

CLAIMS

What is claimed is:

1. A method performed by at least one computer processor, said method comprising:
 - receiving a plurality of location data points, each of said location data points being generated from a mobile device carried by individual users;
 - for each of said individual users, determining a mode of transportation at least in part from said location data points associated with said individual users;
 - determining a density of users from said plurality of location data points;
 - displaying said density of users for at least one mode of transportation on a visual representation of a transportation system;
 - storing said density of users in a historical database;
 - determining a transportation model comprising a baseline density profile for each of a plurality of locations within said transportation system;
 - identifying a real time abnormality in said transportation system from analysis of said plurality of location data points; and
 - predicting a future abnormality based on said real time abnormality.
2. The method of claim 1 further comprising:
 - adjusting a portion of said transportation system in response to said future abnormality.
3. The method of claim 1, said mode of transportation is determined by analyzing movement behavior.
4. The method of claim 3, said movement behavior is analyzed using heuristics.
5. The method of claim 3, said movement behavior is analyzed using historical movement behavior for a subset of said individual users.
6. The method of claim 1 further comprising:
 - determining a demographic profile for a subset of said individual users.
7. The method of claim 6, said demographic profile being derived in part from an external data source.
8. The method of claim 1 further comprising:
 - receiving said location data points for a first user and determining a transportation mode for said first user.

9. The method of claim 3 further comprising:
said movement behavior being analyzed using a transportation model comprising historical movement behavior for a subset of said individual users.
10. The method of claim 9, said historical movement behavior comprising a set of movement segments.
11. The method of claim 9, said transportation model further comprising a variance for each of said movement segments.
12. The method of claim 11, said transportation model further comprising a baseline density profile for each of a plurality of locations within said transportation system.
13. A hardware platform comprising a programmable computer processor;
an interface comprising:
an input mechanism that receives location data points for individual users;
an output mechanism that transmits traffic density data;
a database of historical location data;
an analysis system operable on said computer processor, said analysis system performing operations comprising:
receiving a plurality of location data points, each of said location data points being generated from a mobile device carried by individual users;
for each of said individual users, determining a mode of transportation at least in part from said location data points associated with said individual users;
determining a density of users from said plurality of location points;
displaying said density of users for at least one mode of transportation on a visual representation of a transportation system;
storing said density of users in a historical database;
determining a transportation model comprising a baseline density profile for each of a plurality of locations within said transportation system;
identifying a real time abnormality in said transportation system from analysis of said plurality of location data points; and
predicting a future abnormality based on said real time abnormality.
14. The system of claim 13, said operations further comprising:
adjusting a portion of said transportation system in response to said future abnormality.
15. The system of claim 13, said mode of transportation is determined by analyzing movement behavior.

16. The system of claim 15, said movement behavior is analyzed using heuristics.
17. The system of claim 15, said movement behavior is analyzed using historical movement behavior for a subset of said individual users.
18. The system of claim 13 said operations further comprising:
determining a demographic profile for a subset of said individual users.
19. The system of claim 18, said demographic profile being derived in part from an external data source.
20. The system of claim 13 said operations further comprising:
receiving said location data points for a first user and determining a transportation mode for said first user.
21. The system of claim 15 said operations further comprising:
said movement behavior being analyzed using a transportation model comprising historical movement behavior for a subset of said individual users.
22. The system of claim 21, said historical movement behavior comprising a set of movement segments.
23. The system of claim 21, said transportation model further comprising a variance for each of said movement segments.
24. The system of claim 23, said transportation model further comprising a baseline density profile for each of a plurality of locations within said transportation system.