The Application Of Access Management
In Commercial Area of Beijing

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Introduction
Field Observation & Analysis
Case study
Conclusions and future study
Introduction

Distribution of Commercial Area in Beijing (up to 2015)

Resulting in congestion/delay and safety problems due to undesirable layout and design of access.
Motivation behind …

- Figure out the safety and operation problems of the driveways design at commercial areas
- Propose possible improvement measures based on access management techniques
- Work out specifications/standard to dictate design of accesses at commercial area

It is highly hoped that the planning agency should pay attention to the design and management of access at commercial places from planning perspective.
Field Observation: location

Auchan Shopping Center

Wangjiao Shopping Plaza

Yansha Outlet
## Field Observation

### General information of the selected commercial areas

<table>
<thead>
<tr>
<th>Commercial Number</th>
<th>Commercial Name</th>
<th>Location</th>
<th>Covering Area (Hectare)</th>
<th>Built-up Area (10000m)</th>
<th>Commercial Scale</th>
<th>Parking Mode</th>
<th>The number of access</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auchan Shopping Center</td>
<td>Outside 5th ring</td>
<td>4.23</td>
<td>12.51</td>
<td>big</td>
<td>Underground/ground</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Wangjiao Shopping Plaza</td>
<td>4th ring ~5th ring road</td>
<td>0.77</td>
<td>1.35</td>
<td>middle</td>
<td>Ground</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Yansha Outlet</td>
<td>inside 4th ring</td>
<td>7.22</td>
<td>9.67</td>
<td>big</td>
<td>Ground</td>
<td>5</td>
</tr>
</tbody>
</table>
Auchan Shopping Center

1. Combined with groceries, clothes, furniture and home depot
2. Ground as well as underground parking lots are provided
3. Very few shoppers use access I & III and majority of shoppers use access II that is two-way driveway
4. Heavy traffic uses ramp to enter 5th ring road resulting in conflicts at point of access II

Video Clip One
Case One

- summation of the problems

  No control is applied

  No throat length at access

  Heavy ramp volume going to 5th ring road
Case Study

Auchan Shopping Center

before

after
### Case Two

**Wangjiao Shopping Plaza**

1. Located at the corner of signalized intersection
2. Heavy traffic volume and pedestrian appear during weekends
3. Parking space is not enough and illegal parking can be seen within intersection

**Video Clip Two**
Case Two

summation of the problems

The access of parking lot is located at the corner of the intersection

man handle parking charge

little space to maneuver vehicle in parking lot (no passageway)

occupation of intersection space

vehicle-to-pedestrian conflict
Case Study

Improvement measure

before

after
Case Three

Yansha Outlet

1. Large scale shopping mall attracting huge amount of shoppers during weekends
2. Ground parking lot with no charge
3. There are five accesses but access I is the focus of study
4. Access I opens on a narrow roadway with buses and a lot of pedestrians (students)

Video Clip Three
Case Three

summation of the problems

No throat length

Illegal parking

Road width is too narrow

Blocking/delays
Case Study

Improvement measure

Note:
The signal is used at weekend only.
Sum-up of the improvements

- increase throat length
- left-turn vehicle from access is prohibited
- install signal and use it at weekends
- build left turn pocket lane
- ban illegal parking
Conclusion and further study

- A comprehensive survey of access in commercial areas is conducted;

- Access driveways and safety problems are observed and discussed;

- Necessary measures have been proposed.

- Conflict study has to be conducted in the future and simulation technique needs to be applied to prove the effectiveness of the improvement measures.
Thanks!

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