

Reslogg: Mobile app for logging and analyzing travel behavior

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Agenda

- Background
- Data collection using GPS in mobile phones
- Earlier research
- Description of a current Android-based test system
- Conclusions, further research, development and testing

- *This is a presentation of a system developed as a "spare time programming project", based on "research insights" but with no academic or commercial involvement so far*

Background

- During the years 2008-2009 and 2010-2011 the Swedish transport administration (Trafikverket) has financed two projects aimed at researching use and development of the national traffic planning system **Sampers**. Projects carried out by KTH and LiU
- One subtask: Investigate the quality of **the public transport modeling** in e.g. Sampers
 - Comparisons and calibration using the Storstockholms Lokaltrafik (SL) Visum model and **RES0506 data**
 - **Make use of tracks of individual trips, the “trip element data”, of public transport trips in Stockholm 6:00 to 8:59 only [about 600]**
- Subtask conclusion: The level of detail in the trip description in RES0506 is relatively low. With more details, the quality of the comparison and calibration results can be improved significantly

Data collection using GPS

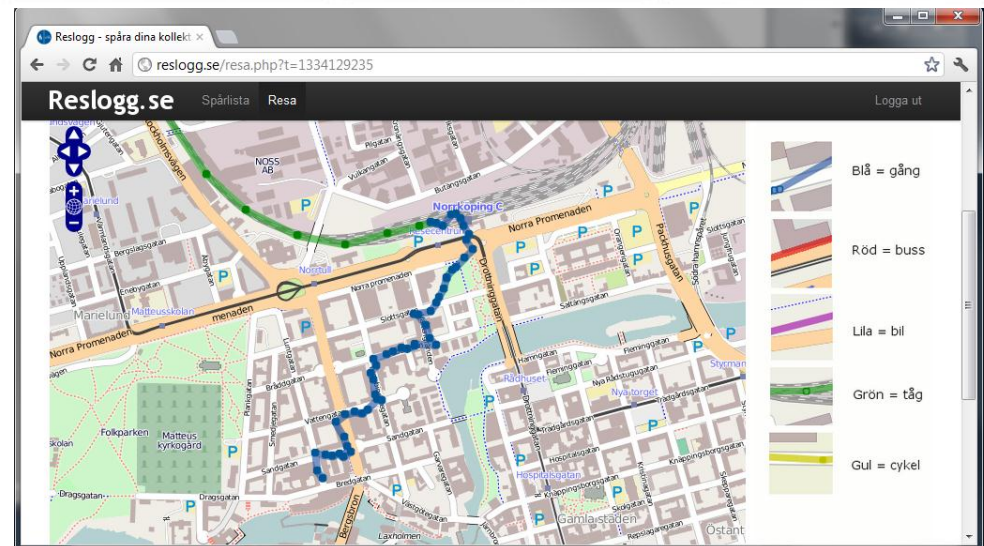
- Proven way of finding more detailed data of trips tracks
- GPS is available in standard smartphone, with good quality and without significant battery problems
- Positioning accuracy in areas with high buildings, in vehicles, and underground may be (is) poor
- Results in GPS tracks only, but may be possible to infer some information like mode, stop, line, switching points, waiting times, purpose, etc.

Earlier research

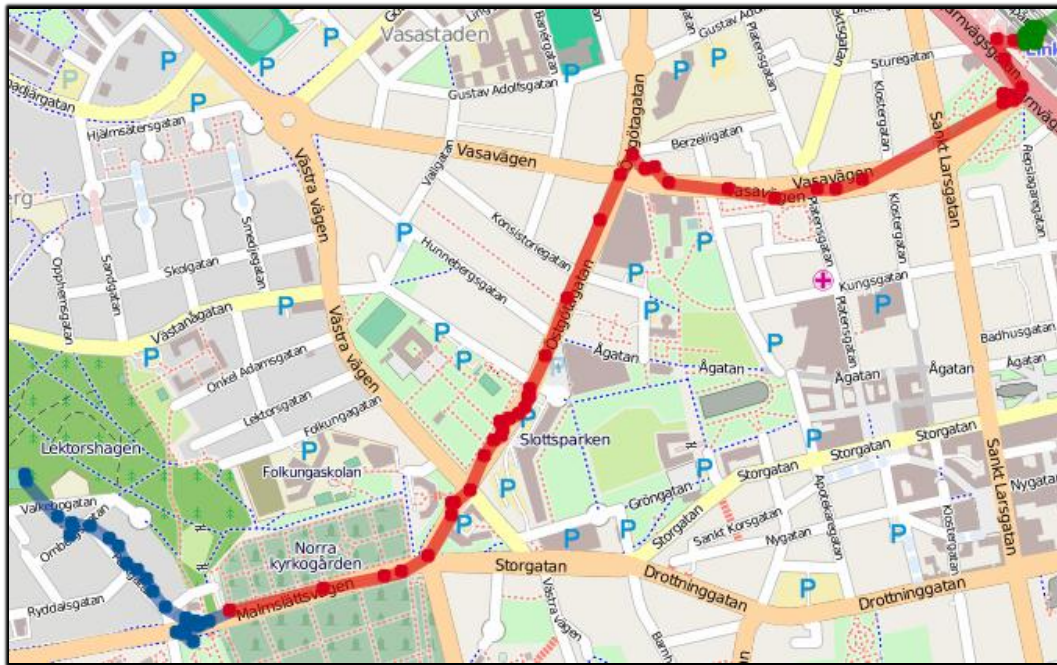
- Several projects have relied on the GPS technique for (part of) travel surveys
 - Sweden/EU (TeleFOT, [car trips])
 - Netherlands (Bohte W., and Maat, K., 2007, Deriving and validating trip purpose and travel modes for multi-day GPS-based travel surveys: A large-scale application in the Netherlands)
 - New York (Chen C., et al., 2010, Evaluating the feasibility of a passive travel survey collection in a complex urban environment: Lessons learned from the New York City case study)
 - And many more...
 - ... some purely commercial applications (e.g. Microsoft GeoLife)
- Research on algorithms for GPS data analysis
 - Learning algorithms for switching point and mode detection
 - Classifiers for trip purpose derivations

Current test system – www.reslogg.se

- Android-based app “Reslogg”
 - Start/stop logging
 - GPS position logging every X seconds
 - En route travel mode input
 - Uses mobile ID
 - Bugs 😊
- Backend for storing and analyzing data
- Web-based fronted for visualization of data/trips
- Make use of a lot of “open source code”



Example trip and “inferred” mode choice



Trip segments: 4

Walk: 0.7km, 12 min

Bus: 2.0km, 9 min

Train: 46.2 km, 35 min

Walk: 1.1 km, 11 min

Total distance: 50 km

Total time: 67 min

Whereof wait time: ?

Conclusions, further research, development and testing

- A GPS-based process has some potential to provide trip information from individuals
- Preliminary data collection with the test system indicates that the level of detail from processed GPS tracks can improve on what is available in RES0506 on public transport trips
- High quality GPS tracks can be processed for inferring switching points, wait times, modes used, etc., and maybe even trip purpose (add GIS data)
- Ideas for the future/problems:
 - App testing: positioning quality in certain vehicles and underground, other platforms
 - Development of system for GPS track analysis: automatic segment identification and mode derivation. Evaluation of the need for geographical data
 - Larger scale testing, algorithm learning; check bias?
 - Promoting use; maybe logging app gamification?

Reslogg

Clas Rydergren



★★★★★ (1)

INSTALLERA



Den här appen är kompatibel med
Telia Sony Ericsson ST171.

Användare som visat den här appen har
också visat



Live London Bus Tracker

APPEFFECTSUK

★★★★★ (2 864)

Utan kostnad

Reslogg.se

Hem

Kom igång

Om Reslogg

Version 0.92



Reslogg

Reslogg vill ha din hjälp med att samla in information om ditt nyttjande av kollektivtrafik. Tjänsten bygger på en Android-app som spårar din resor och laddar upp dem hit. Med appen låter du ditt resebeteende påverka framtidens kollektivtrafik.

Just nu är 128 resor loggade av 15 användare, totalt är det 17111 GPS-punkter. Bidra du med!

[Kom igång »](#)

Ny användare

- Försäkra dig om att du har en Android-mobil med Android 2.0 eller senare.
- Ladda hem Reslogg-appen från [Google Play/Android Market](#). Den är gratis.
- Starta appen vid din nästa resa. Starta loggningen när du påbörjar din resa och stoppa den när du är framme.
- Vill du se hur det fungerar innan, prova användar-ID [demo](#).

[Mer hjälp »](#)


Aktiv användare

Skriv in ditt användar-ID:

[Visa spår](#)

Du hittar ditt användar-ID i Info-menyn i Android-appen. Du behöver ha loggat åtminstone en resa innan du kan titta på dina spår.

Om du vill se hur tjänsten fungerar innan du laddar ner och provar Android-appen, skriv in **demo** som användar-ID i rutan ovan och klicka på Visa spår-knappen.