

## Title (en)

An apparatus and method operative for providing traffic information on a traffic area

## Title (de)

Betriebsvorrichtung und -verfahren zur Bereitstellung von Verkehrsinformationen in einem Verkehrsbereich

## Title (fr)

Appareil et procédé opératif pour fournir des informations de trafic sur une zone de trafic

## Publication

**EP 2287820 A1 20110223 (EN)**

## Application

**EP 09009831 A 20090729**

## Priority

EP 09009831 A 20090729

## Abstract (en)

An apparatus (100) operative for providing traffic information on a traffic area, comprising a locator (110) for determining a plurality of locations of a plurality of mobile devices in a cellular network (115) and a selector (120) for selecting a subgroup of the plurality of mobile devices based on the locations of the mobile devices, when the mobile devices are located in the traffic area and for not selecting mobile devices which are located outside the traffic area. The apparatus (100) further comprises a velocity calculator (130) for calculating a velocity of mobile devices of the subgroup and for generating data on a velocity of a traffic flow in the traffic area using the velocities of the mobile devices in the subgroup and wherein mobile devices not selected for the subgroup are not used for generating the data, wherein the velocity calculator (130) is adapted for calculating at least two velocities of each mobile device in the subgroup within a cell of the cellular network (115). The apparatus (100) further comprises an output interface (140) for outputting the traffic information, which is based on the data on the velocity of the traffic flow.

## IPC 8 full level

**G08G 1/01** (2006.01)

## CPC (source: EP)

**G08G 1/0104** (2013.01)

## Citation (applicant)

- MONAHAN T: ""War Rooms" of the Street: Surveillance Practices in Transportation Control Centers", THE COMMUNICATION REVIEW, vol. 10, 2007, pages 367 - 389
- GÜHNEMANN A ET AL.: "New Approaches to Traffic Monitoring and Management by Floating Car Data", PROCEEDINGS OF THE 10TH WORLD CONFERENCE ON TRANSPORT RESEARCH, WCTR04, ISTANBUL, 2004
- YGNACE JL ET AL.: "Travel Time Estimation on the San Francisco Bay Area Network Using Cellular Phones as Probes", UCB-ITS-PWP-2000-18, PATH WORKING PAPER, UNIVERSITY OF CALIFORNIA, BERKELEY, 2000
- WHITE J; QUICK J; PHILIPPO J: "The use of mobile phone location data for traffic information", 12TH IEEE INTERNATIONAL CONFERENCE ON ROAD TRANSPORT INFORMATION & CONTROL - RTIC, LONDON, 2004
- SCHNEIDER W; MRAKOTSKY E: "Mobile phones as a basis for traffic state information", IEEE CONFERENCE ON INTELLIGENT TRANSPORTATION SYSTEMS, September 2005 (2005-09-01), pages 782 - 784
- DRANE C; MACNAUGHTAN M; SCOTT C: "Positioning GSM telephones", IEEE COMMUNICATIONS MAGAZINE, vol. 36, no. 4, April 1998 (1998-04-01), pages 46 - 59
- KYAMMAKA K; JOBMANN K: "Location management in cellular networks: classification of the most important paradigms, realistic simulation framework, and relative performance analysis", IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, vol. 54, 2005, pages 687 - 708
- WAADT A ET AL.: "Mobile Assisted Positioning In GSM Networks", INTERNATIONAL WORKSHOP ON SIGNAL PROCESSING AND ITS APPLICATIONS, SHARJAH, 2008
- PATTARA-ATIKOM W; PEACHAVANISH R; LUCKANA R: "Estimating Road Traffic Congestion using Cell Dwell Time with Simple Threshold and Fuzzy Logic Techniques", PROCEEDINGS OF THE 2007 IEEE INTELLIGENT TRANSPORTATION SYSTEMS CONFERENCE, 2007, pages 956 - 961
- JUAN C. HERRERA; ALEXANDRE M. BAYEN: "Eulerian versus Lagrangian Sensing in Traffic State Estimation", UNIVERSITY OF CALIFORNIA, BERKELY
- SCHNEIDER W; MRAKOTSKY E: "Mobile Phones as a Basis for Traffic State Information", ARSENAL RESEARCH, IEEE CONFERENCE ON INTELLIGENT TRANSPORTATION SYSTEMS, 13 September 2005 (2005-09-13)
- FRANCESCO CALABRESE; MASSIMO COLONNA ET AL.: "Real-Time Urban Monitoring Using Cellular Phones: a Case-Study in Rome", SENSEABLE WORKING PAPER, 2007

## Citation (search report)

- [XYI] US 2003014181 A1 20030116 - MYR DAVID [IL]
- [XY] US 7228224 B1 20070605 - ROSEN KENNETH H [US], et al
- [Y] US 2008255754 A1 20081016 - PINTO DAVID [US]
- [AD] JOBMANN K ET AL: "Location Management in Cellular Networks: Classification of the Most Important Paradigms, Realistic Simulation Framework, and Relative Performance Analysis", IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 54, no. 2, 1 March 2005 (2005-03-01), pages 687 - 708, XP011129079, ISSN: 0018-9545

## Citation (examination)

- WO 9934611 A2 19990708 - SONERA OY [FI], et al
- EP 1296531 A1 20030326 - LOCUS PORTAL CORP [FI]
- WO 2009080105 A1 20090702 - TELECOM ITALIA SPA [IT], et al
- US 2004230373 A1 20041118 - TZAMALOUKAS ASSIMAKIS [US]

## Cited by

CN105160903A; DE102015215914A1; CN112581765A; AU2013100243B4; CN115762150A; JP2014120104A; US9414199B2; US10636292B2; WO2016203298A1; US9571981B2; US10231092B2; US10637820B2; US11418477B2

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

## Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)  
**EP 2287820 A1 20110223**

DOCDB simple family (application)  
**EP 09009831 A 20090729**