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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR CONTROLLING AND POWERING A VEHICLE

(57) Abstract: A control system includes a controller and an energy management system. The controller is onboard a vehicle that includes motors and an onboard energy storage device that powers the motors. The energy management system calculates estimated electric loads of powering the motors over one or more segments of a trip according to designated operational settings of a trip plan. The energy management system also determines a demanded amount of electric energy for powering the vehicle based on the estimated electric loads. The demanded amount of electric energy is based on a stored amount of electric energy in the onboard storage device. The energy management system communicates the demanded amount of electric energy to one or more of plural wayside stations disposed along the route so that the wayside stations have sufficient electric energy to charge the onboard energy storage device with the electric energy to meet the estimated electric loads.

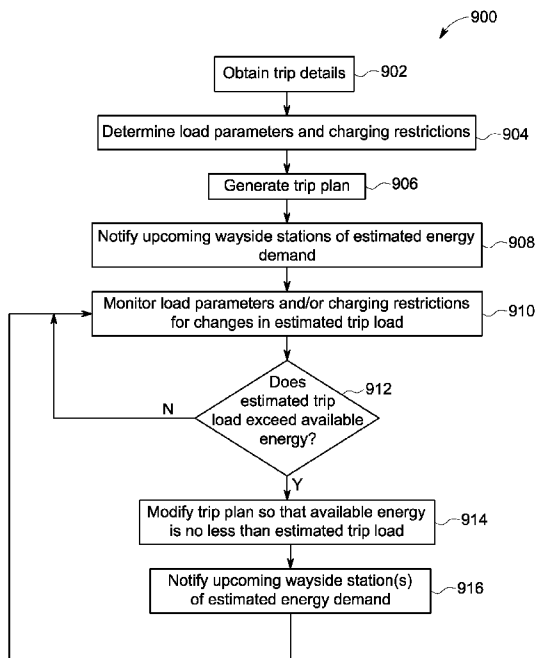


FIG. 9

WO 2012/174009 A3

MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/US2012/042086

A. CLASSIFICATION OF SUBJECT MATTER  
INV. B60L11/18 B61L3/00 B61L27/00 B60W10/08 G01C21/00  
ADD.  
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED  
Minimum documentation searched (classification system followed by classification symbols)  
B60L B61L B60W G01C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/057987 A2 (ENBW AG [DE]; ALBAYRAK SAHIN [DE]; MUENCH WOLFRAM [DE]; WALCH LARS [DE]) 27 May 2010 (2010-05-27) page 22 - page 27; claim 1; figures 1-4 -----	1-32
X	US 2010/094496 A1 (HERSHKOVITZ BARAK [IL] ET AL) 15 April 2010 (2010-04-15) abstract; claims 1-22; figures 2-6,8,10-17 page 4, paragraph 98 - page 22, paragraph 313 -----	1,15,19,32
X	DE 195 19 107 C1 (DAIMLER BENZ AG [DE]) 4 April 1996 (1996-04-04) claims 1-10; figures 1-3 column 5 - column 8 -----	1,15
X	EP 1 864 849 A1 (SIEMENS TRANSP SYSTEM S A S [FR]) 12 December 2007 (2007-12-12) the whole document -----	1-32

Further documents are listed in the continuation of Box C.

See patent family annex.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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