

A Project of
Persuasive Communication
Toward
Public Transportation-Oriented
Residential Choice

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Apologies,

We are sorry to inform you that under the current situation of Swine flu outbreak, the authors of the above presentation are not allowed to travel to Spain in accordance with work orders from universities. We deeply apologize for the inconvenience.

This is our PPT file prepared for the presentation. If you are interested in our study, please direct any questions to taniguchi@risk.tsukuba.ac.jp

Ayako & Satoshi

Background 1

For Bus promotion through Mobility Management

Example of MM Components or Technique;

- ✓ Provide an **leaflet to motivate** people to change their travel behavior
- ✓ provide **specific information** such as timetable, bus route map
- ✓ Ask people to **make behavioral plan**

More fundamental solution for sustainable city & travel maybe
to **live and work near** station/bus stop
of **public transport system** !

Background 2

Therefore

persuasive communication program
to **induce people's residential choice**

in such places where car is not always necessary
would be a substantially-effective mobility
management method to solve various types of

urban transportation problems

through developing **compact city**.

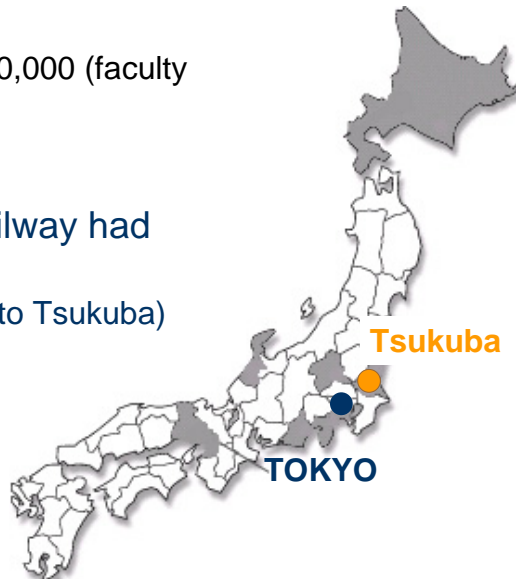
Aim

To develop a **persuasive communication program** to **induce public-transport-Oriented residential choice (PTOR choice)** through field experiment.



Summary: Univ. of Tsukuba

- Univ. of Tsukuba
- University population: 20,000 (faculty members & students)
- Area: 2,460,000m²
- Tsukuba Express railway had opened in 2005 (from Akihabara, Tokyo to Tsukuba)



Why PTOR choice is important?

Univ. of Tsukuba have a convenient bus service

e.g. high frequency (max 13 times / hour)

great low price: 4,200yen (31euro) per year

But, potential demand for bus maybe bigger...

How can we stimulate potential demand?

✓ Our question: **Why students do not use the bus?**

Because **they live far from bus stop!**

We conducted a persuasive communication program to induce **public-transport-oriented residential choice (PTOR choice)** through field experiment

Basic concept

- **To choose residence**...people may consider house lent, built year, floor plan, width of room, security, characteristics of the region

We would like to take “convenience of bus” into consideration on selecting their residence.

= Focus on **the distance from residence to bus stop !**

Hypothesis

At the timing of residential choice...

People who receive a persuasive communication **focused on a convenience of bus** will tend to **choose their residence near bus stop**.

...We tested above hypothesis in the experiment.

Mobility Management for PTOR choice

Experiment



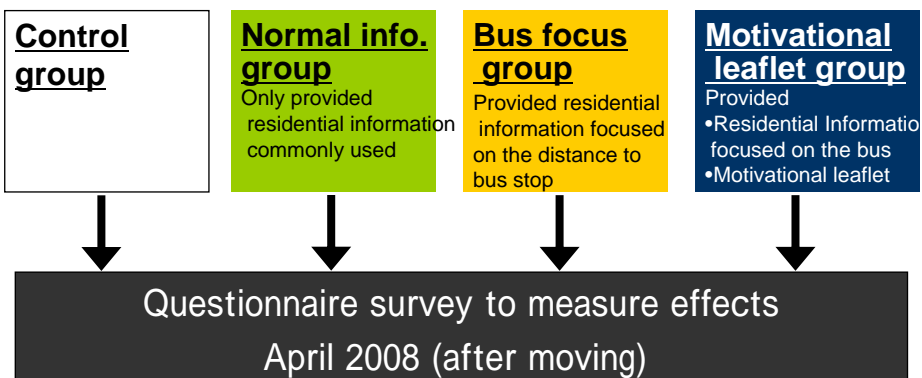
Target

- **1st grade students** of University of Tsukuba, Japan
- Univ. of Tsukuba **have a convenient bus system** as a part of route bus service in Tsukuba city
- A lot of **1st grade students move from dormitory to apartment** at the time of becoming 2nd grade.

Method

- Target : 1st grade students who plan to move from dormitory to apartment

November 2007 – March 2008 (before moving)



Tools for communication

Normal Info. group

天久保3・4丁目

天久保3・4丁目

flat list & map

Bus focus group

天久保3・4丁目

天久保3・4丁目



“Bus convenience marks” are added to flat list & map.

Motivational leaflet group

天久保3・4丁目

天久保3・4丁目

Plus the motivational leaflet

Motivational leaflet

アパート・マンション どうやって決めますか？

1 アパートを探すとき

- 家賃 広さ 大学への距離 間取り
- つくばセンターへの距離 築年数
- 日当たり 静かな環境 オートロックの有無

などなど
考えることは、たくさんあります。

2 就職活動、どうする？

- ▶ バスだと、雨でも濡れない、汗をかかない、スーツが汚れる心配もありません。
- ▶ たくさんに疲れても寝て癒れます。

就職活動のときは、週に4～5回は、東京に行きました。バスの定期券があつてすごく助かりました。自転車で駅まで行くと、スーツは汚れるし、汗をかいて大変です。

4 そして、環境。

筑波大学では、3,4年生になると多くの人が自動車を買い、自動車をかう1日は、バスを使う1日の3倍のCO₂排出します。

あなたが住む場所によって、バスを使うかどうかが変わります。それにより、生活で排出するCO₂が大きく変わってしまうのです。

※上記グラフのCO₂排出量は、軽自動車(1000cc)と軽自動車(1000cc)を比較しています。軽自動車(1000cc)は、燃費が約20km/L、軽自動車(1000cc)は、燃費が約25km/Lです。

5 筑波大学のバスは便利

- ▶ この範囲内の路線がわずか**4200円**の定期券で**年度内乗り放題**！
- ▶ つくばセンター路線は、最大13本/時つまり**5分に1本**以上走っている！

Q 4,200円って、どれくらいお得なの？

大学周辺からつくばセンター駅を、大学周辺からつくばセンター駅まで、バスに乗るとします。1日乗るとしたら、4200円です。

A なんと、年額**14,520円**もお得です！

8 1年後...

- 学校で講義
- 就職活動で東京へ
- 買い物をして帰宅

Distribution & Collection

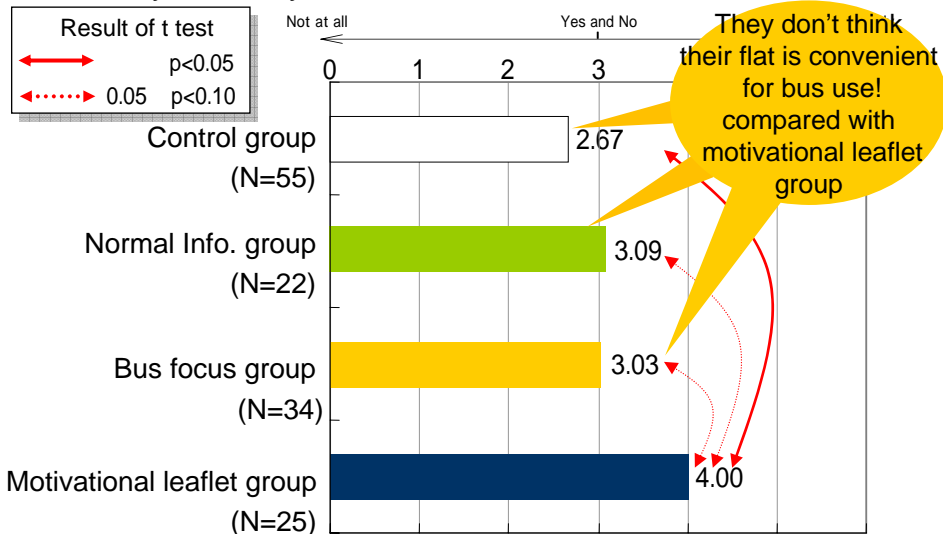
		Control group	Normal Info. group	Bus focus group	Motivational leaflet group
Nov. 2007 ~ March 2008	Num of distribution	-	116	97	95
April 2008	Num of collection	55	22	35	25

Number of student who moved from dormitory to flat in Tsukuba city later in March 2008

Result 1: Bus LOS cognition

Level of service

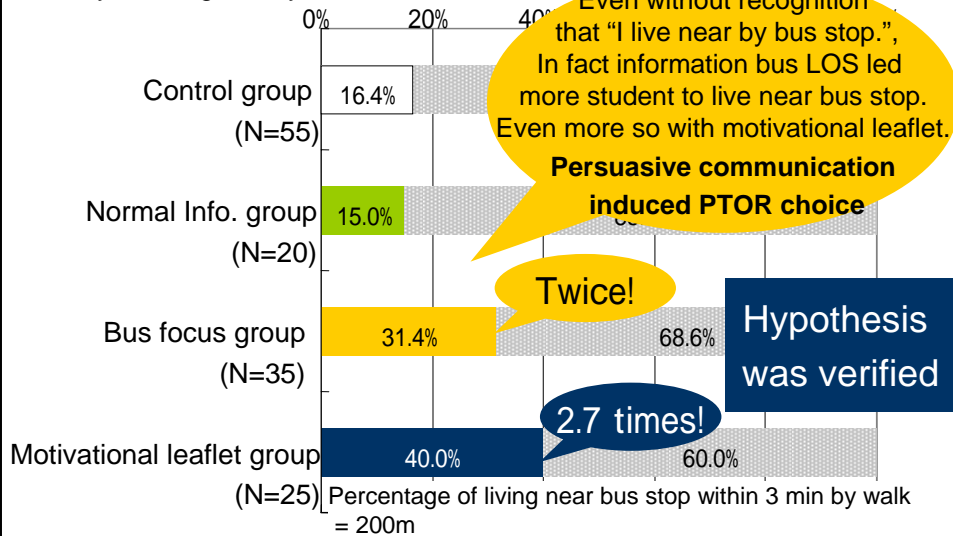
Q. Do you think your flat is convenient for bus use?



Result 2: Ratio of PTOR choice

Percentage of students living near bus stop (within 3 minutes by walk)

*Analysis using GIS system



Result 3: Times of bus use

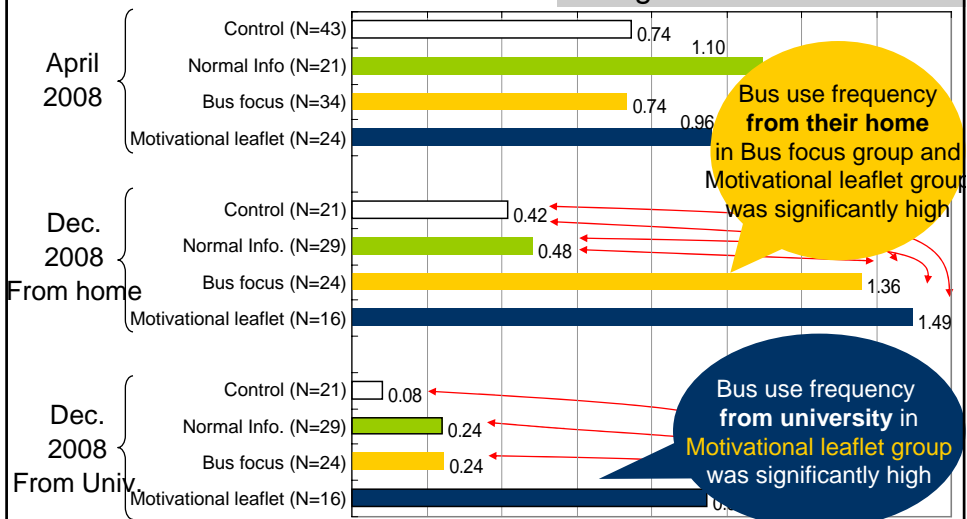
Result of t test

←→ p<0.05

←·····→ 0.05 p<0.10

Times per week

Immediately after moving, no significant difference



Conclusion

- the result shows that information about level of bus service for every flat can induce PTOR choice, and **the ratio of PTOR choice** in the groups with the information **was** approximately **twice** as high as the control group.
- Persuasive communication project toward PTOR choice through simple intervention has possibility to work effectively for development of compact city.

For the future

- Since these mobility management interventions are cost-effective, they can be easily implemented in
 - any **universities**
 - any **workplaces**
 - **house agent offices.**
- Since PTOR choice would lead less car use, this proposed communicative intervention could be regarded as substantially effective mobility management measure.