Analysis of illegal parking behavior in Greece

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Presentation: Christina Spiliopoulou

Second Joint EPA-Polis Parking Workshop
20 September 2012, Helsinki
Analysis of parking behavior based on parking surveys conducted at 7 Greek cities

Evolution of the controlled parking system established in Athens municipality on 2006
1st PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

Seven Greek cities

3 urban cities within the Athens conurbation

4 smaller provincial cities
# 1ST PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

<table>
<thead>
<tr>
<th>CITY</th>
<th>PRIMARY LAND USES</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marousi</td>
<td>Commercial /services, residential</td>
<td>Two examined areas: One that includes an urban train station and one that is mostly residential / commercial</td>
</tr>
<tr>
<td>Nea Ionia</td>
<td>Commercial /services</td>
<td>The examined area includes an urban train station</td>
</tr>
<tr>
<td>Tavros</td>
<td>Residential</td>
<td>Two areas are examined: One that includes an urban train station and one that is mainly residential.</td>
</tr>
<tr>
<td>Ierapetra</td>
<td>Commercial /services, residential</td>
<td>Touristic region. Data for summer and winter period.</td>
</tr>
<tr>
<td>Kos</td>
<td>Commercial /services, residential</td>
<td>Touristic region.</td>
</tr>
<tr>
<td>Rhodes</td>
<td>Commercial/services</td>
<td>Touristic region.</td>
</tr>
<tr>
<td>Nafplion</td>
<td>Residential</td>
<td>Data for three days: Friday, Saturday and Sunday.</td>
</tr>
</tbody>
</table>
First Part: Analysis of Parking Behavior at National Level - Comparison of 7 Greek Cities

Parking data from traffic studies performed during the last 8 years

Parking survey conducted:
- Typical day
- Typical route
- 06:00 - 21:00

Data analyzed and compared:
- Parking accumulation diagrams
  - Hourly demand for parking supply
  - Fluctuations

Separate data for legal and illegal parking

Direct comparison of fluctuation and behavior
1ST PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

PARKING ACCUMULATION DIAGRAMS

Marousi Residential / Commercial area

Marousi – Train Station

Legal parking
Illegal parking
1ST PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

Tavros – Residential

Tavros – Train Station

Many social housing blocks and warehouses in the area

Many apartment buildings in the area

Legal parking

Illegal parking

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NEA IONIA – TRAIN STATION

<table>
<thead>
<tr>
<th>Time</th>
<th>Legal Parking (%)</th>
<th>Illegal Parking (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>20:00</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

COMMERCIAL CHARACTER:
Shops are closed 15:00-17:00

URBAN AREAS

Parking demand raises from:
- People who will take the train and go to work
- People who want to shop

Parking demand influenced by income
1ST PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

**Ierapetra - Summer**

Higher demand due to the touristic character of the area.

**Ierapetra - Winter**

Decrease revealing:
- Commercial character
- The fact that people tend to return at home for their lunch break

Legal parking

Illegal parking

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Kos - Summer

Max = 68%

Decrease revealing:
- Commercial character
- The fact that people tend to return at home for their lunch break

Rhodes - Summer

Legal parking  
Illegal parking
1ST PART: ANALYSIS OF PARKING BEHAVIOR AT NATIONAL LEVEL - COMPARISON OF 7 GREEK CITIES

URBAN AREAS

• Illegal parking occurs rationally, after the legal parking spaces begin to saturate

• Diagrams reveal the main land use of the studied areas

• Diagrams reveal the car use at the studied areas, probably related to the level of income

RURAL AREAS

• Illegal parking serves people’s convenience to park as near to the destination as possible

• Illegal parking linked to low enforcement probably deriving from the fact that policemen may know the violators personally

• Residents tend to return home for the lunch break, something that is reflected in a decrease of parking accumulation
2nd PART: EVOLUTION OF THE CONTROLLED PARKING SYSTEM IN ATHENS

Two zones examined

Kolonaki
- Controlled parking since 2006
- Parking data from surveys on 2008 and 2010

Goudi
- Typical day
- Typical route
- 06:00 - 22:00
- Controlled parking since 2010
- Parking data from surveys on 2008 and 2010
- Parking turnover index
- Parking balance
- Parking accumulation diagrams
- Compliance / Enforcement
### Parking turnover index

Measured in vehicles/parking space/study period.
Reveals how many times a parking space is used throughout the study period.

#### KOLONAKI

<table>
<thead>
<tr>
<th></th>
<th>Residents Zone</th>
<th>Visitors Zone</th>
<th>Illegal parking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2008</strong></td>
<td>2.2</td>
<td>5.8</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>2010</strong></td>
<td>1.8</td>
<td>5.1</td>
<td>3.2</td>
</tr>
</tbody>
</table>

#### GOUDI

<table>
<thead>
<tr>
<th></th>
<th>Legal parking</th>
<th>Illegal parking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2008</strong></td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>2010</strong></td>
<td>Residents Zone</td>
<td>Visitors Zone</td>
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<tr>
<td>2.2</td>
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<td>3.8</td>
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**KOLONAKI**
- Residents zone: low parking turnover, thus high parking durations
- Visitors zone: satisfactorily high despite the drop on 2010

**GOUDI**
- Rise of the index at the visitors zone and decrease at the residents zone revealing the expected influence of the controlled parking system
2nd PART: EVOLUTION OF THE CONTROLLED PARKING SYSTEM IN ATHENS

Parking Balance

Defined as the parking supply minus the parking demand, hourly. Reveals the parking excess or deficit in an area.

Kolonaki

Goudi

Parking Balance (2008)

Parking Balance (2010)
2nd PART: EVOLUTION OF THE CONTROLLED PARKING SYSTEM IN ATHENS

Accumulation - Kolonaki

- Residents zone
- Visitors zone
- Illegal parking

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2nd PART: EVOLUTION OF THE CONTROLLED PARKING SYSTEM IN ATHENS

Accumulation - Goudi

2008

2010

0%
20%
40%
60%
80%
100%

0
0.2
0.4
0.6
0.8
1

2008: Legal parking
Residents zone
Visitors zone
Illegal parking

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Enforcement / Compliance (2010)

Kolonaki

Goudi

Legal Parking
Visitors
Residents

Illegal Parking
Visitors
Residents

Unoccupied spaces
Complied
Non-complied
without parking fine
Non-complied
with parking fine

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Concluding . . .

- At rural areas illegal parking is usual in order to park near to the destination and enforcement is minimum whereas at urban areas illegal parking occurs when the legal places begin to saturate.

- At areas with lower income, parking behavior reveals the use of public transport.

- The controlled parking system in Athens functions satisfyingly in terms of parking turnover and parking balance.

- The accumulation diagrams reveal a rational illegal parking behavior.

- Need for better enforcement, especially at the illegally parked vehicles.
Thank you very much!

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