Probe Big Data Analysis Solutions

Best solutions using our outstanding probe data analysis technologies in cyber physical system

Probe Big Data Analysis Technologies

Utilize probe data of car manufacturers and IT solution providers

Can analyze each business user’s probe data (Fleet, Taxi, Bus, etc.)

Company A

Company B

Data Center

Link-matching processing

Statistic processing

Cleansing processing

Real-time processing

Big Data Analysis

Applications

Travel time data by link

Grasp traffic situation

Real-time travel time provision

Identify cause of congestions

Bottleneck analysis

Travel time analysis by direction

Route data

Traveler’s behavior analysis

Tour Course analysis

Products: Analyzed data
Case 1: Real-time travel time provision

Provide real-time travel time between major sections (highway IC) / detours

Applicable in a variety scene

Detour info. of construction route
Congestion info. in holiday traffic
Travel time info. to destination

Ex: Section travel time in Tohoku highway

<table>
<thead>
<tr>
<th>Information</th>
<th>November 2, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>In/Out</td>
</tr>
<tr>
<td>Tohoku-line</td>
<td>Inbound</td>
</tr>
<tr>
<td>Tohoku-line</td>
<td>Outbound</td>
</tr>
</tbody>
</table>
Case 2: Traffic situation and bottleneck Analysis

Grasp intuitively traffic situation and bottleneck by visualizing speed distribution of each section

For traffic measures and re-construction of infrastructures

Ex: Bottleneck analysis with a speed distribution map

Speed distribution of ○○ highway (up route)
Date: May 3, 2017
Section: △△IC~□□IC

Vehicle counts
3~5
6~10
11~15
16~20
21~25
26~30
31~35
36~
* 24h total

Speed dispersion high
Speed rising inside tunnel
Speed dispersion low
Case 3: Travel Time Analysis by Direction

Extract travel time of each direction by recognizing pass direction at intersection

Available for review of traffic signal phase plan and road measures (re-construction)

Ex: Visualization of travel time of each direction (right-turn, left-turn and straight)

Kayano intersection, Minoh city, Osaka

Travel time for right-turn is 2-5 times longer than left-turn and straight.
Case 4: Tour Course Analysis

Grasp trends of tour course by visualizing Origin-Destination and traffic volume

For planning tour courses and marketing analysis

Ex: Route analysis (Otsu IC as a starting point)

Red line: Route from each origin to exit of Otsu IC
Blue line: Route from Otsu IC to each destination
Thickness: Traffic volume (Vehicle counts)

Many drop off vehicles to tourist spots in the west of Biwa lake

There are many vehicles from Osaka (than Fukui and Gifu area)
Case 4: Tour Course Analysis

Ex: Route analysis (Tenjin North IC as a starting point)

*Enlarge view of near Tenjin North IC

Red line: Route from each origin to exit of Tenjin North IC

Blue line: Route from Tenjin North IC to each destination

Thickness: Traffic volume (Vehicle counts)