Inferring weekly primary activity patterns using public transport smart card data and a household travel survey

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• With public transport smart cards, massive spatio-temporal data have been recorded in many cities.
• This work presents a method to identify temporal weekly patterns of primary activities performed by public transport users in Singapore.
• According to the start time and duration of an activity, activities are classified in HOME, WORK/STUDY or OTHER.
• DBSCAN clustering algorithm was applied to recognize the most common primary activity patterns of public transport users in Singapore.

Weekly pattern recognition

- **DBSCAN clustering**
- Workers’ clusters:
- Students’ clusters:

Temporal weekly patterns of primary activities performed by frequent public transport users in Singapore were recognized using Smart Card Data from public transport transactions.

DBSCAN was successfully employed to recognized weekly patterns of workers and students.

Results show that 5-weekday workers are the most representative group.

The largest individual cluster represents frequent PT users working every weekday except Friday.

Largest student clusters represent studying more than 8 hours during the 5 weekdays.