

Traffic pattern of a mixed-use forest road in Hungary

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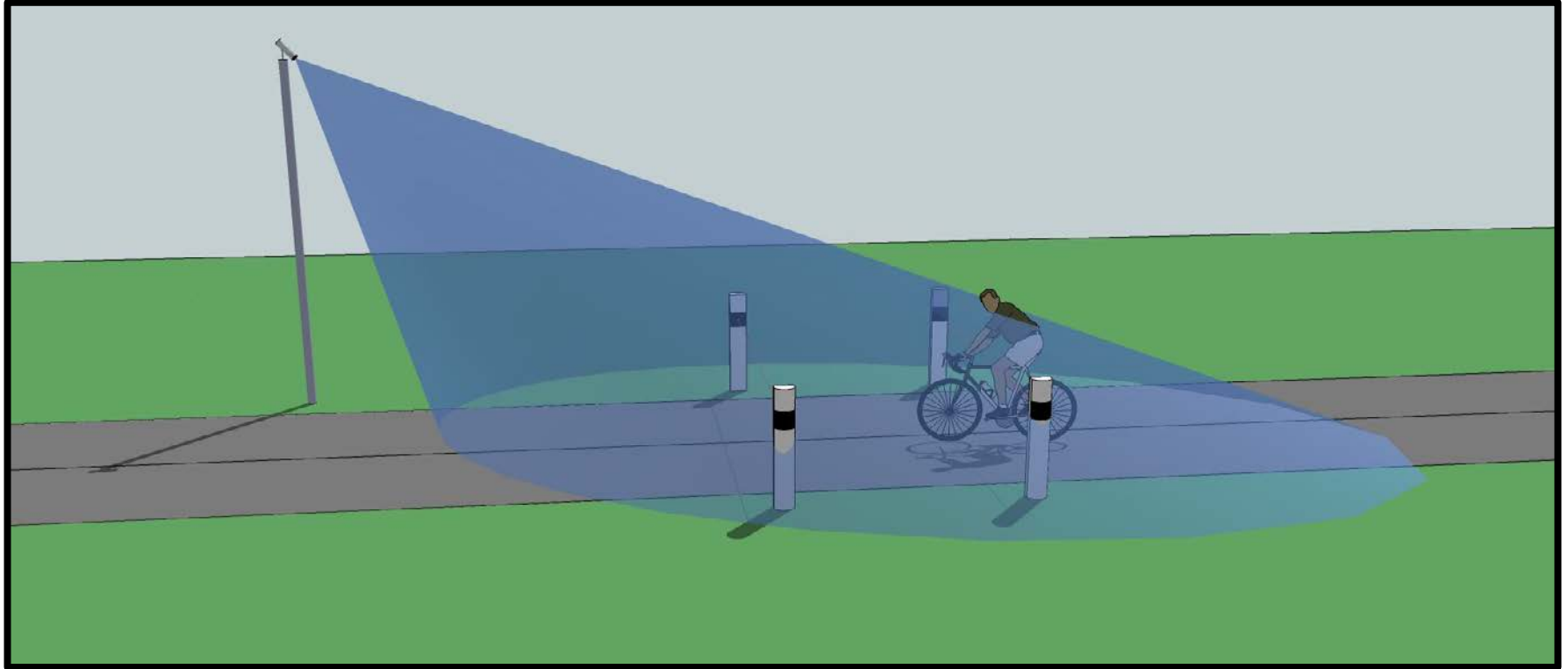
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Background

- Mixed use of forest roads
- No data on public use
- Pilot project to take digital photos of road users
- Aim to determine traffic composition and visitor numbers
- 3 years of image based traffic data

The counter system



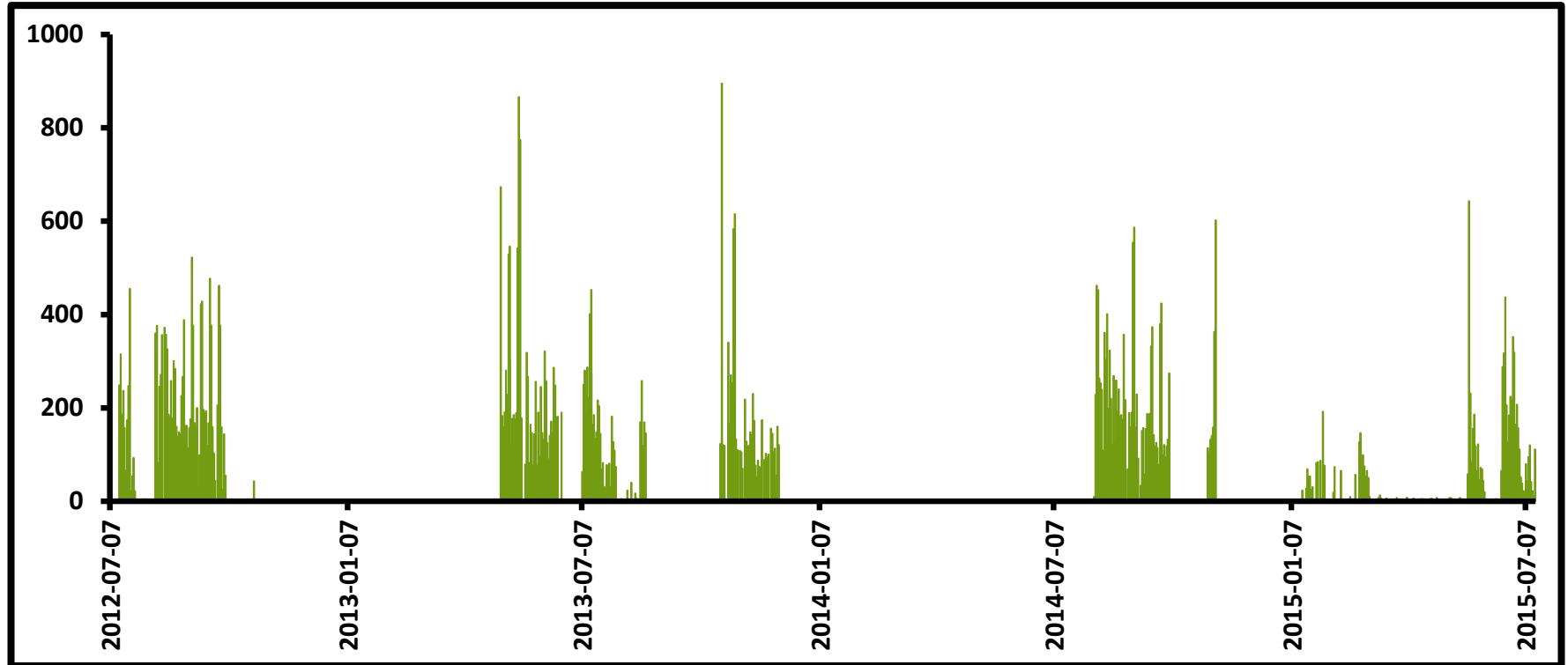
The counter system



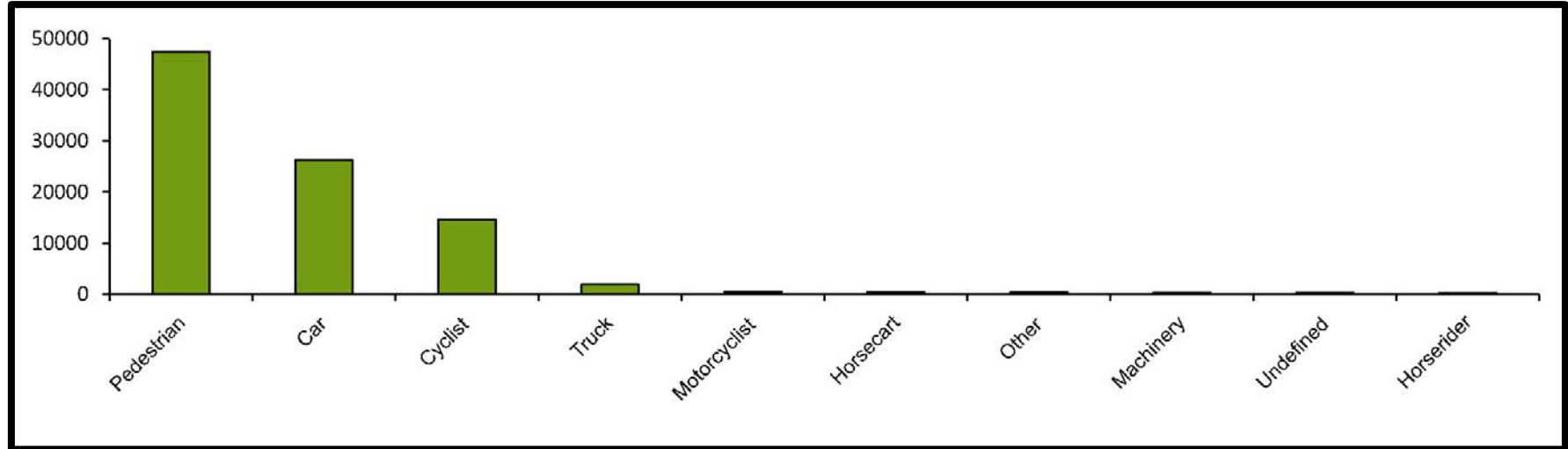
Image analysis

- 50.000 photos analysed by interpreters
- Self developed software
- Pedestrians, cyclists, cars, trucks, motorcyclists, horsecarts, horseriders and forestry machinery were distinguished
- Activities like recreation, forest operations, were assigned to road users

Available data

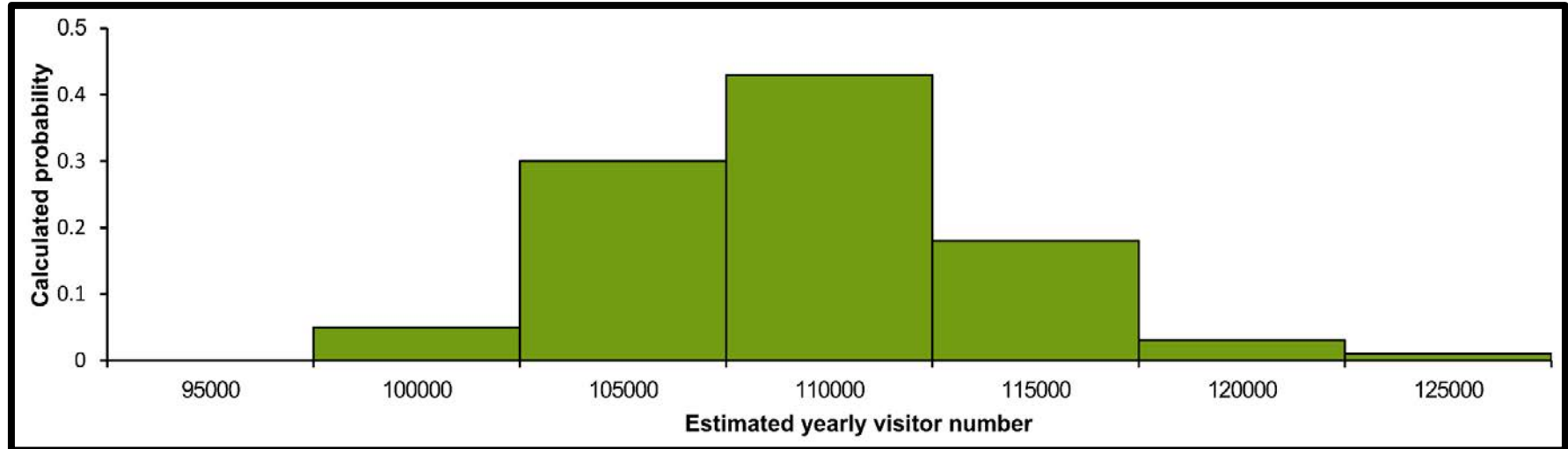


Road user types



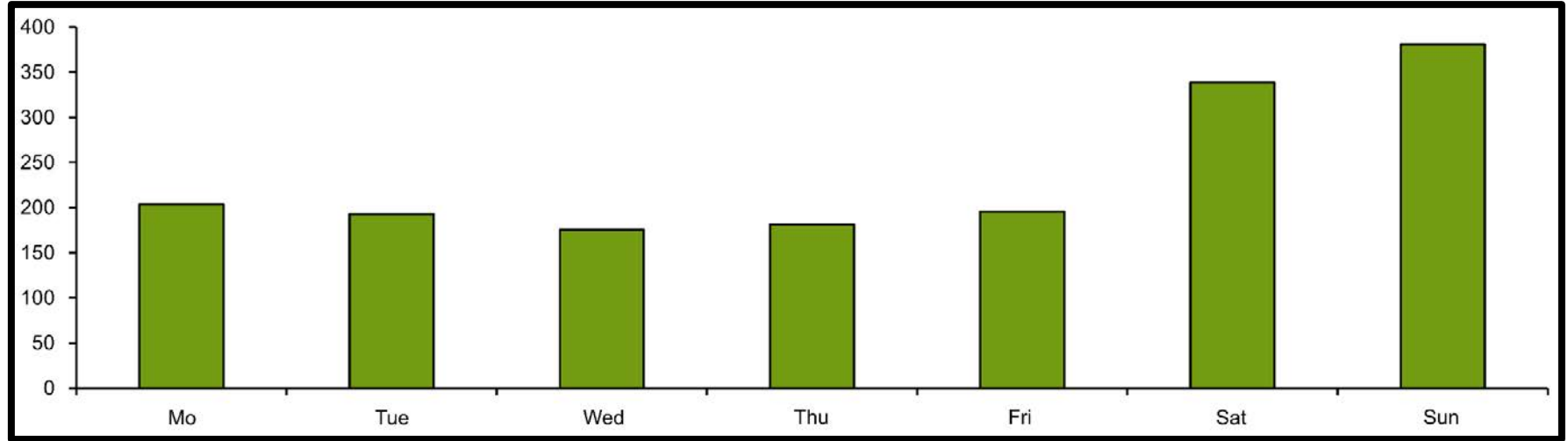
- Pedestrians, cars and cyclists dominate
- Trucks are under-represented

Predicted visitor numbers



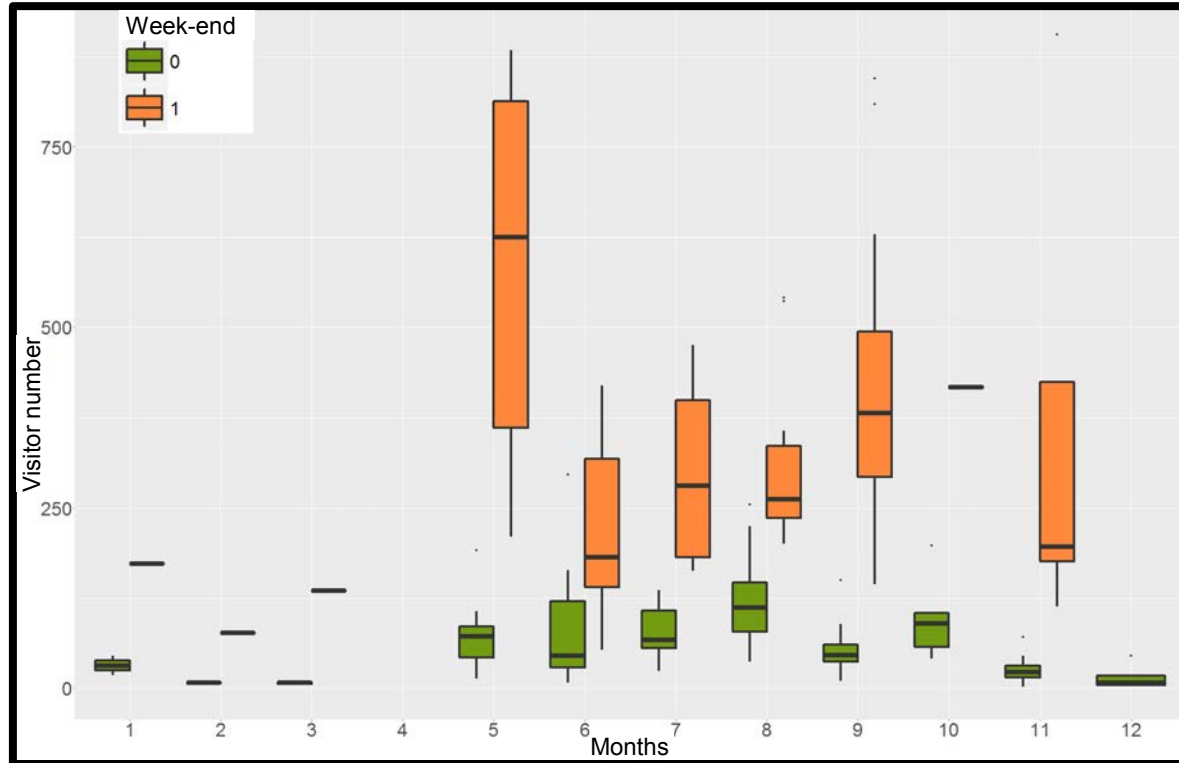
- Estimation from 3 years density functions
- Around 55.000 visitors yearly

Average daily visitor numbers



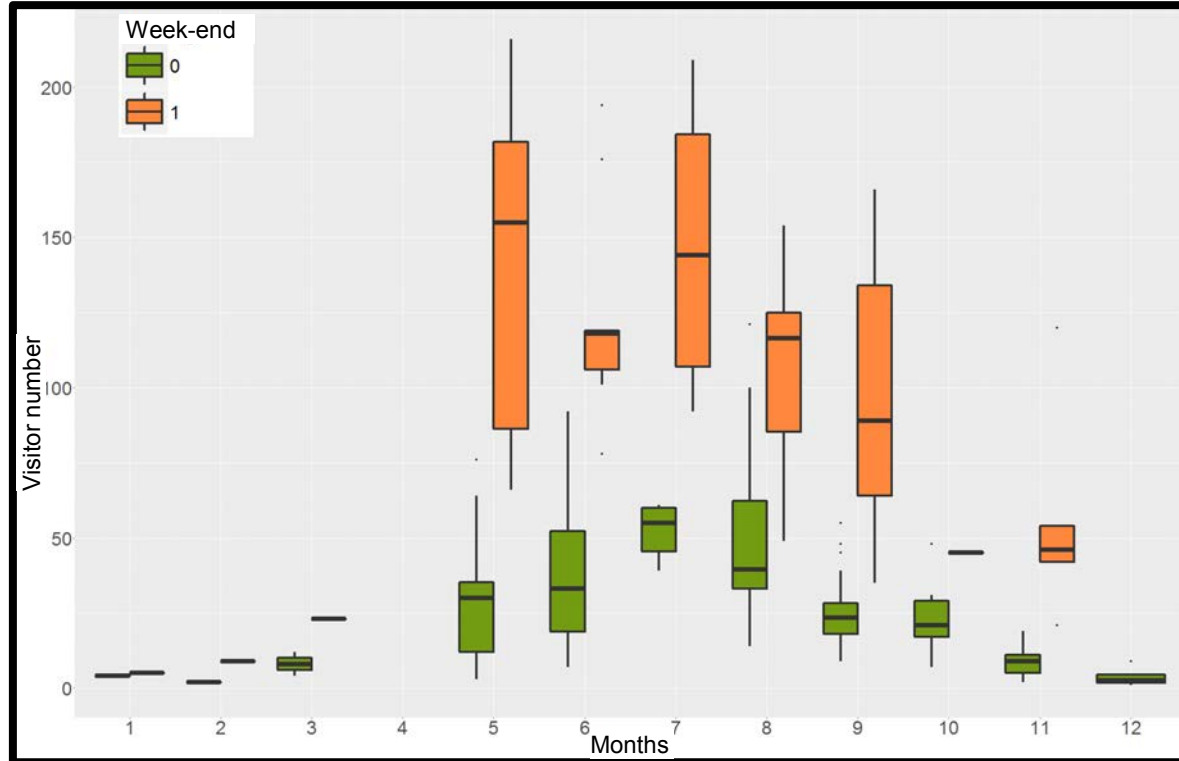
- Significant difference between week-end and workdays

Number of pedestrians by months



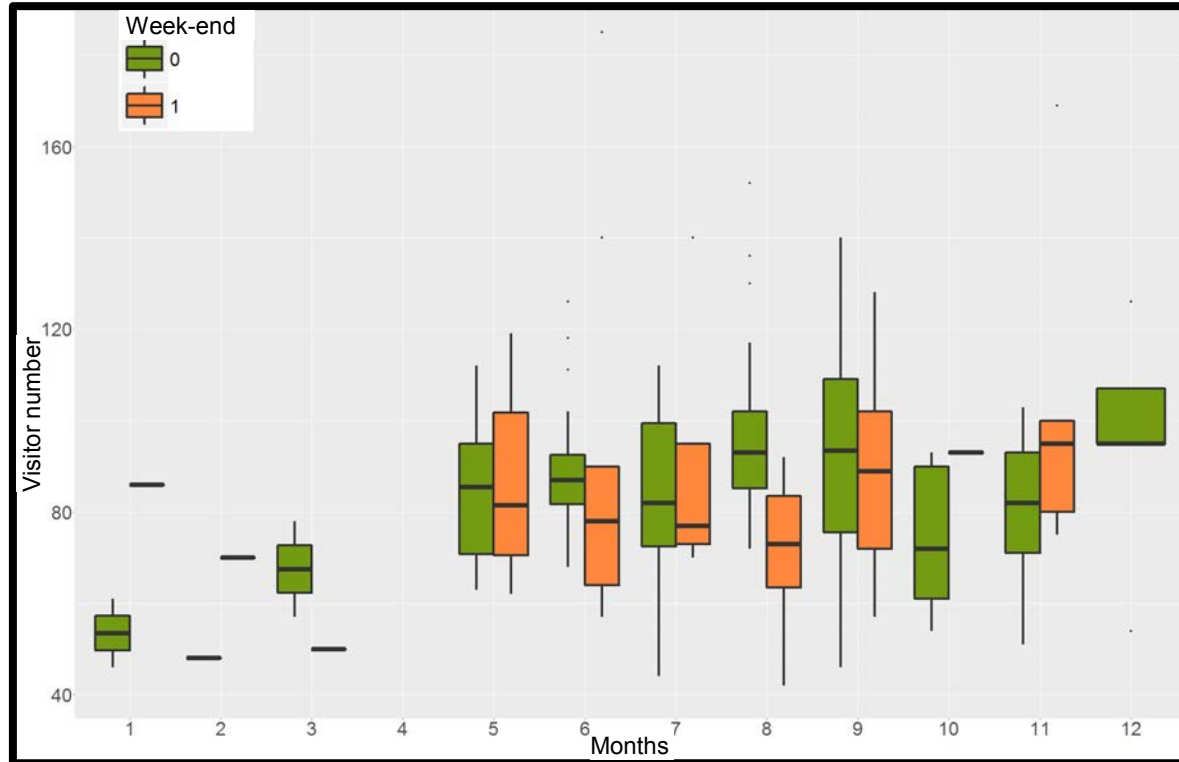
- Don't like hot days
- Varying weekend numbers
- Locals on workdays

Number of cyclists by months



- Weather dependent
- Summer peak season

Number of cars by months



- Constant all year
- Lower on weekends
- Mainly forestry personnel

Conclusion

- Yearly visitor numbers can be estimated by camera surveillance
- Peak seasons by user types can be determined
- Conflicts could be assessed
- Cyclist are the most weather dependent
- Car traffic is generated by the forestry company

Further use

- Network level visitor flows
- Visitor management support
- New criteria for forest road network planning
- New criteria for upgrading existing roads
- Support for other research activities