Challenge! Open Governance 2017 Application Form for Citizens & Students

Title of Regional Issue*	No.	Title		Name of Municipality
	- （事務局用）	Ideas Promoting Regional Planning		Ube City
Name of the Idea (disclosure)	Collaborative Development of an Accessible Toilet Search App			

（*Enter the title of regional issue of the applying municipality as described in COG2017 website.

1. Applicant Information

Name of the team (disclosure)	One-touch Accessible Toilet Search Creation Association	
Team attribution (disclosure)	○ 1. 市民によるチーム　　○ 2. 学生によるチーム　　⦿ 3. 市民、学生の混成によるチーム	
Number of members	(over)20	
Team leader (only the name will be disclosed)	Name (disclosure)	大浜 尚

※Conditions for information disclosure

　Information provided in "2. Description of Idea" beginning on the next page will be disclosed under the Creative Commons Attribution 4.0 International license (CC BY 4.0) after confirmation of its contents. At the request of the applicant, however, such information will be disclosed under the CC BY-NC (Attribution – Noncommercial) 4.0 International license. Please let us know your preference at the time of application. In both cases, the name of the applying team will be used.
(See the specific licensing conditions at https://creativecommons.org/licenses/by/4.0/legalcode.ja, or https://creativecommons.org/licenses/by-nc/4.0/legalcode.ja. You can also see licensing information from Creative Commons at https://creativecommons.jp/licenses/)

(Notes)
<Name of the file for application and addressee>
1.　Send the file with the filename COG2016_applicationform_teamname_municipalityname to the address below. You can also access this address via the application registration column on the COG2016 website of the Graduate School of Public Policy, The University of Tokyo:　admin_padit_cog2016@pp.u-tokyo.ac.jp
<Public or private information>
2.　The name of the idea, name of the team, team attribution, name of the team leader, and "description of idea" will be open to the public.
3.　The contents above will be reviewed before disclosure (anything which is harmful to public order, unethical, or making use of a plagiarized idea will not be disclosed).
4.　The "self-evaluation" column of the application form will not be disclosed. However, if the content is excellent and deemed useful for other applicants, it may be disclosed after consultation during the advice stage after the open review.
5.　If any element associated with an intellectual property right whose holder is not a member of the applying team, such as texts, photographs, and graphics, is included in the "description of idea," it should be demarcated stating that it is quoted according to the relevant laws and regulations or that its use has been approved by the right holder. Please do the same for the "self-evaluation" column.
<List of the team members>
　Submit the list of the team members in the attached Excel file (Any information about members other than the team leader as specified in 2. above will not be disclosed except to the COG Secretariat. Please see the attachment for details).

2. Description of the Idea

Fill in three items: (1) content of idea, (2) rationale for idea, and (3) how to realize it.

(1) content of the idea

Please show the contents of the idea by putting these elements in the idea as to who, what, where, when, and how it is a public service (activity) to do.

●背景・動機 Background / Motivation

Because of childhood polio, I use a wheelchair to get around. When I travel somewhere out of town, I usually go in the family car. While I have a driver's license, lately I bring a companion with me to avoid being a bother to those around me. Since I know where the accessible toilets are in the city, I don't usually have any difficulties using the toilet when I go out.

However, what about visitors to the city, what do they do? Whenever I leave the city or the prefecture, my first worry is wondering where the accessible toilets are.

Accessible toilets are installed in large towns, tourist areas, and highway service areas. Accessible toilets are found placed sporadically in parks, public facilities, medical facilities, shopping centers, convenience stores, and pharmacies.

However, this information is not being adequately exploited. Although there are some websites that publish this information, most regional towns do not, and my impression is that it is not very convenient to use.

●アイデアの概要 /Outline of Idea

These accessible toilets are available, but they are not being utilized. This idea is proposing the creation of an app which can gather information about accessible toilets, with the minimal effort, to deliver relevant information when it is most needed, and it was motivated by the view that such a system would be a great help. This idea is the basis of my published entry in the Ube City Open Data Idea App Contest, "One-touch Accessible Toilet Search." However, despite having the idea, I have neither app-building skills nor data management ability. This idea will only be realized by gaining the understanding and cooperation of those around me. Thankfully, Libertas, Co., Ltd., my employer, is currently working towards its creation, with the cooperation of the Ube Municipal Government and local educational institutions. In the future, I would like to expand the idea with the help of local volunteers.

●実行内容と体制

- Content and structure

The challenge

  - Accessible toilets are essential for people with disabilities when they go

out.
  - However, information on toilets is limited
  - Not all accessible toilets can be used by all people with disabilities

Idea

To make an app which gives up-to-date information on available, accessible toilets.

Processing of toilet data:
- A sufficient number of options
- Detailed enough to be able to make a decision

+

App development:
- A toilet which meets one's needs
- Simple operation

Action

- Gain personal perspective, by experiencing (understanding) the users' position.
- Do what we can

Results

Development of an app to gain information about suitable toilets easily when needed

Effects

People with disabilities can have stress-free outings
People from out of town can visit Ube City stress-free
Ube City—a town where everyone can live stress-free

Collaboration:

Education

Training opportunities

Regional benefits

* Yamaguchi University

* Ube Frontier University

* Ube National College of Technology

* Yamaguchi Prefectural University

* Tokyo University of Science, Yamaguchi

Production

Development of human resources

Absorbing needs

* Libertas, Co., Ltd.

* Ube information system

Government

Resolution of regional issues

Promoting collaboration between residents

* Ube Municipal Government

Disability Welfare Division

ICT Promotion Division

Community

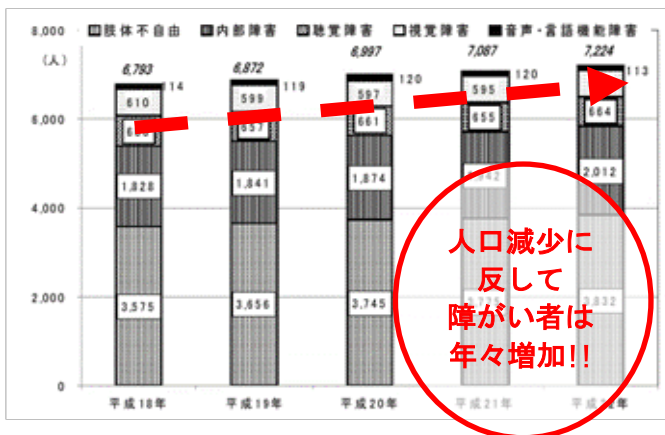**Finding one's own solution**

Participation in society

* Citizens' groups

* Volunteer organizations

(2) Rationale for the idea

Describe the Rationale for the idea (why have you chosen this idea?) with numerical data (achievements, statistics, or questionnaire results) and evidence (materials, plans, or existing measures) that support the idea (collectively, the "data").

- **Disability figures increase with the aging of society!   Number of individuals with disabilities is increasing despite population decline (statistical projections)**

  ・In Ube City, trends indicate an increase in the number of people with disabilities, while exhibiting a general population decline.

  ・Comparing numbers of the population with numbers of people with disabilities for the period 2006-2010, the **population decreased by 2.4%**, while the **people with disabilities increased by 6.3%**.

  ・Looking at age groups, people 70-years of age or older make up 55.3% of the disabled population.   Given the increasing aging of society, the number of predictions suggest that the number of people with disabilities will increase, making this an area which needs further attention.

Annual disability figures increasing in opposition to declining population

【宇部市の身体障害者の推移（引用：宇部市資料)】

[Trends in the Number of People with Physical Disabilities for Ube City (Source: Ube City)]
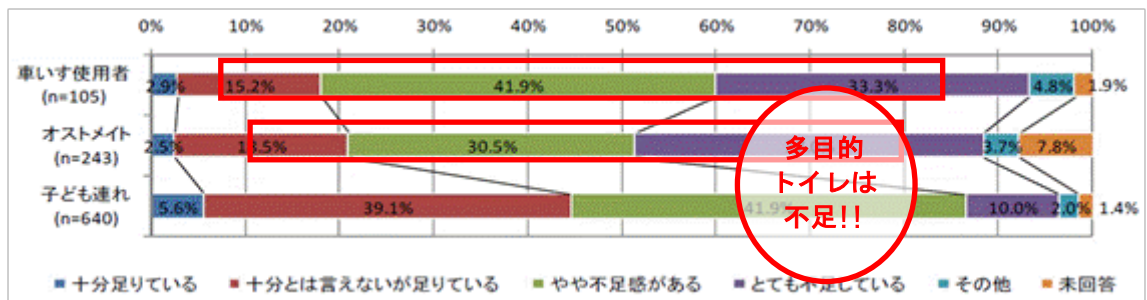
Disability figures increase with age ->Aging Society

【宇部市の身体障害者の年齢別推移（引用：宇部市資料）】

[Trends in Number of People with Physical Disabilities by Age for Ube City (Source: Ube City)]

● **Inadequate numbers of accessible toilets　(Survey on the current situation)**

・According to a survey released by the ministry of transport on the availability of toilets, approximately 75% of people felt that the number of accessible toilets available is inadequate.

車いす使用者 / Wheelchair users

オストメイト/ Ostomy bag users

子供連れ / Parents with children

充分足りている adequate enough coverage

充分と言えないが足りている not enough, but adequate

やや不足を感じる somewhat inadequate

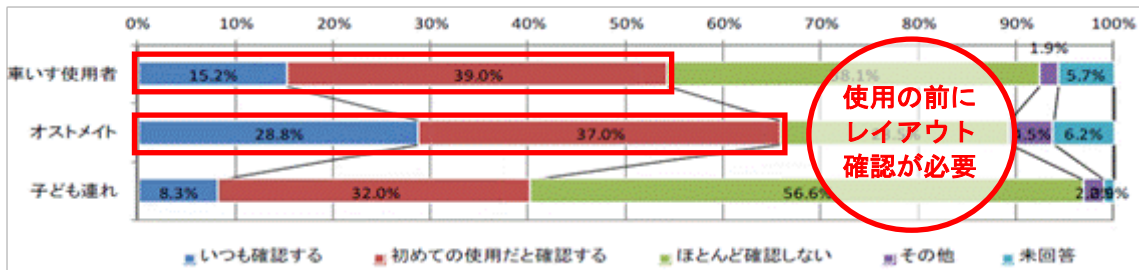とても不足している really inadequate

その他 other

未回答 no response

Not enough accessible toilets!

【多目的トイレの設置数は足りているか（引用：国土交通省資料)】

[Are there enough accessible toilets available? (Source: Transport Ministry)]

● **Detailed information on accessible toilets required (Survey on the current situation)**

・Over half of respondents said that they "checked the layout of the toilet", indicating that information about the inside of the toilet stall is necessary.

【質問：トイレ内のレイアウト図を確認するか（引用：国土交通省資料)】
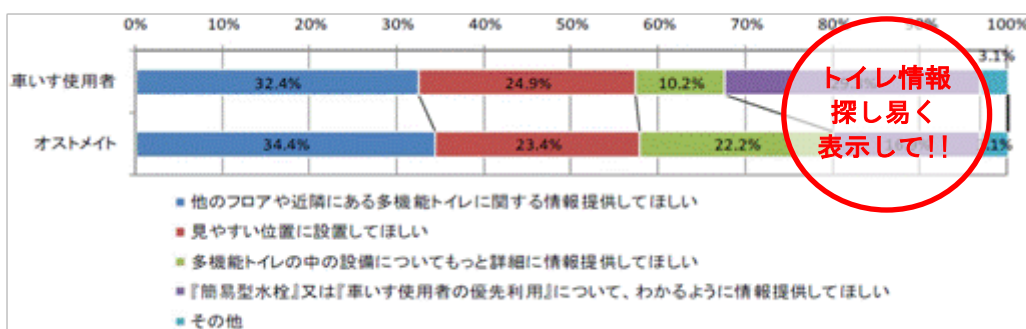
車いす使用者 / Wheelchair users
オストメイト/ Ostomy bag users
子供連れ / Parents with children

いつも確認する Always check
初めての使用だと確認する Check when using for the first time
ほとんど確認しない Don't usually check
その他 Other
未回答 No response

Checking prior to use is essential

[Question: Do you check the map of the toilet facility's layout? (Source: Transport Ministry)]

・Information required about accessible toilets included detailed information about the facilities, as well as posting information about toilets located on other floors or nearby in an easy to see location.

【質問：トイレの表示に期待すること（引用：国土交通省資料）】

車いす使用者 / Wheelchair users

オストメイト/ Ostomy bag users

他のフロアや近隣にある多目的トイレに関する情報提供してほしい

Want information on accessible toilets nearby and on other floors to be provided

見やすい位置に設置してほしい

Want information to be placed in easy to find locations

多機能トイレの中の設置についてもっと詳細に情報提供してほしい

Want more detailed information about the facilities inside multi-function toilets

簡易型 水栓、又は車いす使用者の優先利用について、分かるように情報提供してほしい

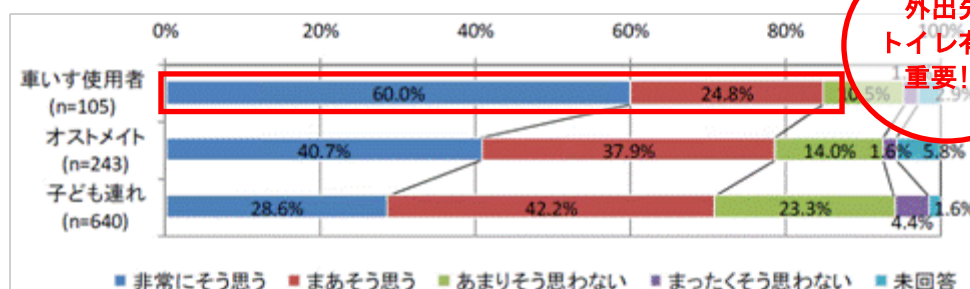Want information about wheelchair-user priority access or simple faucet availability to be provided

その他 Other

Display toilet information in easy to access places!!

[Requests regarding information display (Source: Transport Ministry)]

● **Crucial!! Availability of Usable Toilets (Survey on the Current Situation)**

・3 out of 4 people consider the availability of accessible toilets related to prioritized use of the facility

車いす使用者 / Wheelchair users
オストメイト/ Ostomy bag users
子供連れ / Parents with children

非常にそう思う I really agree
まあそう思う I guess I agree
あまりそう思わない I don't really agree
全くそう思わない I don't agree at all
未回答 No response

The absence or presence of a toilet when out is crucial!!

[Question: Is the availability of accessible toilets related to prioritized use of the facility? (Source: Transport Ministry)]

● **Conclusion**

For wheelchair-users and people with lower limb disabilities, toilet information is the most important information when going out.

Not all accessible toilets can be used by all people with disabilities.

Detailed information is needed to make decisions about toilet suitability. If it were possible to access information on functional toilets easily and when needed:

One could enjoy stress-free outings

One could be stress-free even when visiting places for the first time

So, accessible toilets are critical for people with disabilities to be able to participate in society, however, **there is a paucity of detailed information about accessible toilets and search capabilities are also lacking.**

(3) how to realize it.

Describe the process and milestones, etc.

1. We have an idea. What we need is an "App developer."

● Information about toilets is crucial for wheelchair users and people with lower limb disabilities (hereafter people with disabilities) when they go out.

- Not all accessible toilets are suitable for all people with disabilities. Detailed information is needed to make decisions about toilet suitability.
- If it were possible to access information on functional toilets easily and when needed, one could enjoy stress-free outings. One could even plan trips to new, never-before-visited places.

=>However, while my published entry in the Ube City Contest, was an idea to create a "One-touch Accessible Toilet Search App," I myself, cannot **"develop an app."** There is no **"detailed data on accessible toilets"** available.

2. Establishing a collaborative system between industry, government, and academia.

To realize this idea, a **collaborative industry-government-academia team has been formed** by my employer, Libertas, Co., Ltd., and the Ube Municipal Government => **a system which makes "App development" and "collection of toilet data" possible**

	Participants	Role
Academia	Yamaguchi University	Accessible Toilet Search **App Development**
	Ube Frontier University	**Advice and toilet data collection** based on welfare research
	Ube National College of Technology	**Creation of 'toilet occupied' sensor** (manufacturing project class)
	Yamaguchi Prefectural University	Collecting ideas in workshops using **photos and video**
	Tokyo University of Science, Yamaguchi	**Toilet data collection**
Industry	Libertas, Co., Ltd.	**Advice as the interested party, offering a venue** (I participate as the person who came up with the proposal)
	Ube information system	Technical advice regarding app development
Government	Disability Welfare Division	Offering information as the city's **Disability Welfare Division**

	ICT Promotion Division	Oversee the activities and collation of the toilet data from public facilities

3. Activities and Schedule

(1) Disability Training Experience (Gain 'personal perspective' by experiencing the users' position)

Participants will visit the accessible toilets with people with disabilities, listen to the stories of interested parties and experience **using a wheelchair**, to gain **'personal perspective.'**

(2) Toilet Data Collection

1. Investigation of toilet data items

Conduct **workshop**s based on the training experience of the participants, and Investigate which "toilet information" is required.

Consider not just the width of the entry-way, but the users' reality; for example, the size of the space inside the toilet stall, which way the toilet faces, the positioning of handrails, the role of mounting height in enabling use of facilities.

<<Disability Training experience for all participants>>

Based on this, **sort out which toilet information items are needed**.

<Necessary toilet information>

=> information to enable interested parties to use the toilet stress-free

Absence or presence of slope /elevator, door type, approach for transferring from wheelchair to toilet, type of handles, space under the handwashing basin (whether a wheelchair will fit), mounting height of the toilet paper, automated flushing or not, presence or absence of disabled parking spaces, presence or absence of roof cover from carpark to toilet, photos (entrance, door, inside the toilet stall, the toilet area).

<<Prefectural University: Workshop using video)

2. Collection of Toilet Data

Data collection by city employees and students from Ube Frontier /Science Universities

← Ube City Open Data Public URL

=> refer to **Ube City Open Data "List of facilities with accessible toilets"**
（http://data.bodik.jp/dataset/352021_）

（3）**App development**

(1) Investigation of app specifications

Investigate app specifications through discussions with participants informed by the disability training experience

↑ App (test version)

Public URL

(2) App development and implementation

Develop app as part of Yamaguchi University development class project

<<Engineering Department, Yamaguchi University: App development (test version)>>

{Main features of the app} … (Under development)

Register user's physical characteristics in app settings

Search for usable toilets according to registered physical characteristics

(4) **Development of 'Toilet Occupied' Sensors**

(1) If we cannot make an app, we will make what we can.

Participate in manufacturing class at Ube National College of Technology (UNCT).

<<UNCT: Development of 'Toilet Occupied' Sensors (prototype)>>

Tackle **development of equipment to determine whether the toilet is occupied or vacant.**

平成 28 年度 / 2016 Financial Year

平成 29 年度 / 2017 Financial Year

(1)体験学習(1) Disability Training Experience

※担当・学生が変わるため再度体験 ※Repeated due to student / managerial changes

継続 Continue

(2)トイレデータ収集(2) Toilet Data Collection

データ項目検討 Data item investigation

データ収集 Data Collection

オープンデータ公開★Publish open data *

継続してデータの収取 Continue to harvest data

(3)アプリ開発 (3) App Development

（山大工学部授業）(Yamaguchi University, Engineering faculty and class)

仕様検討 Investigation of specifications

アプリ実装 App implementation

アプリ公開（予定）★ Publish app (scheduled) *

(4)センサー開発 (4) Sensor Development

（宇部高専授業）(Ube National College of Technology)

試作品作成 Prototype creation

授業都合により中断 Discontinued due to class issue

≪取組スケジュール≫ <<Activity schedule>>

5. Future Issues

(1) Ongoing commitment and maintenance of high-quality data

Data enrichment and maintenance of data quality are central to ensuring that the app becomes even easier to use and continues to be used.

The government periodically releases **open data** updates regarding public facilities, however, **gathering data on private facilities is an issue**.

To that end, we received the cooperation of local volunteer organizations, such as "**Ube council for the care of people with disabilities**," are **in the process of building a system** to allow for the regular collection and maintenance of data. Furthermore, we hope to have increased cooperation from the volunteer activities of educational institutions.

(2) Promoting use of other toilets as well as accessible toilets

Not all toilets need to be accessible toilets to be suitable for use by people with disabilities.

If **convenience stores, etc.** have wide entrances with no stairs, many people can still use them. Some of these even have grip handles mounted.

These are a **usable resource which are in abundance,** if data were collected and used, the **amount of usable toilet data would substantially increase**.

6. My dream—"Welcome to Ube—a town where everyone can live well."

Travel guide**—I dream of one day responding to vacation inquiries and planning vacations that anyone can enjoy**, be they man or woman, young or old, and especially people with disabilities and their families.

In Ube City there are numerous resources we can utilize, including information on accessible toilets, and the large private-hire bus, the 'Salvia Heart,' which can accommodate people boarding in their wheelchair, as is.

The **promotion of collaboration between industry, education, academia, and government**, can lead to a 'town atmosphere" and 'human resource development' which is welcoming to all, **the significance of which is enormous**.

In fact, through their involvement in the project, students have converted the mounting of the toilet paper dispenser that was found to be too high for use. Through **awareness of the issue, they recognized the problem, and this led them to be able to easily find a solution**.

Through activities such as these, I hope that Ube City will become "**A town which is easy for everyone to live in," and "Easy for everyone to visit."**