智能交通大数据来自何方，归谁所有?
Where Do Intelligent Traffic Data Come From? Whom Do They All Belong to?

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2014年9月14日起，上海市开始进行第5次交通调查。上一次交通调查在2009年进行的，至今已过去5年。

From September 14, 2014, Shanghai city started the 5th traffic survey. Last traffic survey in Shanghai was conducted in 2009. So far, it has been past for 5 years.

5年来，上海的私人小汽车增加了91%，轨道交通的客运量增加了90%。公共交通与私人交通之间正在进行一场博弈。

Over the past 5 years, Shanghai's private cars have increased by 91%, and the rail transit passenger volume has increased by 90%. A game between public transport and private transport is underway.

　　此次交通调查准备调查7.5万家庭。若每个家庭平均人口以4人计算，将涉及30万人。

This time, the traffic investigation will prepare to investigate up to 75,000 homes. If the average population per family is calculated as 4 people, up to 300,000 people would be involved.

上海目前常住人口为2400万人，也就是说，通过实际调查，我们可以了解大约1/80上海市民的交通行为。

At present, Shanghai resident population have 24 million people, that is to say, through the investigation, we can learn the traffic actions of about 1/80 Shanghai residents.

在大数据和云计算时代，我们能否做得更有效率？

Can we do more efficiently in the era of big data and cloud computing ?

　　上海共有400万张交通卡，每天大约能产生3200万个数据，其中包括每张交通卡进出地铁闸机的时间与地点，There are a total of 4 million traffic cards in Shanghai, and each day they can produce up to 32 million data, including the time and locations of every card's getting in and out of the subway turnstiles.

据此可了解上海轨道交通客流的路径分布。

According to this data, the distribution of Shanghai Rail Transit passenger flow paths could be learned about.

上海大约有5万辆出租汽车，根据GPS及测速装置，就可了解道路交通的客流分布、拥堵路段及其拥堵程度。 There are about 50,000 taxis in Shanghai. According to the GPS and speed measuring device, you can learn about the distribution of the road traffic passenger flow, congested roads and congestion levels.

据此可为汽车驾驶员提供实时指路服务，以最大限度地缓解拥堵。

The real-time directions services could be provided for drivers accordingly, so as to ease the congestion to the greatest degree.

上海有2000多万部智能手机，上海有4万个基站，而交通调查时的交通分区仅几百个。

There are 20 million smart phones in Shanghai, and there are 40,000 base stations in Shanghai. There are only hundreds of traffic partition when traffic survey was done.

移动通信运营商不难获取2000多万人一天的行动轨迹。

It is not difficult for mobile communication operators to get the action paths of more than 20 million people a day.

这就产生了两个问题：一是在利用信息资源的同时如何保护个人隐私；二是这些信息资源如何利用。

This creates two problems: one is how to protect your personal privacy in the use of information resources and the other is how to take advantage of these information resources.

有的国家做法是：由政府向运营商买下这些数据后对研究人员开放。

Some country's practice is that the government buys the data from the operators, and then these data will open to researchers.

以日本东京为例，研究人员可以在网上下载东京都2000多个交通小区的OD数据。

Taking Tokyo of Japan as an example, researchers can download OD (Origin-Destination) data of more than 2000 traffic neighborhoods in the Tokyo Metropolis on the Internet.

为此，笔者建议：我国工信部在《大数据管理白皮书》的基础上，授权有关机构进行大数据如何被利用的研究。

To this end, the author proposes that on the basis of "The White Paper on the Management of Big Data", the Ministry of Industry and Information Technology of our country authorize the relevant agencies to carry out the research on how the data is being used,

　　并制定出相应的管理制度与法律法规，让这些宝贵的信息资源充份被利用，以加快我国智慧城市以及智能化交通的建设步伐。

and develop appropriate management systems, laws and regulations so as to make full use of this valuable information resources to speed up the construction paces of smart cities and intelligent traffic in China.

谢谢合作！

Thank You

for Your

Attention！