Introduction

Commercial facilities play an important role in residential location decision-making process. Many suburban new towns in China have little population inflow, and one critical reason is that they usually supply limited commercial facilities for their residents. On the other hand, shopping behavior of these new residents reshape the structure of shopping space in new towns and promoted the improvement of suburban shopping centers and facilities.

Research questions

1. What's the evolution of residents' shopping behavior and its influence on the structure of commercial space?
2. What's the residents' shopping location choice decision-making mechanism?
3. How urban planning sets up commercial facilities as a response?

Method

Household interview and questionnaire. Research data includes residents' shopping activities now and before migration, personal data.

• Case selection: Sanxiangjii Community; population increase is largely a result of metro line 9.
• Data: survey spots, June-August, 2013; 556 questionnaires in total, 487 valid

Results

1. The static characteristics of residents' use of shopping facilities

(1) Residents' location choice of shopping centers
The higher level of commodities, the higher grade of primate facilities the residents use.

Figure 1. Residents' location choice of shopping centers

<table>
<thead>
<tr>
<th>Level of Shopping</th>
<th>Categories</th>
<th>Primary Ind</th>
<th>Frequency (Times/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High-grade Ornaments and Cosmetics</td>
<td>0.30</td>
<td>Jujiehu BC</td>
</tr>
<tr>
<td></td>
<td>Ordinary Clothing</td>
<td>0.47</td>
<td>Songjiang Duhonghai BC</td>
</tr>
<tr>
<td>Low</td>
<td>Daily Necessities, Fresh Food, Catering</td>
<td>0.49</td>
<td>Neighborhood</td>
</tr>
<tr>
<td></td>
<td>Fresh Food</td>
<td>1.39</td>
<td>Neighborhood</td>
</tr>
<tr>
<td></td>
<td>Catering</td>
<td>1.19</td>
<td>Neighborhood</td>
</tr>
</tbody>
</table>

(2) Spatial structure of shopping space
• high, mid, low-level shopping heavily dependent on central city shopping facilities, “Consumption Spillover” respectively 44.2% and 20.4%.

3. Behavioral differences among different consumption groups
• Residents moving from central city – more dependent on central city shopping facilities than those from Songjiang District; big size families – more dependent on central city shopping facilities; high income families – more dependent on central city shopping facilities.

2. The dynamic analysis of residents’ use of shopping facilities

• high-level become more dependent on central city shopping centers; Mid-level shopping become more dependent on Songjiang new town shopping centers; low-level shopping location choices become more scatter.
• Travel time: the average travel time of high, mid-level shopping are increased, those of low-level shopping is decreased.
• The influence of metro transportation: the proportion of metro users for high, mid-level shopping increased slightly, whereas metro users’ average travel time increased dramatically.

Conclusions

• Become more dependent on the central city shopping centers; more commercial spillover to central city than before.
• Residents’ average travel time is increased, annual average shopping frequency is decreased.
• Location choice of mid and low-level shopping centers are more scatter than before.
• Absence of high-grade shopping centers, as well as decentralization of mid and low-level shopping centers in Songjiang new town should be improved in future planning policy making.
• Further steps: discrete choice modeling & scenarios analysis.