
<tr>
<td>300,000 - 399,999 sq ft</td>
<td>Sq ft/GFA</td>
<td>$3.22</td>
<td>$1.65</td>
</tr>
<tr>
<td>over 400,000 sq ft</td>
<td>Sq ft/GFA</td>
<td>$3.62</td>
<td>$1.65</td>
</tr>
<tr>
<td>Supermarket &gt; 5,000 sq ft</td>
<td>Sq ft/GFA</td>
<td>$8.83</td>
<td>$4.93</td>
</tr>
<tr>
<td>Convenience Market &lt; 5,000 sq ft</td>
<td>Sq ft/GFA</td>
<td>$16.44</td>
<td>$8.09</td>
</tr>
<tr>
<td>Video Rental</td>
<td>Sq ft/GFA</td>
<td>$5.58</td>
<td>$4.32</td>
</tr>
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</table>
Oregon

- State legislation allows multi-modal System Development Charges
- SDC Examples: Portland
- Metro: Promoting Vibrant Communities through SDC’s.
Key Features of the Portland Program

- Multiple Modes - Motorized, Transit, Non-motorized
- Project Selection Procedure
- Calculation of Modal TSDC Rates
Project Selection Procedure has two steps

First Cut Criteria - meet all of following:

- Adds capacity
- Part of Transportation System Plan
- Public street, walkway/bikeway
- 10-year focus
- Not a maintenance project
- Not equipment or rolling stock
Project Selection Procedure has 2 steps

Second Cut Criteria - meet one or more of the following:

- Support bicycle, pedestrian and/or transit modes
- Improve movement of freight and goods
- Reduce congestion, improve access and/or circulation
Project Selection Procedure - Other Criteria

- Community or business priority?
- Strong leverage potential?
Resulting Project List

- Started with 500+ Projects
- Final list after screening:
  - 46 multimodal projects
  - $415 million
  - 10-year program
Proposed TSDC Projects
June 8, 2007

Legend
- NS  New Street/Intersection
- MM  Multi-modal Improvements
- I   Intelligent Transportation System-ITS
- P   Pedestrian Improvements
- B   Bike Improvements
- T   Transit
- SC  Street Car
- L   Light Rail
- Transportation District Boundary

*TSP 20031 - South Light Rail Project is not shown on this map.*
Cost Allocations to Modes

- Direct and Common Costs
- Direct:
  - Specific to mode
- Common:
  - ‘Common’ to all modes
- Calculated for each project using a standard procedure
Deficiency Analysis

- Motorized - Volume to capacity ratio
- Transit - Maximum load factors
- Pedestrian - Percent arterials without sidewalks
- Bicycle - Bike lane-miles per 1000 households
Through Trip Analysis

- Motorized Model - ‘Select Links’ to calculate city trip portion

- Transit, Pedestrian and Bicycle - Model trip origins and destinations within areas of the city
Calculations

- Modal Cost = Project Cost * mode %
- Growth % = 100 – Deficiency %
- City Growth Portion = 100 - Through Trip %
- Cost per Person Trips for each mode
Land Use Trip Generation

- Start with ITE Vehicle Trip Rates
- Convert to Person Trips using average vehicle occupancy and mode shares
- Remove ‘pass-by trips’
- Separate trips into modes using mode shares
ITE Vehicle Trip Generation (by Development Unit)

- Convert Vehicle to Person Trips
  - Vehicle Trips X Average Vehicle Occupancy

- Calculate Person Trips by Mode
  - Motorized (82%)
  - Transit (10%)
  - Non-Motorized (8%)

- Remove “Pass - by” Trips
- Calculate “New” Trips for each Development Type
- Apply Trip Length Adjustment Factor
Portland TSDC Rate Schedule

- TSDC Rates for Each Mode
- Total TSDC Rate =
  - Motorized Rate +
  - Transit Rate +
  - Non-motorized Rate
What Have we Learned?

- Growing demand for Smart Growth applications to Impact Fees
- Limited tools currently available, but...
- New research is happening
What have we Learned?

- Multi-modal applications require defined performance measures
  - Roadway: Use Highway Capacity Manual LOS
  - Pedestrian and Bicycle Facilities: Locally adopted standards vary
  - Transit: Local agencies have limited influence
What Have we Learned?

- Limited pedestrian, bike and transit trip generation data related to land use
- 4+ D’s offer opportunities to inject smart growth factors
Summary

• Need to recognize that growth affects all other travel modes
• Portland’s program working well
  – Began 1997; updated 2007
• Washington State Should change the GMA to encourage multiple mode impact fee programs
• More research needed on multi-mode trip generation
Questions?

Deb Galardi
Don Samdahl