14th International Conference on Computers in Urban Planning and Urban Management @ MIT



Comparing the Distribution of Open Geospatial Information between the Cities of Japan and Other Countries

Toshikazu Seto* and Yoshihide Sekimoto



* Project Assistant Professor (Ph.D)
Center for Spatial Information Science,
the University of Tokyo

Outline

- The background on this study: open data
- The overview and situation of Japanese open data cities
- Comparison with open data in the international open data cities
- Conclusions

"Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness)."

by opendefinition.org



G8 Open Data Charter 2013.6.18 → High Value Data is Geospatial !

Action 2: Release of high value data

• We recognise the following as areas of high value, both for improving our democracies and encouraging innovative re-use of data.

Data Category* (alphabetical order)	Example datasets
Companies	Company/business register
Crime and Justice	Crime statistics, safety
Earth observation	Meteorological/weather, agriculture, forestry, fishing, and hunting
Education	List of schools; performance of schools, digital skills
Energy and Environment	Pollution levels, energy consumption
Finance and contracts	Transaction spend, contracts let, call for tender, future tenders, local budget, national budget (planned and spent)
Geospatial	Topography, postcodes, national maps, local maps
Global Development	Aid, food security, extractives, land

1) The world is witnessing the growth of a global movement facilitated by technology

Source:

Policy paper

Annex

Contents

Published 18 June 2013

6. Technical annex

Principle 1: Open Data by D
Principle 2: Quality and Qu
Principle 3: Usable by All
Principle 4: Releasing Data
Principle 5: Releasing Data

Prea

G8 Open Da

https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex http://www.mofa.go.jp/mofaj/gaiko/page4_000099.html

However...



Background and Purpose

- 1. The focus of open data for open government and geospatial information distribution (cf. Sui, 2014; Kitchen, 2014; Johnson and Robinson, 2015)
 - Civic engagement with open data/government
 - Information distribution by open data platform
- 2. Development and distribution of open geospatial data has not been compared at the local government level.
- This study examined the present situation and quantitative evaluation of open geospatial data by comparing local governments in Japan and the international open data cities.



The Overview and Situation of Japanese Open Government Cities





RECOE		\$.	∛ �}⊙	GIS Datasets	۵
		18/			
			U		
	l				
				<u>∎</u> ∕∎	
-T	1 aft		(T)		

8/21

Open Data Distribution in Japanese Local Governments (almost embedded in a static Web page: cannot easy to count!)

その他 区政情報一覧 サイ 名称 概要 掲載日 形式 更新日 ズ アンケート調査・訪問員調査の内容 PDF、 2014年10月 平成25年度区役所業務の格付け結果 と結果 xls 27日 アンケート調査・訪問員調査の内容 PDF、 2014年10月 平成24年度区役所業務の格付け結果 と結果 xls 27日 区名、実施日、受付・予約方法、問 2014年10月 15KB 巡回法律相談 相談日一覧表 合せ先、予約電話番号、所在地、最 xls 10日 寄駅

子育て情報

子育て情報一覧										
名称	概要	形式	サイズ	揭載日	更新日					
<u>児童いきいき放課後事業(愛称「いきい</u> き」)実施場所一覧	区名、小学校いきいき名、所在地、 「いきいき」専用電話	CSV	18KB	2014年10月24 日	-					
留守家庭児童対策事業 実施場所一覧	区名、名称、所在地、電話番号	CSV	6KB	2014年10月24 日	-					
都島区内保育所の空き情報	施設毎・年齢毎の空き人数	xls	-	2015年2月1日	毎月1日					

環境情報

環境局統計年報

環境局統計年報										
名称	概要	形式	サイ ズ	掲載日	更新日					
平成24年度 環境局統計年報	環境保全事業統計、ごみ処理事業統計、し尿処理事業統計、 b尿処理事業統計、胞衣汚物処 理事業統計、埋火葬事業統計	PDF	-	2014年10月31 日	-					
平成23年度 環境局統計年報	環境保全事業統計、ごみ処理事業統 計、し尿処理事業統計、胞衣汚物処 理事業統計、埋火葬事業統計	PDF	-	2014年10月31 日	-					

静岡県:	企画広報部情報統計局情
以東課 TEL:0	54-221-2360
Mail: i-s	seisaku@pref.shizuoka.l

ープンデータカタログ

0237912

Catalog Shizuoka

Welcome to Open Data Catalog Shizuoka!

ようこそ、ふじのくにオープンデータカタログへ!

静岡県では、国の「<u>電子行政オープンデータ戦略</u>」(平成24年7月4日高度情報通信ネットワーク社会推進戦略本部決定)を踏まえ、二次利用 可能なデータの公開環境を整備し、実際に公開を進めることで、行政の透明性の向上を図るとともに、公開データを利活用したビジネスが展 開される環境を整え、オープンデータによる経済活性化の促進を図っていきます。

お知らせ

「ふじのくにオープンデータカタログ」は静岡県がオープンデータを実践するために設置したサイトです。 本サイトは、データ活用に関心がある方々から<u>色々なご意見をいただく</u>ことで、使いやすいサイトにしていくとともに、いただいたコメン トを踏まえ、柔軟な修正をしていくことを考えております。そのため、本サイトは<u>利用規約</u>も含め、予告なく変更される可能性があります。

新着情報		
最新 20件 ÷ RSS		
三島市内の桜の名所	三島市	02/20 15:2
御前崎市役所電話番号案内	御前崎市	02/19 10:1
投票所	磐田市	02/17 14:1
町別人口	磐田市	02/17 14:1
年齡別人口	磐田市	02/17 14:1
<u>御前崎市家庭ごみ収集カレンダー</u>	御前崎市	02/13 09:5
蒙枝市2015年1月末現在年齡別人口	藤枝市	02/10 17:3
蒙枝市2015年1月末現在大字別人口	藤枝市	02/10 17:3
蒙枝市2015年1月末現在町内会別人口	藤枝市	02/10 17:3
御 <u>前崎市防火水槽一覧</u>	御前崎市	02/04 17:1
<u>卸前崎市消火栓一覧</u>	御前崎市	02/04 17:1
<u> 御前崎市市営住宅一覧</u>	御前崎市	02/02 16:2
御前崎市公園一覧	御前崎市	02/02 16:2
御前崎市公衆無線LAN設置箇所一覧	御前崎市	01/26 16:3

The Comparison of Aggregates with Open Data Formats in Japanese Cities

Cities /Formats		Usual	Formats		GI	S Formats		Total Datasets	
	Document ★	XLS ★★	CSV ★★★	RDF ★★★★★	SHP ★★	JSON∙KML ★★★★	Others		
Prefecture	94	58	723	0	47	38	1	961	
Government Ordinance City	113	695	156	8	2	5	2	981	
Core City	43	265	220	13	17	1	3	562	
City and Town	218	531	601	280	35	74	18	1,757	
Total	468	1,549	1,700	301	101	118	24	4,261	

 \bigstar : The aggregates with "Linked Open Data 5 Star index"

The Comparison of Japanese Open Local Governments

11/21

Comparison with Open Data in the International Open Government Cities

CKAN: about 110 local governments (mainly European cities and a few Japanese cities) Socrata: many local governments in the United States

apps

Berlin Open Data provides data held by

Home > City Government > OpenGov > Open Data Catalogue > Citizen Dashboard

\$ 1 IVE

RATE

SWEEPING

and

COLLISE

A AOFE 2

÷¢;

Traffic Injury Rate

Measures the rate of vehicle collisions that resulted in injurie Based upon City of Edmonton population. Rate reported is a su

Past Progress

Github: Philadelphia, Chicago...

GitHub This repository Search Explore Features Enterprise Blog Sign in Sign up CityOfPhiladelphia / CityPlanning-geodata + Star Y Fork 2 open data CityPlanning-geodata / School_Facilities / School_Facilities.geojson ₽ branch: master -:= Ê <> PHILLY aposes on 7 Jul School Facilities (1 contributor 11 Raw History 1 lines (1 sloc) 314.761 kb <> Blame DATA 4 Whitemarsh Abington **All Data** Arts / Culture / History di **Budget / Finance** Bensalen PA 309 Economy Jenkintown Education **Elections / Politics** Rockle Environment Food Chelte Health / Human Services Parks / Recreation Delanco Planning / Zoning **Public Safety** Riverside **Real Estate / Land Records** Transportation 14/21 Uncategorized Palmyra - --

Methods

- To get all metadata of open data catalog of the individual cities using API (however, many open data cities difficult to deep access API).
- We choose 10+1 typical open data cities worldwide.
- To evaluate with quantitative status of published basic open data and open geospatial data

Comparison of Open Data Cities using the CKAN platform

16/21

Comparison of 10+1 International Open Government Cities

City Name	Platform	Total population of metro area (10k)	Urbanized area (km2)	Datasets	Resources	Category	Format	Avg. Datasets	GIS Datasets	GIS Datasets (%)	
Amsterdam	CKAN	236.1	593	157	479	18	9	3.1	78	16.3	
Glasgow	CKAN	94.8	262	372	512	13	13	1.4	429	83.8	٦
Helsinki	CKAN	145.6	790	1,163	1,292	19	13	1.1	79	6.1	
Houston	CKAN	562.9	4,827	225	357	42	19	1.6	199	55.7	
Fukuoka	CKAN	252.4	380	126	684	7	4	5.4	11	1.6	
Boston	Socrata	363.9	2,129	319	487	11	5	1.5	46	9.4	
San Fransisco	Socrata	684.8	3,649	826	1,748	11	4	2.1	577	33.0	
Chicago	Socrata	931.5	6,303	1,011	2,140	16	4	2.1	520	24.3	
Dallas	Socrata	414.5	3,033	55	96	5	4	1.7	9	9.4	
New York	Socrata	1,653.9	5,191	3,686	5,120	12	4	1.4	625	12.2	
Philadelphia	Github	402.5	2,104	228	536	15	8	2.4	196	36.6	
	Тс	otal		8,168	13,451	_	_	_	2,769	_	

(Cont'd.) Comparison of Open Data Format of 10 International Open Government Cities

		Usual Formats							GIS Formats			
Cities /Formats	Document ★	XLS ★★	CSV ★★★	XML ★★★	API ★★★★	RDF ★★★★★		SHP ★★	JSON∙KML∙ GML ★★★★	Others Apps	Total	
Amsterdam	52	17	31	0	12	0		30	11	326	479	
Glasgow	15	56	337	6	0	0		40	54	4	512	
Helsinki	86	922	27	17	0	0		63	29	148	1,292	
Houston	50	91	10	3	6	0		185	10	2	357	
Fukuoka	46	610	22	0	0	0		0	0	6	684	
Boston	207	0	56	0	0	56		56	112	0	487	
San Fransisco	0	0	437	437	0	437		0	437	0	1,748	
Chicago	0	0	535	535	0	535		0	535	0	2,140	
Dallas	0	0	24	24	0	24		0	24	0	96	
New York	0	0	1,280	1,280	0	1,280		0	1,280	0	5,120	
Philadelphia	183	3	13	9	110	0		118	5	95	536	
Total	639	1,699	2,772	2,311	128	2,332		492	2,497	581	13,451	

★ : The aggregates with "Linked Open Data 5 Star index"

Conclusions

- In terms of quantity, open data provided in Japan range from only a few to dozens of datasets; however, format types and platforms are limited.
- In contrast, local governments in the US and EU are more open to the provision of data in various formats. Some local governments in the EU have adopted the open-source data portal platform CKAN, and provide open geospatial data in various formats.
- In the US, local governments use Socrata, which allows data to be organized by format; it was found that the proportion of RDF and geospatial data was relatively high.

Future Research

- The deeply evaluation (cf. number of views and downloads of open data)
 - Necessary to devise or even retrieve statistics in API for data portal
- The evaluation by capture and introduction to the civic tech application
 - Update frequency and the data itself (in the case of geospatial information) creating precision scaling
 - Aim for open government: is the participation of a variety of citizens and entities able to achieve this?

Thank you for your attention ! Please suggest your cities situation

