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# MOBILITY PATTERNS OF MOTORCYCLE AND MOPED RIDERS IN GREECE



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- ❖ Objective and methodology
- ❖ Two-wheeler usage in Greece
- ❖ Two-wheeler mobility in Greece
- ❖ Discussion



### ❖ Objective

Investigate the driving habits of two-wheeler riders

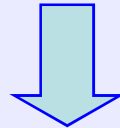
### ❖ Why??

- Distinct characteristics
- Popular in several countries
- Insufficient research on that topic
- Use for the design of transport policy and road safety strategies



### ❖ Methodology

- Variable used: mileage driven (expressed in average annual km's)
- Compared to passenger car driver
- Use of different rider/driver groups and different travel characteristics
- Data extracted from a nationwide CATI survey

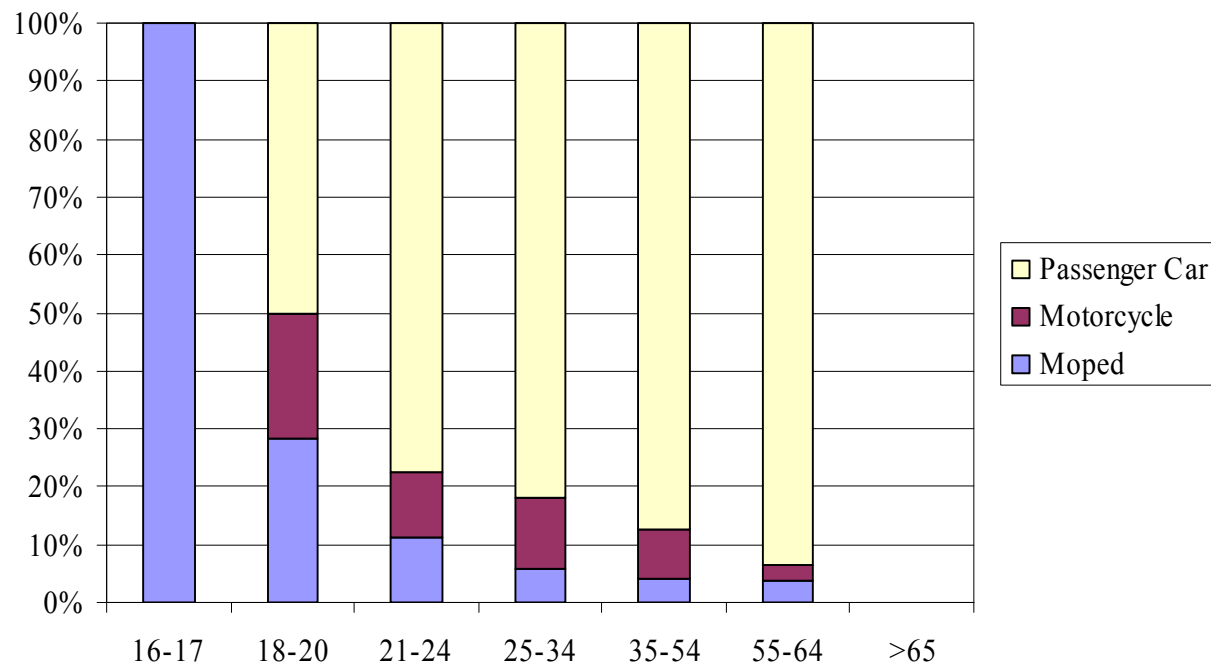


- SRS technique - nationwide coverage
- Active drivers (over 16ys old)
- Three part questionnaire  
(driver, vehicle, distance travelled)

## Two-wheeler usage in Greece (1/2)



### ❖ Usage in relation to driver age

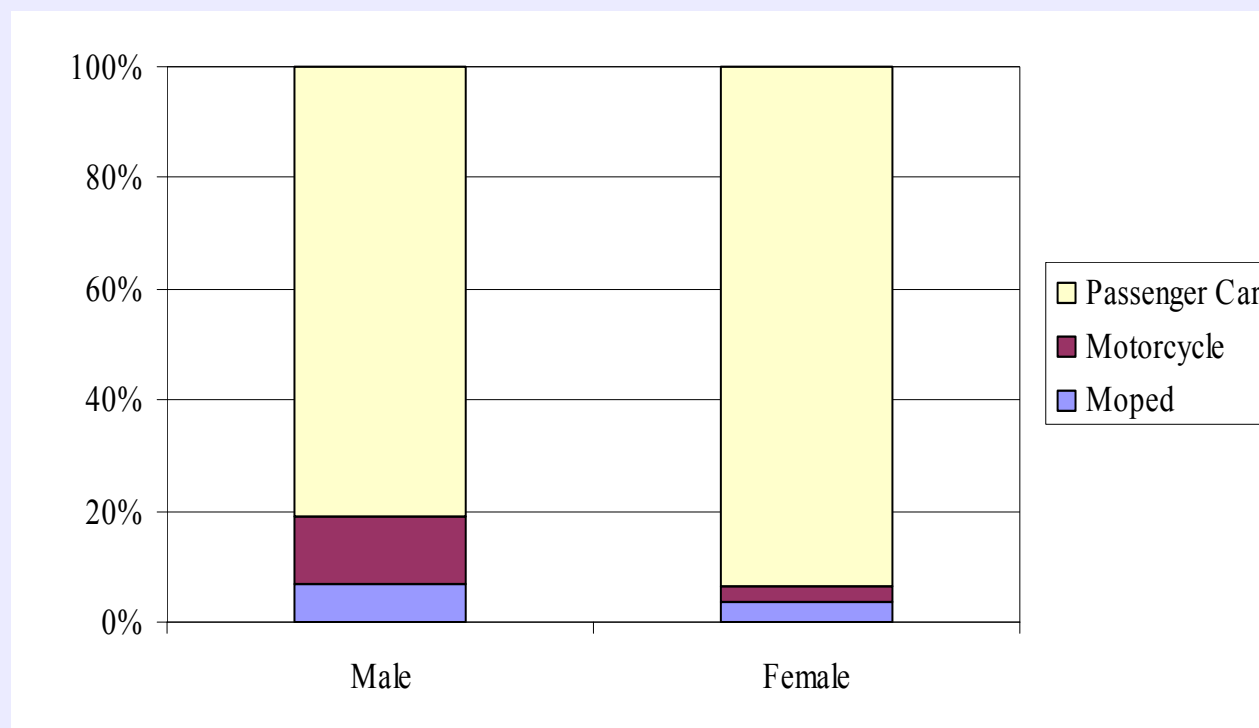


- Age of obtaining licence
- 50% of drivers 18-20 years old use two-wheelers
- Use of two-wheelers decreases with age
- Mopeds favoured by 16-24, motorcycles by 25-54

## Two-wheeler usage in Greece (2/2)



### ❖ Usage in relation to driver gender

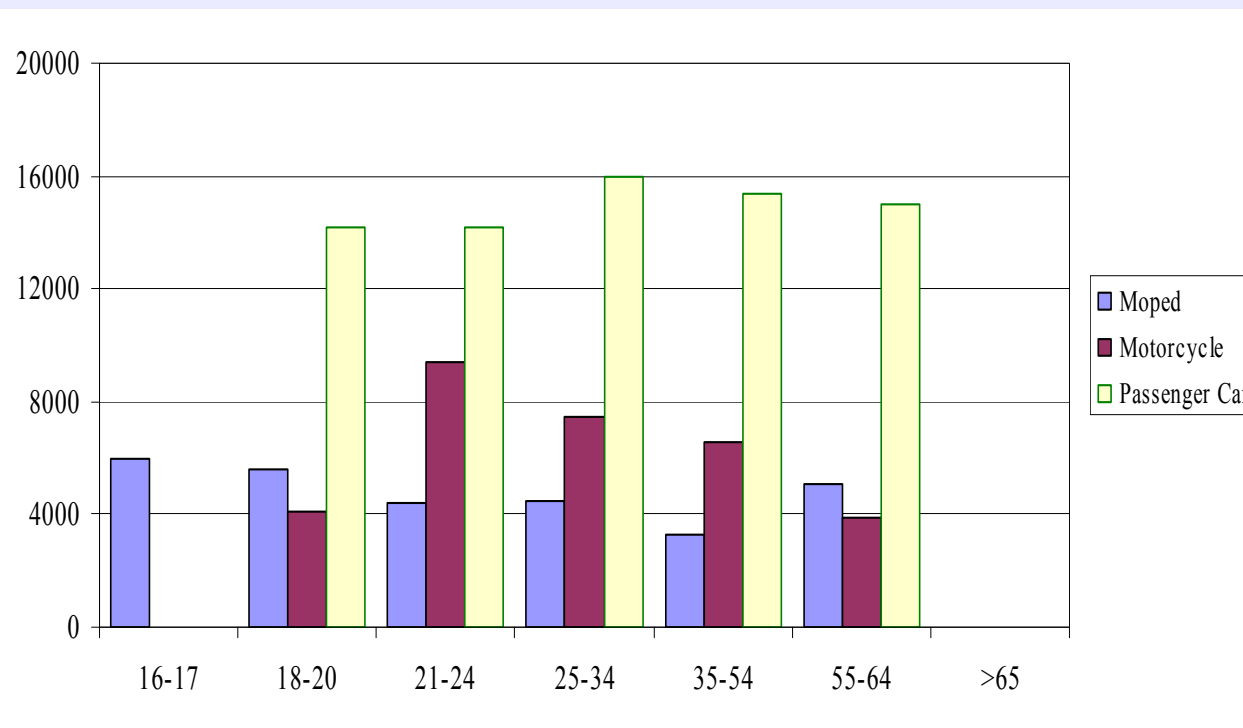


- More male drivers than females
- Proportion of female riders is significantly lower also in relation to female drivers (3.4, 7.5, 1.6)
- Males prefer motorcycles to mopeds (1.8), females show a slight preference to mopeds (1.2)

## Two-wheeler mobility in Greece (1/9)



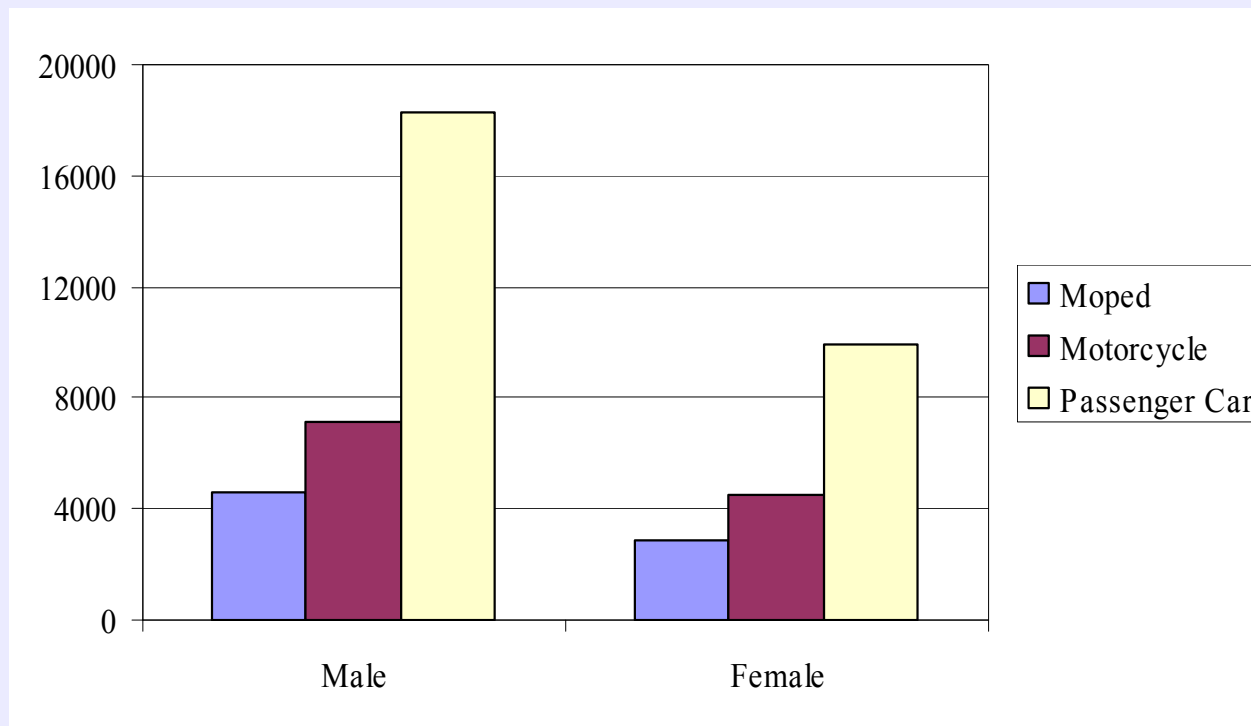
### ❖ Mobility in relation to driver age



- Pattern for motorcyclists and p.car drivers similar: first mobility ↑ and then ↓ with driver age
- For moped riders, mobility decreases with driver age; greater mobility for older moped riders probably results from usage in non-urban areas



### ❖ Mobility in relation to driver gender

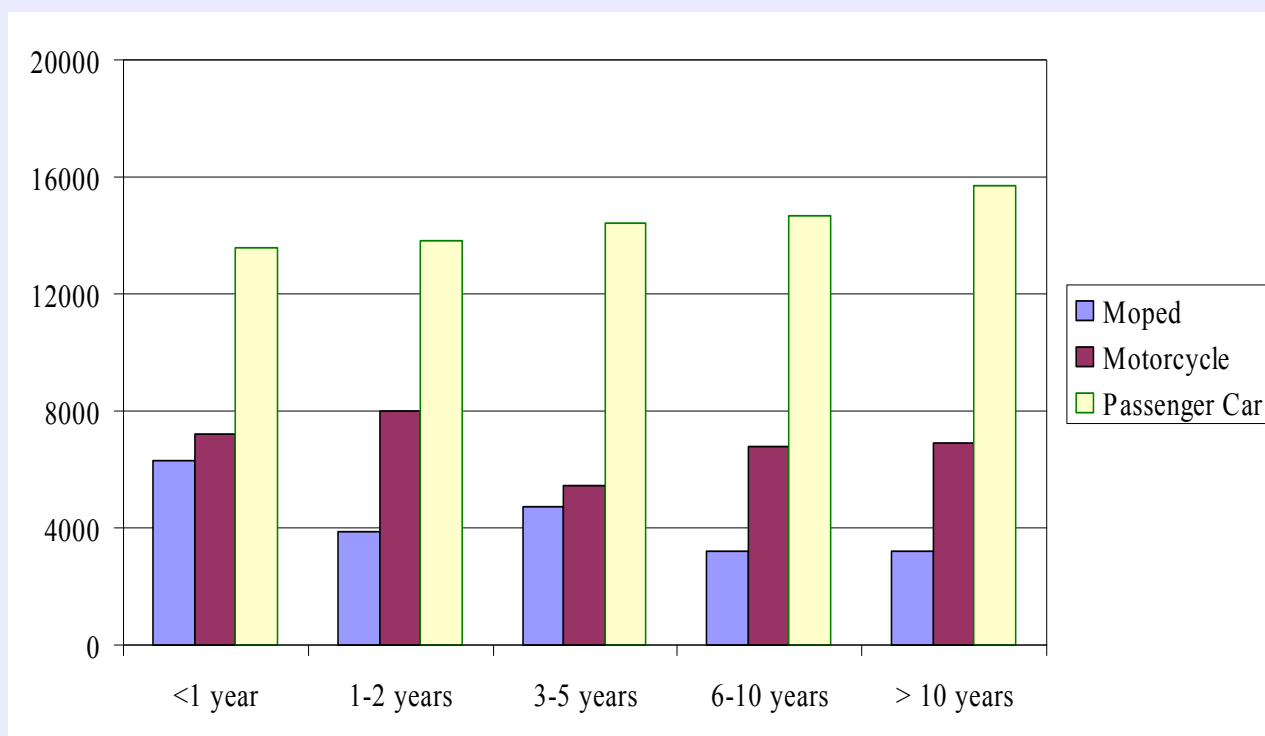


- Mobility of males higher than of females (ranges between 1.6-1.8)
- Slightly higher reduction of female mobility for passenger car drivers than two-wheeler riders





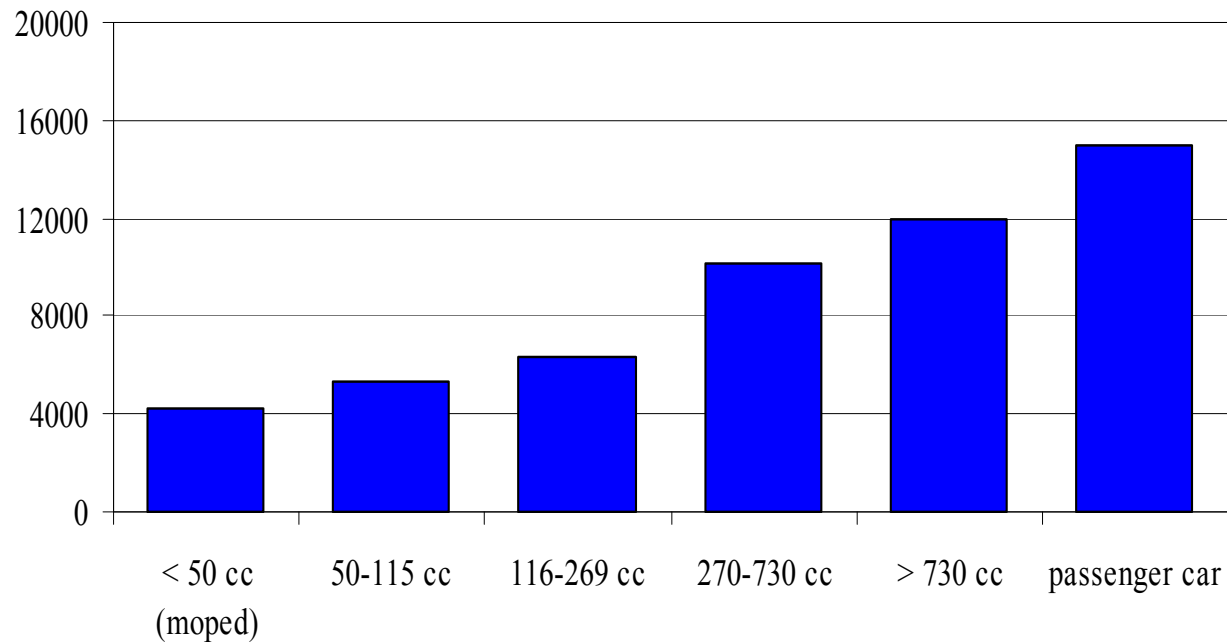
### ❖ Mobility in relation to driver experience



- Highest mobility is observed for:
  - (a) Mopeds → <1yr
  - (b) Motorcycles → 1-2yrs
  - (c) P.Car → >10yrs
- Mobility increases with driving experience only for passenger car drivers - fluctuates for two-wheelers; possible shift to passenger cars



### ❖ Mobility in relation to vehicle engine size

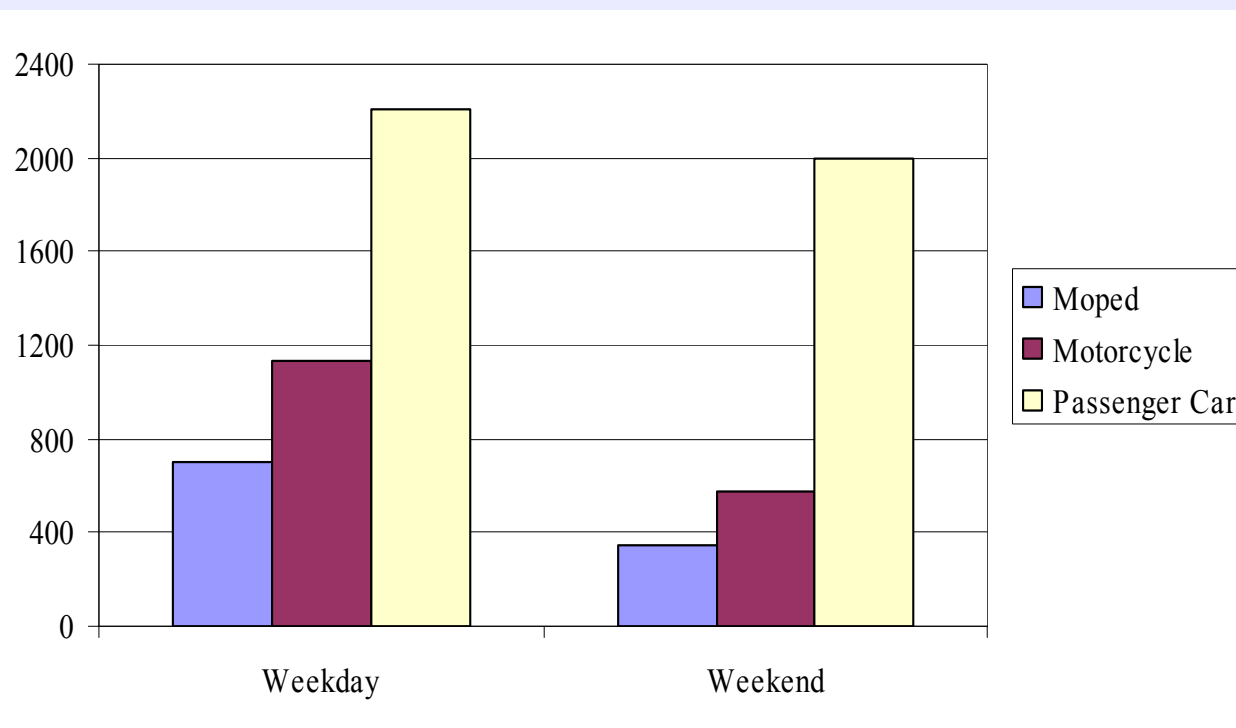


- Mobility increases with vehicle size
- Dual relationship

## Two-wheeler mobility in Greece (5/9)



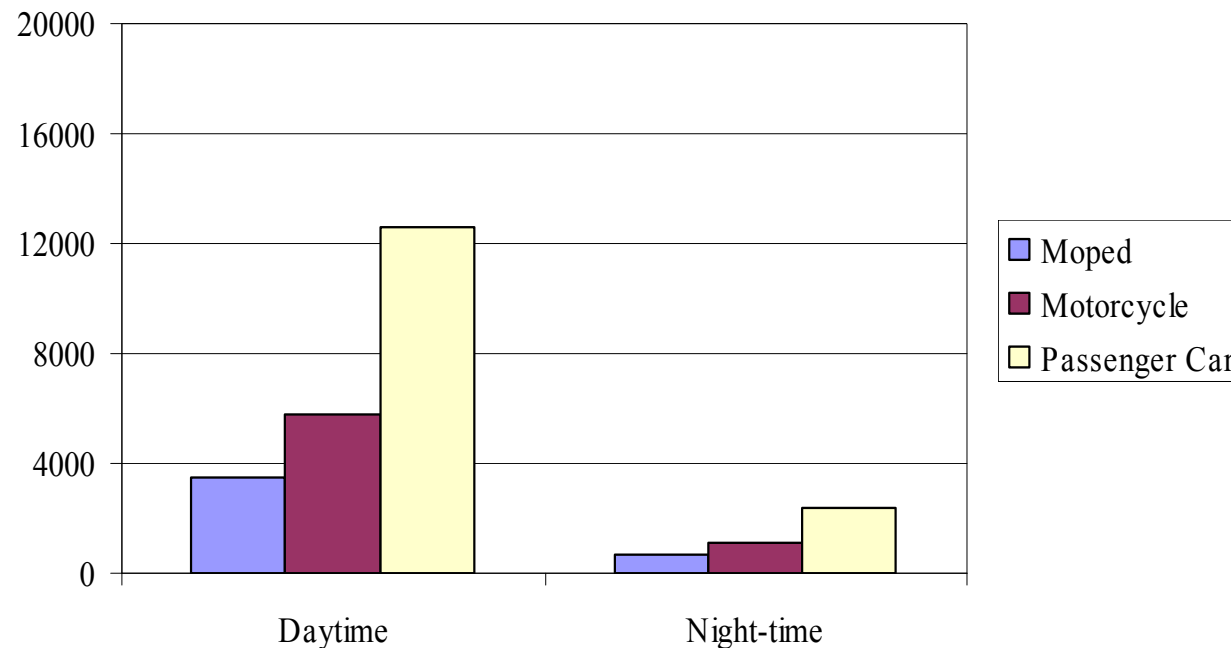
### ❖ Mobility in relation to day of week



- Reduction for all modes during the weekend
- Two-wheeler riders drive  $\approx$  twice more on weekdays than weekends, passenger car mileage reduction is substantially less
- Two-wheelers could be defined as a 'work-oriented' transport mode - shift to passenger cars during weekends



### ❖ Mobility in relation to time of day

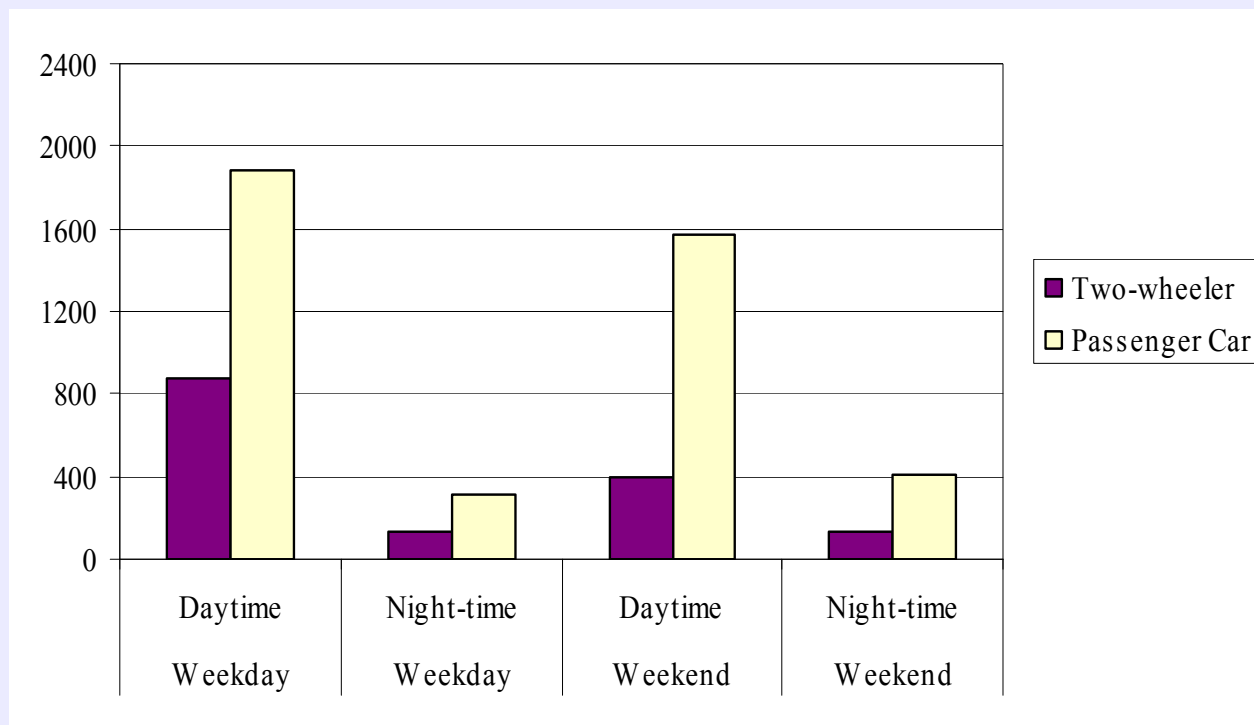


- Reduction for all modes at night
- No particular differences between two-wheelers and passenger car
- No evidence that two-wheelers are a 'work-oriented' transport mode

## Two-wheeler mobility in Greece (7/9)



### ❖ Mobility in relation to day of week and time of day

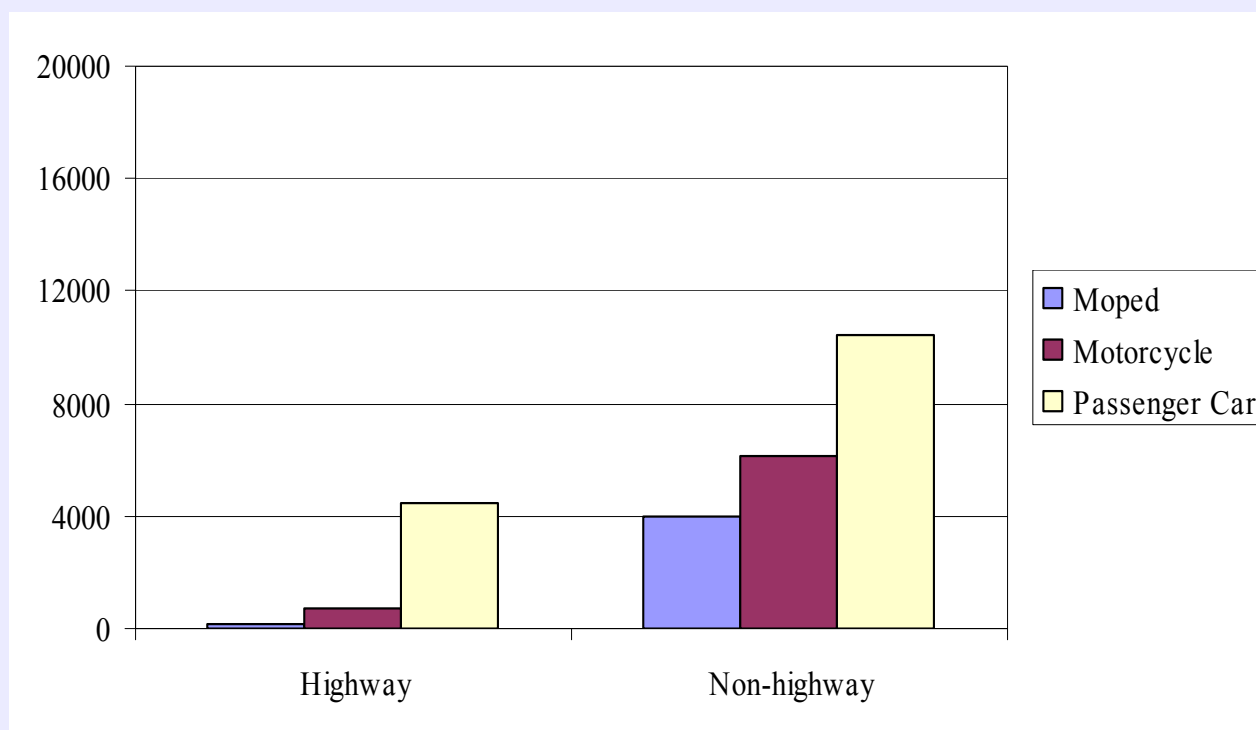


- Highest mobility on weekdays at daytime
- Greater reduction in daytime mobility at the weekend for two-wheeler
- Night-time mobility for two-wheelers does not change in relation to day of week; however increases for p.car at weekend
- Two-wheelers can be defined as 'work-oriented' mode

## Two-wheeler mobility in Greece (8/9)



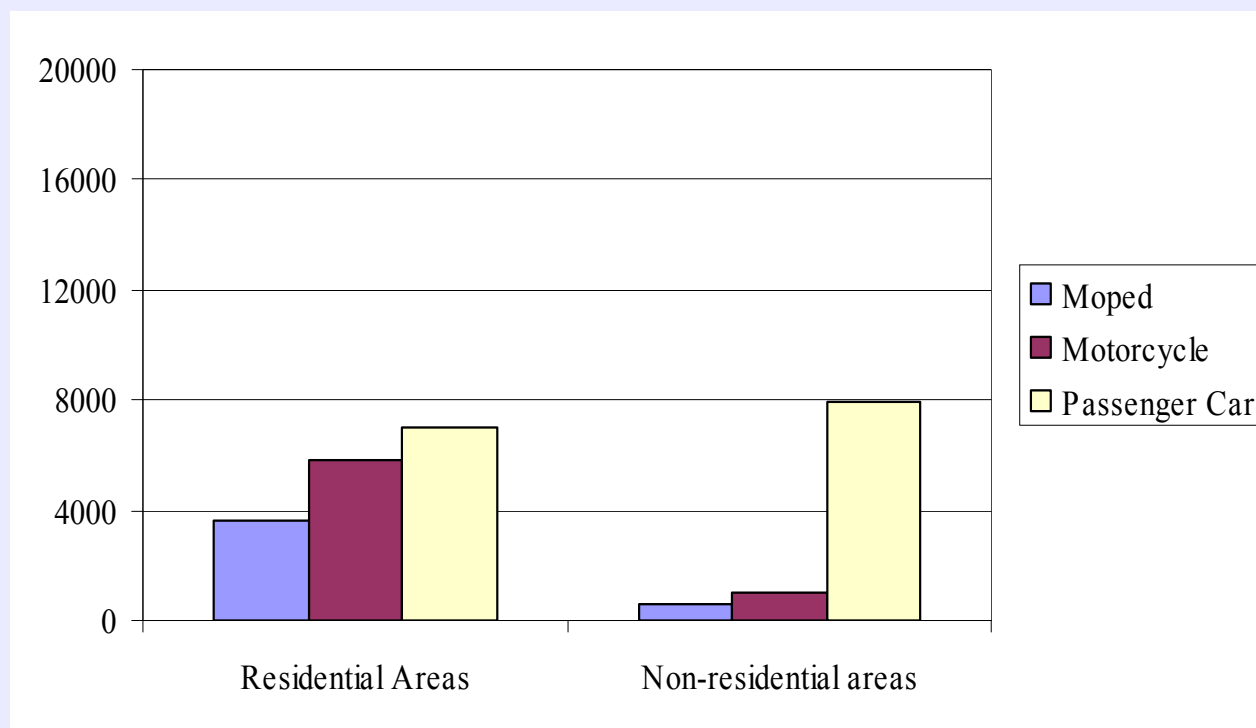
### ❖ Mobility in relation to type of road



- Mobility on highways increases with 'vehicle type' (4.5%, 10.2% vs. 29.9%)
- Factors influencing vehicle mobility on highways may include road safety, vehicle speed, comfort, loading capacity
- Further analysis showed that 'stronger' motorcycles are preferred for driving on highways



### ❖ Mobility in relation to type of area



- Mobility of substantially less outside residential areas (13%, 15% vs. 53%)
- Factors influencing two-wheeler mobility may include road safety, trip distance
- Passenger car favoured over two-wheeler for long distances



### ❖ Conclusions

- ✓ Different mobility patterns are observed between the different vehicle types and driver age groups. Mobility ↓ with age for moped riders. First ↑ and then ↓ with age for motorcyclists and passenger car drivers.
- ✓ No differences between two-wheelers and passenger cars in relation to driver gender. Mobility of male drivers is greater to female drivers regardless of vehicle type.
- ✓ No clear pattern was identified for mobility of two-wheelers in relation to driving experience. However, mobility increases with driving experience for passenger car drivers.
- ✓ Mobility increases with vehicle size.





### ❖ Conclusions

- ✓ Mobility decreases in the weekend regardless of the vehicle type. This decrease however is substantially greater for two-wheelers.
- ✓ Mobility decreases at night regardless of the vehicle type.
- ✓ However increases at weekend nights in relation to weekdays for passenger car - not for two-wheelers.
- ✓ Reduced mobility of two-wheelers on highways. Mobility increases with vehicle type and with vehicle size (for motorcycles).
- ✓ Mobility of two-wheeler riders is substantially less than passenger car drivers outside residential areas.



### ❖ Conclusions

- ✓ Two-wheelers mainly used by/for:
  - ✓ Young/Novice drivers (primary cause age)
  - ✓ Work-oriented trips (daytime/weekdays)
  - ✓ Shorter distances and Safer 'perceived' trips (inside res.areas/not on highways - relation with engine size)
- ✓ Shift to passenger car with age, for leisure and for long-distance trips

### ❖ Future work

- ❖ Investigate correlations between two-wheeler mobility and driver, vehicle and trip characteristics
- ❖ Design a model for two-wheeler mobility

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