

Smart City Index 2021

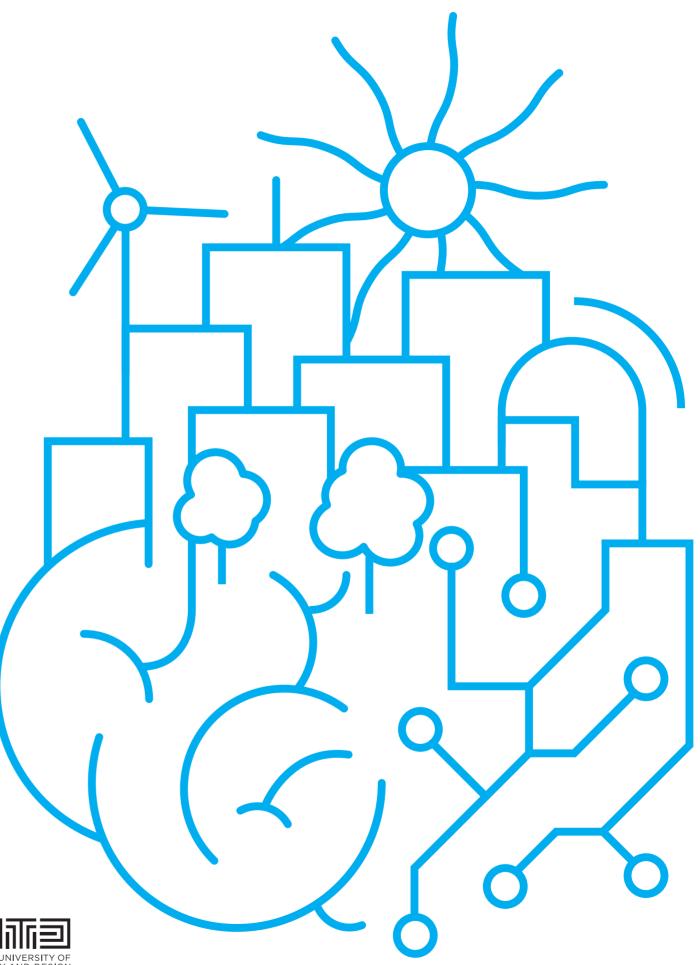
A tool for action, an instrument for better lives for all citizens.

A collaboration between:









"What strange phenomena we find in a great city, all we need do is stroll about with our eyes open."

Charles Baudelaire, Mademoiselle Bistouri

"Cities, like dreams, are made of desires and fears, even if the thread of their discourse is secret, their rules are absurd, their perspectives deceitful, and everything conceals something else."

Italo Calvino, *Invisible Cities*

Preface

Welcome to the third edition of the IMD-SUTD Smart City Index Report. Last year, we wrote in the preface to the same report that it was still too early to draw conclusions from the lessons of the pandemic and of its effects on smart cities. This remains true at the time of launching this latest edition (October 2021). The warnings that emerged from last year's report also remain very much with us a year later: the health crisis might very well be only a harbinger for other challenges for cities around the world, including social and economic ones. During the same time, other global challenges (climate change, inequalities) have not abated. In many respects, on the contrary, they have taken an emergency dimension.

Such global concerns are bound to have sizeable consequences on cities.

One of the most visible aspects of the pandemic has been that of lock-down measures affecting shops, restaurants, entertainment locations, and work places. City centres emptied almost overnight, while traffic was reduced to a small proportion of its previous levels. Teleworking and online meetings became the norm, and those who had the opportunity started to flee large cities and operate from less densely populated areas. It is now becoming clear that a significant part of the new habits created will not fade away after the pandemic. A new normal has been defined for cities.

Health-related emergencies have had dire consequences on cities and on their populations. However, they did not relegate other emergencies (including climate-related issues) to the back burner. As this year's report data show, quality of life, safety, mobility and waste management remained high on the list of citizens' concerns in all parts of the world. Moreover, the same data seems to indicate that the acceleration of deep processes such as digitization has changed some perceptions, creating significant differences between last year's rankings and this year's.

COVID-19 also highlighted how cities could take fresh responsibilities, and come up with innovative solutions in the face of unprecedented emergencies. New definitions of resilience have been offered – and put in practice – in all types of cities around the world.

In that context, some smart cities have displayed higher capabilities to mobilize and harmonize their services and resources. While some hopes lead to partial disappointments (including those put in AI to help accelerate the production of vaccines and relevant medical solutions and equipment), the technologies and analytical tools available in smart cities proved important to manage the tracking tools that were so critical in slowing the spread of COVID-19. On the other hand, the ubiquitous use of such tools raised increasing concerns about the limitation of personal freedoms that they entailed, and the potential misuse of the personal data collected in the process.

Since the creation of the Smart City Index (SCI), we insisted on the fact that it is the position of the authors of this report that smart cities will not generate their full potential unless priority attention is devoted to the necessary balance between the technological aspects of smart cities and their human aspects. The recent crisis has underlined the relevance and importance of this mantra.

On the methodological side, we pursue our efforts to make the SCI methodology and coverage ever better and more relevant to decision makers and analysts. We also strive to maintain the degree of coherence and continuity that will progressively allow the index to generate the longer-term time series required for urban policies and strategies. Fundamentally, the approach has not changed: In line with previous and ongoing efforts initiated and carried out by IMD's World Competitiveness Centre, the Smart City Index presented here remains a holistic attempt to capture the various dimensions of how citizens could consider that their respective cities are becoming better cities by becoming smarter ones. Part of the SCI's uniqueness is to rely first and foremost on the perceptions of those who live and work in the cities covered by the index, while providing a realistic recognition that not all cities start from the same level of development, nor with the same set of endowments and advantages. In SCI's context, a 'smart city' continues to be defined as an urban setting that applies technology to enhance the benefits and diminish the shortcomings of urbanization for its citizens.

This year's report includes 118 cities. One important improvement has been brought to the SCI methodology, which now relies on a compounded weighted average of scores obtained in 2019, 2020 and 2021. Details are provided in the methodology section of the report.

The SCI report is the result of a close cooperation between IMD and SUTD (Singapore University for Technology and Design), and benefitted from inputs by numerous experts and city specialists around the world, who we want to thank most warmly.

It is our collective hope that this new edition of the SCI index and report will continue to generate the productive feedback and discussions that previous editions produced, and we look forward to further opportunities to make them even more valuable in what promises to be an exciting post-pandemic era for smart cities around the world.

Professor Cheong Koon Hean Chair Lee Kuan Yew Centre for Innovative Cities Bruno Lanvin President IMD Smart City Observatory

Table of contents

Preface	3
Table of contents	4
The IMD World Competitiveness Center	6
City performance overview	7
Alphabetical	7
By ranking	9
User's Guide to the Smart City Index	11
Methodology in a nutshell	13
City profiles	14

City Profiles

Aby Dhahi	1 5
Abu Dhabi	
Abuja	16
Amsterdam	17
Ankara	
Athens	19
Auckland	
Bangkok	21
Barcelona	
Beijing	
Bengaluru	24
Berlin	
Bilbao	
Birmingham	
Bogota	
Bologna	
Bordeaux	
Boston	
Bratislava	
Brisbane	
Brussels	
Bucharest	

Budapest	.36
Buenos Aires	. 37
Busan	. 38
Cairo	. 39
Cape Town	. 40
Chengdu	. 41
Chicago	. 42
Chongqing	. 43
Copenhagen	. 44
Denver	. 45
Dubai	. 46
Dublin	. 47
Dusseldorf	. 48
Geneva	. 49
Glasgow	. 50
Gothenburg	. 51
Guangzhou	. 52
Hamburg	. 53
Hangzhou	. 54
Hanoi	. 55
Hanover	. 56

Helsinki	57
Ho Chi Minh City	58
Hong Kong	59
Hyderabad	60
Istanbul	61
Jakarta	62
Kiel	63
Kiev	64
Krakow	65
Kuala Lumpur	66
Lagos	67
Lausanne	68
Leeds	69
Lille	70
Lisbon	71
London	72
Los Angeles	73
Lyon	74
Madrid	75
Makassar	76
Manchester	77
Manila	78
Marseille	79
Medan	80
Medellin	81
Medina	82
Melbourne	83
Mexico City	84
Milan	85
Montreal	86
Moscow	87
Mumbai	88
Munich	89
Nairobi	90
Nanjing	91
New Delhi	92
New York	93
Newcastle	94

Osaka	
Oslo	
Paris	
Philadelphia	
Phoenix	
Prague	
Rabat	
Rio de Janeiro	
Riyadh	
Rome	
Rotterdam	
San Francisco	
San José	
Santiago	
Sao Paulo	
Seattle	
Seoul	
Shanghai	
Shenzhen	
Singapore	
Sofia	
St. Petersburg	
Stockholm	
Sydney	
Taipei City	
Tallinn	
Tel Aviv	
The Hague	
Tianjin	
Tokyo	
Toronto	
Vancouver	
Vienna	
Warsaw	
Washington D.C	
Zaragoza	
Zhuhai	
Zurich	

The IMD World Competitiveness Center

For more than thirty years, the IMD World Competitiveness Center has pioneered research on how countries and companies compete to lay the foundations for sustainable value creation. The competitiveness of nations is probably one of the most significant developments in modern management and IMD is committed to leading the field.

The IMD World Competitiveness Center team:

Professor Arturo Bris	Director
Christos Cabolis	Chief Economist & Head of Operations
Bruno Lanvin	President, Smart City Observatory
José Caballero	Senior Economist
Madeleine Hediger	Data Research and Online Services Specialist
Catherine Jobin	Order and Sales Administrator
William Milner	Research Projects Associate Manager
Marco Pistis	Research Specialist
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City performance overview

Alphabetical

City	Smart City Rank 2021	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Ch	ange
Abu Dhabi	28	BB	BB	BB	42		+14
Abuja	114	D	С	D	107	▼	-7
Amsterdam	17	BBB	А	А	9	▼	-8
Ankara	55	В	В	В	57		+2
Athens	111	С	С	С	99	▼	-12
Auckland	9	А	А	А	4	▼	-5
Bangkok	76	000	CC	В	71	▼	-5
Barcelona	58	В	В	BB	49	▼	-9
Beijing	69	000	CC	000	82		+13
Bengaluru	93	CC	CC	CC	95		+2
Berlin	50	BB	BBB	BB	38	▼	-12
Bilbao	10	BBB	А	BBB	24		+14
Birmingham	51	BB	BB	BBB	40	▼	-11
Bogota	116	D	D	D	92	▼	-24
Bologna	77	000	В	000	70	▼	-7
Bordeaux	32	BB	BBB	BB	NEW		_
Boston	57	В	BBB	В	36	▼	-21
Bratislava	96	CC	CC	CC	76	▼	-20
Brisbane	16	BBB	А	BBB	14	▼	-2
Brussels	52	BB	BB	BBB	60		+8
Bucharest	106	С	С	CC	87	▼	-19
Budapest	97	CC	CC	CC	77	▼	-20
Buenos Aires	98	CC	С	CC	88	▼	-10
Busan	37	BB	В	BBB	46		+9
Cairo	104	С	D	С	106		+2
Cape Town	105	С	С	С	103	▼	-2
Chengdu	72	CCC	CC	CCC	69	▼	-3
Chicago	59	В	В	BB	41	▼	-18
Chongqing	67	000	000	000	64	▼	-3

City	Smart City Rank 2021	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Change	
Copenhagen	7	А	AA	А	6	▼ -1	
Denver	45	BB	BB	В	35	▼ -10	
Dubai	29	BB	BB	BB	43	▲ +14	
Dublin	48	BB	BB	BBB	34	▼ -14	
Dusseldorf	20	BBB	А	BBB	13	▼ -7	
Geneva	8	А	AA	А	7	▼ -1	
Glasgow	49	BB	BB	BBB	NEW	—	
Gothenburg	46	BB	BBB	BBB	31	▼ -15	
Guangzhou	68	CCC	CCC	CCC	68	—	
Hamburg	40	BB	А	BBB	22	▼ -18	
Hangzhou	66	CCC	CCC	CCC	65	▼ -1	
Hanoi	87	CC	СС	СС	84	▼ -3	
Hanover	47	BB	А	BB	33	▼ -14	
Helsinki	6	А	AA	А	2	▼ -4	
Ho Chi Minh City	88	CC	СС	СС	83	▼ -5	
Hong Kong	41	BB	BB	А	32	▼ -9	
Hyderabad	92	CC	СС	СС	85	▼ -7	
Istanbul	94	CC	СС	В	NEW	_	
Jakarta	91	СС	СС	СС	94	▲ +3	
Kiel	53	BB	BBB	BB	NEW	-	
Kiev	82	000	СС	000	98	▲ +16	
Krakow	80	CCC	CCC	CCC	58	▼ -22	
Kuala Lumpur	74	000	000	000	54	▼ -20	
Lagos	115	D	D	D	109	▼ -6	
Lausanne	5	А	AAA	А	NEW		
Leeds	24	BBB	BBB	А	NEW		
Lille	44	BB	В	BB	NEW		
Lisbon	95	CC	СС	000	75	▼ -20	
London	22	BBB	BBB	А	15	▼ -7	

City	Smart City Rank 2021	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Ch	ange
Los Angeles	31	BB	BB	BBB	26	▼	-5
Lyon	39	BB	BB	BB	51		+12
Madrid	34	BB	В	BBB	45		+11
Makassar	100	С	CC	С	96	▼	-4
Manchester	26	BBB	BBB	BBB	17	▼	-9
Manila	102	С	С	С	104		+2
Marseille	83	CCC	CCC	В	78	▼	-5
Medan	99	С	С	CC	97	▼	-2
Medellin	101	С	С	С	72	▼	-29
Medina	73	CCC	CCC	000	NEW		_
Melbourne	19	BBB	BBB	А	20		+1
Mexico City	108	С	С	CC	90	▼	-18
Milan	81	CCC	CCC	CCC	74	▼	-7
Montreal	38	BB	BBB	BB	21	▼	-17
Moscow	54	В	В	В	56		+2
Mumbai	90	CC	CC	CC	93		+3
Munich	14	BBB	AA	BBB	11	▼	-3
Nairobi	113	D	D	D	108	▼	-5
Nanjing	64	000	CCC	000	66		+2
New Delhi	89	CC	CC	CC	86	▼	-3
New York	12	BBB	BB	BBB	10	▼	-2
Newcastle	21	BBB	А	BBB	23		+2
Osaka	86	000	В	000	80	▼	-6
Oslo	3	AA	AAA	А	5		+2
Paris	61	В	CCC	BB	61		-
Philadelphia	85	CCC	CCC	В	52	▼	-33
Phoenix	62	В	BB	В	39	▼	-23
Prague	78	CCC	В	CCC	44	▼	-34
Rabat	103	С	С	D	105		+2
Rio de Janeiro	118	D	D	D	102	▼	-16

City	Smart City Rank 2021	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Cha	ange
Riyadh	30	BB	В	BB	53		+23
Rome	112	С	С	С	101	▼	-11
Rotterdam	27	BBB	BBB	BBB	29		+2
San Francisco	60	В	В	В	27	▼	-33
San José	109	С	С	С	NEW	-	_
Santiago	110	С	С	CC	91	▼	-19
Sao Paulo	117	D	D	D	100	▼	-17
Seattle	43	BB	BB	BB	37	▼	-6
Seoul	13	BBB	В	А	47		+34
Shanghai	71	CCC	СС	CCC	81		+10
Shenzhen	65	CCC	CCC	CCC	67		+2
Singapore	1	AAA	AAA	AAA	1	-	-
Sofia	107	С	С	CC	89	▼	-18
St. Petersburg	79	CCC	CCC	CCC	73	▼	-6
Stockholm	25	BBB	А	BBB	16	▼	-9
Sydney	18	BBB	BBB	А	18	-	-
Taipei City	4	А	А	А	8		+4
Tallinn	56	В	В	CCC	59		+3
Tel Aviv	42	BB	В	BB	50		+8
The Hague	23	BBB	А	BBB	28		+5
Tianjin	70	CCC	CCC	CCC	63	▼	-7
Tokyo	84	CCC	В	CCC	79	▼	-5
Toronto	36	BB	BBB	BB	30	▼	-6
Vancouver	33	BB	BBB	BB	19	▼	-14
Vienna	11	BBB	А	BB	25		+14
Warsaw	75	000	000	CCC	55	▼	-20
Washington D.C.	35	BB	BBB	BB	12	▼	-23
Zaragoza	15	BBB	А	BB	48		+33
Zhuhai	63	000	000	CCC	62	▼	- 1
Zurich	2	AA	AAA	А	3		+1

By ranking

Smart City Rank 2021	City	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Change	Smart Rank 2
1	Singapore	AAA	AAA	AAA	1	-	30
2	Zurich	AA	AAA	А	3	▲ +1	31
3	Oslo	AA	AAA	А	5	▲ +2	32
4	Taipei City	А	А	А	8	▲ +4	33
5	Lausanne	А	AAA	А	NEW	_	34
6	Helsinki	А	AA	А	2	▼ -4	35
7	Copenhagen	А	AA	А	6	▼ -1	36
8	Geneva	А	AA	А	7	▼ -1	37
9	Auckland	А	А	А	4	▼ -5	38
10	Bilbao	BBB	А	BBB	24	▲ +14	39
11	Vienna	BBB	А	BB	25	▲ +14	40
12	New York	BBB	BB	BBB	10	▼ -2	41
13	Seoul	BBB	В	А	47	▲ +34	42
14	Munich	BBB	AA	BBB	11	▼ -3	43
15	Zaragoza	BBB	А	BB	48	▲ +33	44
16	Brisbane	BBB	А	BBB	14	▼ -2	45
17	Amsterdam	BBB	А	А	9	▼ -8	46
18	Sydney	BBB	BBB	А	18	_	47
19	Melbourne	BBB	BBB	А	20	▲ +1	48
20	Dusseldorf	BBB	А	BBB	13	▼ -7	49
21	Newcastle	BBB	А	BBB	23	▲ +2	50
22	London	BBB	BBB	А	15	▼ -7	51
23	The Hague	BBB	А	BBB	28	▲ +5	52
24	Leeds	BBB	BBB	А	NEW	-	53
25	Stockholm	BBB	А	BBB	16	▼ -9	54
26	Manchester	BBB	BBB	BBB	17	▼ -9	55
27	Rotterdam	BBB	BBB	BBB	29	▲ +2	56
28	Abu Dhabi	BB	BB	BB	42	▲ +14	57
29	Dubai	BB	BB	BB	43	▲ +14	58

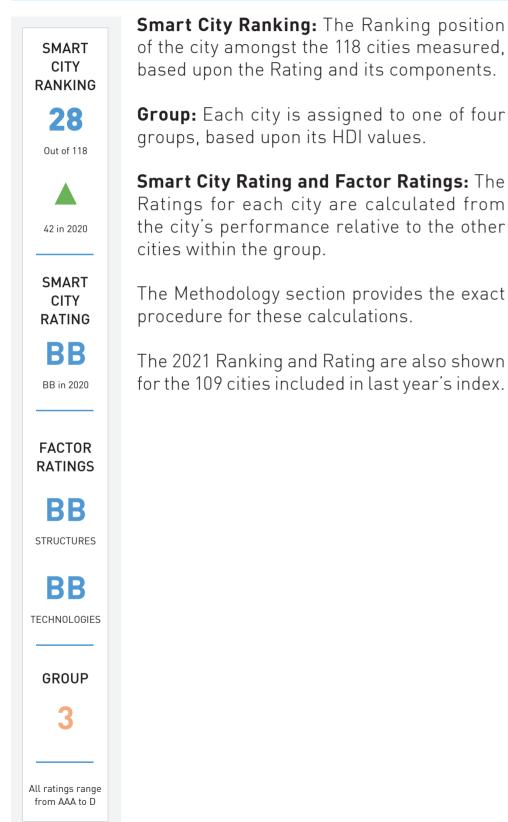
Smart City Rank 2021	City	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Cha	ange
30	Riyadh	BB	В	BB	53	+23	
31	Los Angeles	BB	BB	BBB	26	▼	-5
32	Bordeaux	BB	BBB	BB	NEW	-	_
33	Vancouver	BB	BBB	BB	19	▼	-14
34	Madrid	BB	В	BBB	45		+11
35	Washington D.C.	BB	BBB	BB	12	▼	-23
36	Toronto	BB	BBB	BB	30	▼	-6
37	Busan	BB	В	BBB	46		+9
38	Montreal	BB	BBB	BB	21	▼	-17
39	Lyon	BB	BB	BB	51		+12
40	Hamburg	BB	А	BBB	22	▼	-18
41	Hong Kong	BB	BB	А	32	▼	-9
42	Tel Aviv	BB	В	BB	50		+8
43	Seattle	BB	BB	BB	37	▼	-6
44	Lille	BB	В	BB	NEW	-	_
45	Denver	BB	BB	В	35	▼	-10
46	Gothenburg	BB	BBB	BBB	31	▼	-15
47	Hanover	BB	А	BB	33	▼	-14
48	Dublin	BB	BB	BBB	34	▼	-14
49	Glasgow	BB	BB	BBB	NEW	-	_
50	Berlin	BB	BBB	BB	38	▼	-12
51	Birmingham	BB	BB	BBB	40	▼	-11
52	Brussels	BB	BB	BBB	60		+8
53	Kiel	BB	BBB	BB	NEW	-	_
54	Moscow	В	В	В	56		+2
55	Ankara	В	В	В	57		+2
56	Tallinn	В	В	CCC	59		+3
57	Boston	В	BBB	В	36	▼	-21
58	Barcelona	В	В	BB	49	▼	-9

Smart City Rank 2021	City	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Chan	ge
59	Chicago	В	В	BB	41	▼	-18
60	San Francisco	В	В	В	27	▼	-33
61	Paris	В	CCC	BB	61		
62	Phoenix	В	BB	В	39	▼	-23
63	Zhuhai	CCC	CCC	000	62	▼	- 1
64	Nanjing	CCC	CCC	000	66		+2
65	Shenzhen	CCC	CCC	000	67		+2
66	Hangzhou	CCC	CCC	CCC	65	▼	-1
67	Chongqing	CCC	CCC	CCC	64	▼	-3
68	Guangzhou	CCC	CCC	CCC	68		
69	Beijing	CCC	CC	CCC	82		+13
70	Tianjin	CCC	CCC	CCC	63	▼	-7
71	Shanghai	CCC	CC	CCC	81		+10
72	Chengdu	CCC	CC	CCC	69	▼	-3
73	Medina	CCC	CCC	CCC	NEW		
74	Kuala Lumpur	CCC	CCC	CCC	54	▼	-20
75	Warsaw	CCC	CCC	CCC	55	▼	-20
76	Bangkok	CCC	СС	В	71	▼	-5
77	Bologna	CCC	В	CCC	70	•	-7
78	Prague	CCC	В	CCC	44	▼	-34
79	St. Petersburg	CCC	CCC	CCC	73	•	-6
80	Krakow	CCC	CCC	CCC	58	▼	-22
81	Milan	CCC	CCC	CCC	74	•	-7
82	Kiev	CCC	СС	CCC	98		+16
83	Marseille	CCC	CCC	В	78	•	-5
84	Tokyo	CCC	В	CCC	79	V	-5
85	Philadelphia	CCC	000	В	52	▼	-33
86	Osaka	CCC	В	CCC	80	V	-6
87	Hanoi	СС	СС	CC	84	▼	-3
88	Ho Chi Minh City	СС	СС	CC	83	•	-5

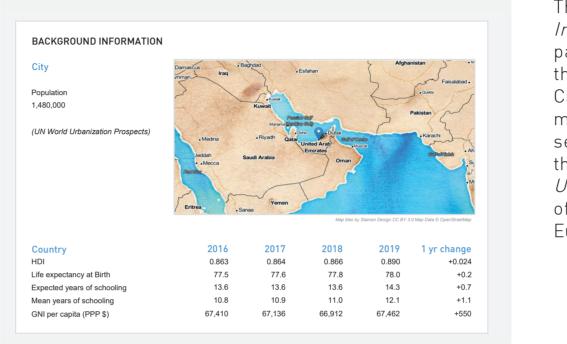
Smart City Rank 2021	City	Smart City Rating 2021	Structure 2021	Technology 2021	Smart City Rank 2020	Cha	nge
89	Delhi	CC	CC	CC	86	▼	-3
90	Mumbai	CC	CC	CC	93		+3
91	Jakarta	CC	CC	CC	94		+3
92	Hyderabad	CC	CC	CC	85	▼	-7
93	Bengaluru	CC	CC	CC	95		+2
94	Istanbul	СС	СС	В	NEW	-	-
95	Lisbon	CC	CC	CCC	75	▼	-20
96	Bratislava	СС	СС	CC	76	▼	-20
97	Budapest	СС	CC	CC	77	▼	-20
98	Buenos Aires	СС	С	CC	88	▼	-10
99	Medan	С	С	CC	97	▼	-2
100	Makassar	С	СС	С	96	▼	-4
101	Medellin	С	С	С	72	▼	-29
102	Manila	С	С	С	104		+2
103	Rabat	С	С	D	105		+2
104	Cairo	С	D	С	106		+2
105	Cape Town	С	С	С	103	▼	-2
106	Bucharest	С	С	CC	87	▼	-19
107	Sofia	С	С	СС	89	▼	-18
108	Mexico City	С	С	CC	90	▼	-18
109	San José	С	С	С	NEW	-	-
110	Santiago	С	С	СС	91	▼	-19
111	Athens	С	С	С	99	▼	-12
112	Rome	С	С	С	101	▼	-11
113	Nairobi	D	D	D	108	▼	-5
114	Abuja	D	С	D	107	▼	-7
115	Lagos	D	D	D	109	▼	-6
116	Bogota	D	D	D	92	▼	-24
117	Sao Paulo	D	D	D	100	▼	-17
118	Rio de Janeiro	D	D	D	102	▼	-16

User's Guide to the Smart City Index

Smart City Ranking

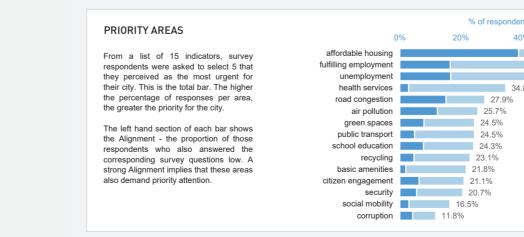


Background Information



Priority Areas

Summarizes the areas that the respondents perceive as the priority area for their city. From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. The total bar indicates the percentage of the respondents that included a given area as one of their five choices. The higher the percentage of responses per area, the greater the priority for the city. The left-hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



This presents the UN Human Development Index and its four components of the parent economy of the city, as well as the city's position on the map. For Taipei City, the data is calculated using the same methodology and comparable data. This section also presents the population of the city as defined through the UN World Urbanization Prospects for the majority of cities or Eurostat for a number of European cities.

Attitudes

Attitudes: Shows and compares the responses to three key privacy aspects (willingness to concede personal data, comfort vis-à-vis face recognition, and whether online information has increased trust in authorities) and the percentage of day-to-day transactions that are non-cash. The city is represented by the blue bar, while the group average is shown by the light red bar.

ATTITUDES			% of responder	nts
ATTITUDES		0%	20%	
You are willing to concer	le personal data in order to improve traffic co	ngestion		
You are comfortable with	a face recognition technologies to lower crime	<u>)</u>		
You feel the availability of	of online information has increased your trust	in authorities		
The proportion of your da (% of transactions)	ay-to-day payment transactions that are non-	cash		
LEGEND: GROUP MEA	N CITY			

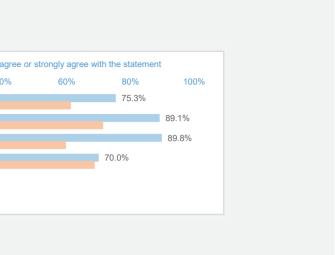
Structures and Technologies

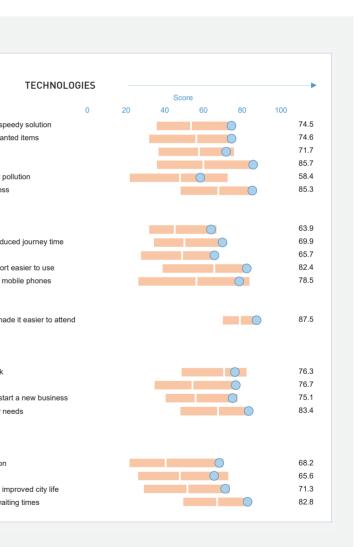
Key survey data collected on Structures (left side) and Technologies (right side), under five key areas: health and safety, mobility, activities, opportunities, and governance.

Each indicator presents the Score for the city and a comparison with its Group (1-4). Showing the Group's Minimum, Mean, and Maximum Scores (light red bar) alongside with the city (blue circle) allows a clear comparison of the city's performance in this indicator. The Methodology section provides the exact calculation of the Score.

This table can be read in two ways: down to examine all Structures or Technologies indicators, or across to examine a key area in both Structures and Technologies.

				LEGEND	: MIN	CITY	MEAN	GROUP MAX	
 ST 	TRUCTURES		C				•		
Health & Safety	0	20	Score 40 60	80	100		Healt	th & Safety	
Basic sanitation meets the needs of the poorest areas					85.9		Online	reporting of city maintenance probl	ems provides a sp
Recycling services are satisfactory				Õ	84.4		A webs	site or App allows residents to easily	y give away unwan
Public safety is not a problem				0	74.5		Free p	ublic wifi has improved access to ci	ty services
Air pollution is not a problem					60.8		CCTV	cameras has made residents feel s	afer
Medical services provision is satisfactory			Ĭ		88.1		A webs	site or App allows residents to effec	tively monitor air p
Finding housing with rent equal to 30% or less of a monthly salary is n	ot a problem				51.0		Arrang	ing medical appointments online ha	is improved access
Mobility							Mobil	lity	
Traffic congestion is not a problem			\bigcirc		66.4		Car-sh	aring Apps have reduced congestion	n
Public transport is satisfactory				\bigcirc	81.9		Apps th	hat direct you to an available parkin	g space have redu
							Bicycle	hiring has reduced congestion	
							Online	scheduling and ticket sales has ma	ide public transpor
							The cit	y provides information on traffic cor	ngestion through m
Activities							Activ	ities	
Green spaces are satisfactory				\bigcirc	80.8		Online	purchasing of tickets to shows and	museums has ma
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	84.3				
Opportunities (Work & School)							Орро	rtunities (Work & School)	
Employment finding services are readily available					66.6		Online	access to job listings has made it e	asier to find work
Most children have access to a good school				\bigcirc	77.9		IT skills	s are taught well in schools	
Lifelong learning opportunities are provided by local institutions					70.1		Online	services provided by the city has m	nade it easier to sta
Businesses are creating new jobs					67.5		The cu	rrent internet speed and reliability n	neet connectivity n
Minorities feel welcome				\bigcirc	80.1				
Governance							Gove	rnance	
Information on local government decisions are easily accessible				\bigcirc	82.3		Online	public access to city finances has r	educed corruption
Corruption of city officials is not an issue of concern					69.7		Online	voting has increased participation	
Residents contribute to decision making of local government					60.5		An onli	ne platform where residents can pr	opose ideas has in
Residents provide feedback on local government projects					69.8		Proces	sing Identification Documents onlin	e has reduced wai







Methodology in a nutshell

1. The IMD-SUTD Smart City Index (SCI) assesses the perceptions of residents on issues related to structures and technology applications available to them in their city.

2. This edition of the SCI ranks 118 cities worldwide by capturing the perceptions of 120 residents in each city. The final score for each city is computed by using the perceptions of the last three years of the survey, with the weight of 3:2:1 for 2021:2020:2019.

3. There are two pillars for which perceptions from residents are solicited: The Structures pillar referring to the existing infrastructure of the cities, and the Technology pillar describing the technological provisions and services available to the inhabitants.

4. Each pillar is evaluated over five key areas: health and safety, mobility, activities, opportunities, and governance.

5. The cities are distributed into four groups based on the UN Human Development Index (HDI) score of the economy they are part of.

6. Within each HDI group, cities are assigned a 'rating scale' (AAA to D) based on the perceptions-score of a given city compared to the scores of all other cities within the same group.

For group 1 (highest HDI quartile), scale For group 2 (second HDI quartile), scale For group 3 (third HDI quartile), scale For group 4 (lowest HDI quartile), scale AAA-AA-A-BBB-BB A-BBB-BB-B-CCC BB-B-CCC-CC-C CCC-CC-C-D

7. Rankings are then presented in two formats:

- an overall ranking (1 to 118)
- a rating for each pillar and overall





Abu Dhabi



28

Out of 118

BACKGROUND INFORMATION

City Population 1.480.000

Businesses are creating new jobs

Minorities feel welcome

Governance

Lifelong learning opportunities are provided by local institutions

Most children have access to a good school

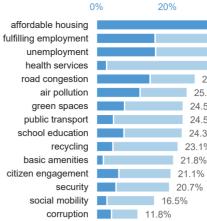
- Esfahar (UN World Urbanization Prospects) Mecca

Country	2016	2017	2018	2019	1 yr change
HDI	0.863	0.864	0.866	0.890	+0.024
Life expectancy at Birth	77.5	77.6	77.8	78.0	+0.2
Expected years of schooling	13.6	13.6	13.6	14.3	+0.7
Mean years of schooling	10.8	10.9	11.0	12.1	+1.1
GNI per capita (PPP \$)	67,410	67,136	66,912	67,462	+550

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

					LEGEND	: MIN
•	STRUCTURES					
			Sc	ore		
Health & Safety	0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas					\bigcirc	
Recycling services are satisfactory					\bigcirc	
Public safety is not a problem					\bigcirc	
Air pollution is not a problem				\bigcirc		
Medical services provision is satisfactory					\bigcirc	
Finding housing with rent equal to 30% or less of a monthly set	alary is not a problem		(
Mobility						
Traffic congestion is not a problem				\bigcirc		
Public transport is satisfactory						

1 1.0	The public will has improved access to only services
60.8	CCTV cameras has made residents feel safer
88.1	A website or App allows residents to effectively monitor air pollution
51.0	Arranging medical appointments online has improved access
	Mobility
66.4	Car-sharing Apps have reduced congestion
81.9	Apps that direct you to an available parking space have reduced jour
	Bicycle hiring has reduced congestion

Free public wife has improved access to city services

GROUP MAX

Health & Safety

Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

80.8

84.3

66.6

77.9

70.1

67.5

80.1

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING BB

42 in 2020

BB in 2020

FACTOR RATINGS

BB STRUCTURES

BB

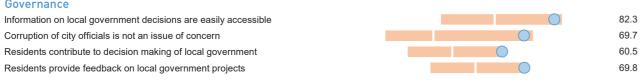
TECHNOLOGIES

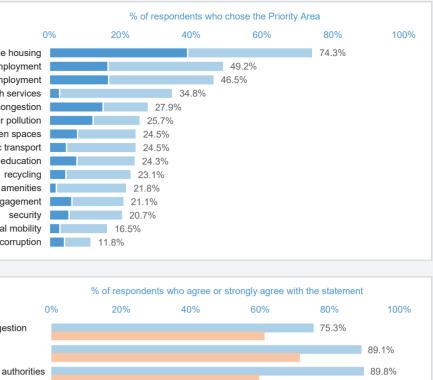
GROUP

3

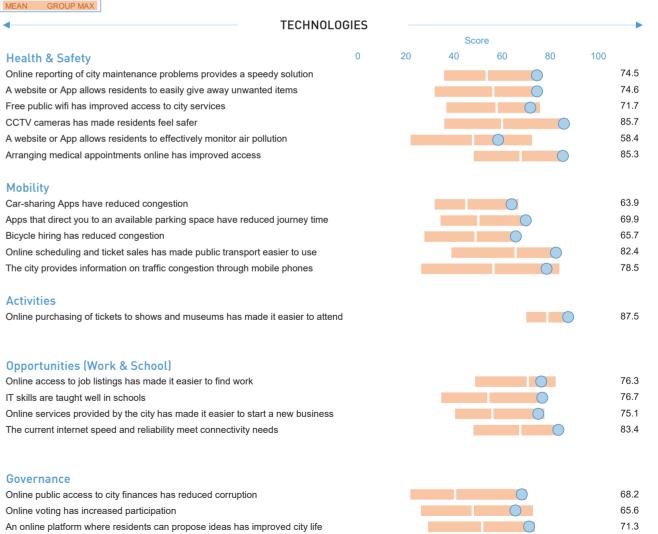
All ratings range from AAA to D

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	





70.0%



82.8



SMART CITY RANKING 114

Out of 118

BACKGROUND INFORMATION

City Population 3.280.000

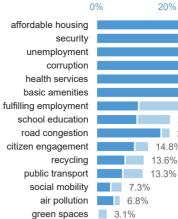


Country	2016	2017	2018	2019	1 yr chang
HDI	0.528	0.533	0.534	0.539	+0.00
Life expectancy at Birth	53.5	54.0	54.3	54.7	+0
Expected years of schooling	9.5	9.7	9.7	10.0	+0.
Mean years of schooling	6.3	6.5	6.5	6.7	+0.
GNI per capita (PPP \$)	5,336	5,203	5,086	4,910	-17

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorit	ies
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: GROUP MEAN CITY

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
4	STRUCTURES					•		•	
			Scor	re					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest area	IS		\bigcirc			44.8		Online	reporting of city m
Recycling services are satisfactory						42.0		A webs	site or App allows
Public safety is not a problem			\bigcirc			37.0		Free pu	ublic wifi has impr
Air pollution is not a problem			0			36.5		CCTV	cameras has mad
Medical services provision is satisfactory			\bigcirc			45.8		A webs	site or App allows
Finding housing with rent equal to 30% or less of a m	nonthly salary is not a problem	\bigcirc				21.0		Arrang	ing medical appoi
Mobility								Mobil	lity
Traffic congestion is not a problem						45.4		Car-sh	aring Apps have r
Public transport is satisfactory						51.7		Apps th	hat direct you to a
								Bicycle	hiring has reduce
								Online	scheduling and tie
								The cit	y provides informa
Activities								Activi	ities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART

107 in 2020

CITY RATING

D in 2020

FACTOR RATINGS

STRUCTURES

D

TECHNOLOGIES

GROUP

All ratings range from AAA to D

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	\bigcirc
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	



-		

alth & Safety

ne reporting of city maintenance problems provides a speedy solution ebsite or App allows residents to easily give away unwanted items e public wifi has improved access to city services TV cameras has made residents feel safer ebsite or App allows residents to effectively monitor air pollution inging medical appointments online has improved access

bility -sharing Apps have reduced congestion s that direct you to an available parking space have reduced journey time cle hiring has reduced congestion

ne scheduling and ticket sales has made public transport easier to use city provides information on traffic congestion through mobile phones

59.8

69.8

38.7

54.1

43.6

64.5

49.6

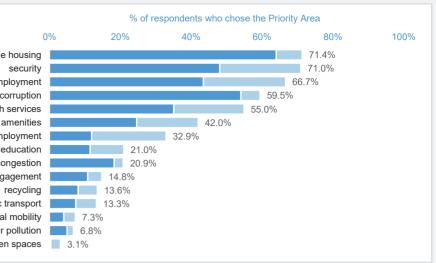
43.6

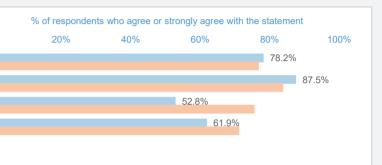
14.9

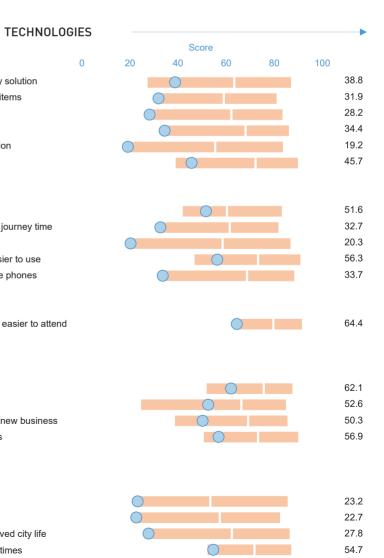
25.5

35.3

ivities







Amsterdam

SMART CITY RANKING

17

BACKGROUND INFORMATION

City Population 1,000,000

(Eurostat)

Out of 118

9 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Sweden

Country	2016	2017	2018	2019	1 yr change
HDI	0.929	0.932	0.934	0.944	+0.010
Life expectancy at Birth	81.9	82.0	82.1	82.3	+0.2
Expected years of schooling	18.0	18.0	18.0	18.5	+0.5
Mean years of schooling	12.2	12.2	12.2	12.4	+0.2
GNI per capita (PPP \$)	47,008	48,994	50,013	57,707	+7,694
	,	,	,		.,

oridon	Denmark arlands wiskels Ussels Luxemburg Prankurt	•Berlin Poland •Prague Czech Republic	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.
France	Switzerland	Munich . Vienna	vvakia udapešt ry Ron	ATTITUDES
	Map tiles by Stamen	Design CC BY 3.0 Map Data ©	OpenStreetMap	You are willing to concede personal data in o
,	2018	2019 1 yr	change	You are comfortable with face recognition te
2	0.934	0.944	+0.010	

de personal data in order to improve traffic congestion th face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	CITY	MEAN	GROUP MAX
STRUCTURES							•	
		S	core					
Health & Safety 0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas					65.0		Online	reporting of city
Recycling services are satisfactory			\bigcirc		63.6		A webs	site or App allow
Public safety is not a problem			\bigcirc		54.5		Free p	ublic wifi has imp
Air pollution is not a problem		\bigcirc			35.6		CCTV	cameras has ma
Medical services provision is satisfactory				\bigcirc	76.5		A webs	site or App allow
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	(27.1		Arrang	ing medical app
Mobility							Mobi	lity
Traffic congestion is not a problem		\bigcirc			36.4		Car-sh	aring Apps have
Public transport is satisfactory)	69.3		Apps th	hat direct you to
							Bicycle	hiring has redu
							Online	scheduling and
							The cit	y provides inforr
Activities							Activ	ities
Green spaces are satisfactory			\bigcirc		57.7		Online	purchasing of tio
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	74.9			
Opportunities (Work & School)							Орро	rtunities (Wo
Employment finding services are readily available			\bigcirc		68.2		Online	access to job lis
Most children have access to a good school			(72.5		IT skills	s are taught well
Lifelong learning opportunities are provided by local institutions					64.3		Online	services provide
Businesses are creating new jobs			\bigcirc		62.1		The cu	rrent internet sp
Minorities feel welcome			\bigcirc		59.0			
Governance							Gove	rnance
Information on local government decisions are easily accessible					62.9		Online	public access to
Corruption of city officials is not an issue of concern			\bigcirc		54.6		Online	voting has incre
Residents contribute to decision making of local government			\bigcirc		53.7		An onli	ine platform whe
Residents provide feedback on local government projects					62.6		Proces	sing Identificatio

	TEC
	TLC
Safety	
orting of city maintenance problems provides a sp	eedy solut
or App allows residents to easily give away unwar	nted items

ee public wifi has improved access to city services CTV cameras has made residents feel safer website or App allows residents to effectively monitor air pollution ranging medical appointments online has improved access

obility

PRIORITY AREAS

From a list of 15 indicators, survey

respondents were asked to select 5 that

they perceived as the most urgent for

their city. This is the total bar. The higher

the percentage of responses per area,

The left hand section of each bar shows

the greater the priority for the city.

ar-sharing Apps have reduced congestion ops that direct you to an available parking space have reduced journey time cycle hiring has reduced congestion line scheduling and ticket sales has made public transport easier to use e city provides information on traffic congestion through mobile phones

ctivities

line purchasing of tickets to shows and museums has made it easier to attend

oportunities (Work & School)

line access to job listings has made it easier to find work skills are taught well in schools nline services provided by the city has made it easier to start a new business e current internet speed and reliability meet connectivity needs

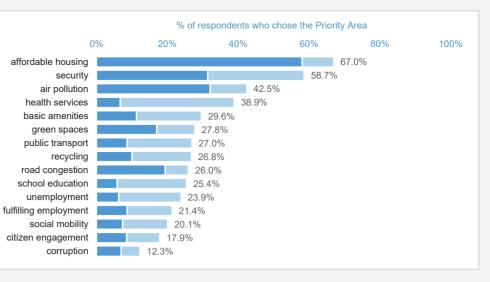
overnance

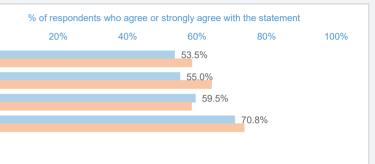
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

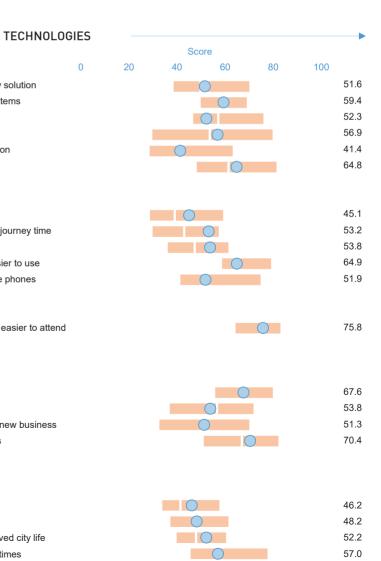
0%

0%

affordable housing security air pollution health services basic amenities areen spaces public transport recvclina road congestion unemployment







Ankara

SMART CITY RANKING

55

Out of 118

BACKGROUND INFORMATION

City Population 5.120.000

(UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.800	0.805	0.807	0.820	+0.013
Life expectancy at Birth	76.9	77.2	77.4	77.7	+0.3
Expected years of schooling	16.4	16.4	16.4	16.6	+0.2
Mean years of schooling	7.6	7.7	7.7	8.1	+0.4
GNI per capita (PPP \$)	23,409	24,702	24,905	27,701	+2,796

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

unemployment affordable housing green spaces road congestion fulfilling employment corruption air pollution recycling security basic amenities public transport school education health services citizen engagement 11.6%

0%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

		EGEND: MIN CIT	Y MEAN GROUP MAX
STRUCTURES		•	TECHNOLOGI
	Score		
Health & Safety 0	20 40 60 80	0 100	Health & Safety
Basic sanitation meets the needs of the poorest areas		75.7	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		63.2	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		59.5	Free public wifi has improved access to city services
Air pollution is not a problem		35.2	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		69.3	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		44.5	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		36.7	Car-sharing Apps have reduced congestion
Public transport is satisfactory		60.6	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		56.5	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		68.1	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		61.4	Online access to job listings has made it easier to find work
Most children have access to a good school		55.8	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		66.9	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		53.0	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		60.8	
Governance			Governance
Information on local government decisions are easily accessible		74.1	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		42.4	Online voting has increased participation
Residents contribute to decision making of local government		58.1	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		61.2	Processing Identification Documents online has reduced waiting times

57 in 2020

SMART CITY RATING

B

B in 2020

FACTOR RATINGS

B

STRUCTURES

B

TECHNOLOGIES

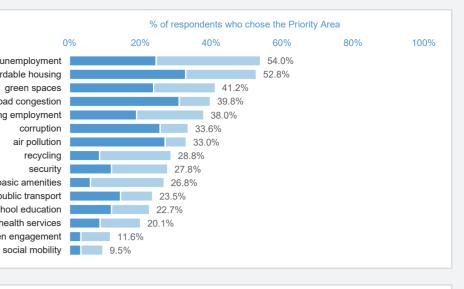
GROUP

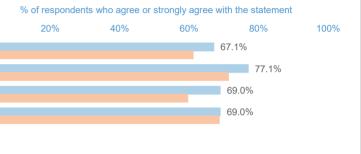
3

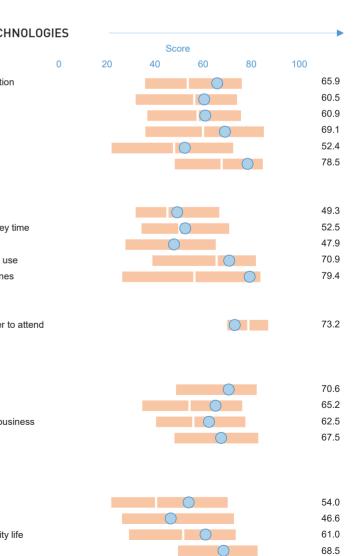
All ratings range from AAA to D

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	









Athens

SMART CITY RANKING

Out of 118

99 in 2020

SMART

CITY

RATING

BACKGROUND INFORMATION

City Population 3,150,000

(UN World Urbanization Prospects)

 Ankara Turke . Cairo

2016 0.866 81.7	2017 0.871 81.9	2018 0.872 82.1	2019 0.888 82.2	1 yr change +0.010 +0.
81.7	81.9	82.1	82.2	+0
17.3	17.3	17.3	17.9	+0.
10.3	10.5	10.5	10.6	+0.
24,187	24,647	24,909	30,155	+5,24

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

security unemployment health services road condestion corruption areen spaces affordable housing fulfilling employment air pollution recvclina public transport basic amenities school education citizen engagement 12.6%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

			LEGEND: MIN CITY	MEAN GROUP MAX
C in 2020	STRUCTURES			<pre>TEC</pre>
		Score		
	Health & Safety 0	20 40 60	80 100	Health & Safety
	Basic sanitation meets the needs of the poorest areas		62.1	Online reporting of city maintenance problems provides a speedy solut
	Recycling services are satisfactory		38.1	A website or App allows residents to easily give away unwanted items
FACTOR	Public safety is not a problem		33.4	Free public wifi has improved access to city services
RATINGS	Air pollution is not a problem		23.4	CCTV cameras has made residents feel safer
10/11100	Medical services provision is satisfactory		39.9	A website or App allows residents to effectively monitor air pollution
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem		23.8	Arranging medical appointments online has improved access
C	Mobility			Mobility
	Traffic congestion is not a problem	\bigcirc	14.9	Car-sharing Apps have reduced congestion
STRUCTURES	Public transport is satisfactory		29.5	Apps that direct you to an available parking space have reduced journe
				Bicycle hiring has reduced congestion
				Online scheduling and ticket sales has made public transport easier to
C				The city provides information on traffic congestion through mobile photon
	Activities			Activities
TECHNOLOGIES	Green spaces are satisfactory		28.0	Online purchasing of tickets to shows and museums has made it easie
	Cultural activities (shows, bars, and museums) are satisfactory		70.8	
	Opportunities (Work & School)			Opportunities (Work & School)
CDOUD	Employment finding services are readily available		35.7	Online access to job listings has made it easier to find work
GROUP	Most children have access to a good school		41.5	IT skills are taught well in schools
	Lifelong learning opportunities are provided by local institutions		41.7	Online services provided by the city has made it easier to start a new b
2	Businesses are creating new jobs		25.8	The current internet speed and reliability meet connectivity needs
5	Minorities feel welcome		31.5	
-				

Governance

41.6

19.4

21.3

35.6

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved c
Processing Identification Documents online has reduced waiting times

All ratings range from AAA to D

Governance

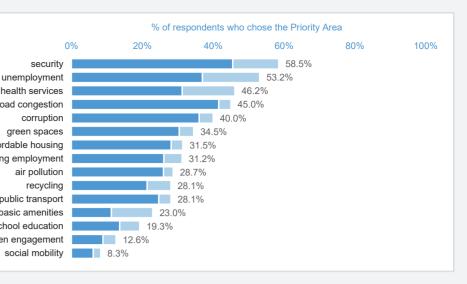
Information on local government decisions are easily accessible

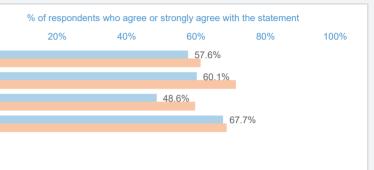
Residents contribute to decision making of local government

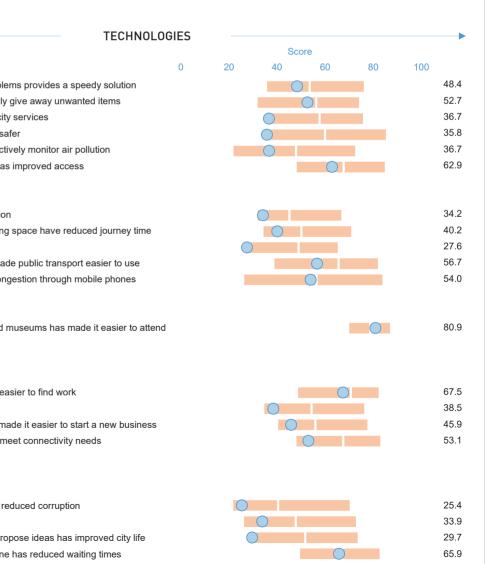
Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

0%







Auckland

SMART CITY RANKING

9

Out of 118

BACKGROUND INFORMATION

City Population 1,610,000

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

(UN World Urbanization Prospe

4 in 2020

SMART CITY RATING

Δ

AA in 2020

FACTOR RATINGS

Α STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

cts)	Theorem Ster	Australia Brancharter Wierpra-		
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Country	2016	2017	2018	2019	1 yr change
HDI	0.917	0.920	0.921	0.931	+0.010
Life expectancy at Birth	81.9	82.0	82.1	82.3	+0.2
Expected years of schooling	18.1	18.8	18.8	18.8	+0.0
Mean years of schooling	12.6	12.7	12.7	12.8	+0.1
GNI per capita (PPP \$)	34,538	34,668	35,108	40,799	+5,691

STRUCTURES

0

PRIORITY A	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing road congestion public transport unemployment health services security fulfilling employment recycling school education green spaces 13.6%

ATTITUDES

			()%		
You are willing to concede personal data in order to improve traffic congestion						
You are comfortable with face recognition technologies to lower crime						
You feel the avai	You feel the availability of online information has increased your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)						
LEGEND: GR	ROUP MEAN	CITY				

				LEGEND:	MIN	CITY	MEAN	GROUP MAX	
							•		TECHNOL
	Sc	ore							
20	40	60	8	0	100		Healt	h & Safety	
			\bigcirc		73.3		Online	reporting of city	maintenance problems provides a speedy solution
			\bigcirc		77.1		A webs	ite or App allow	s residents to easily give away unwanted items
		\bigcirc			55.6		Free pu	ıblic wifi has im	proved access to city services
		\bigcirc			61.1		CCTV o	cameras has ma	ade residents feel safer
	1		\bigcirc		73.5		A webs	ite or App allow	s residents to effectively monitor air pollution
\bigcirc					24.4		Arrangi	ng medical app	ointments online has improved access
							Mobil	ity	
\bigcirc					22.3		Car-sha	aring Apps have	e reduced congestion
	C				48.0		Apps th	at direct you to	an available parking space have reduced journey time
							Bicycle	hiring has redu	ced congestion
							Online	scheduling and	ticket sales has made public transport easier to use
							The city	/ provides inforr	nation on traffic congestion through mobile phones
							Activi	ties	

Green spaces are satisfactory		75.7
Cultural activities (shows, bars, and museums) are satisfactory		80.0
Opportunities (Work & School)		
Employment finding services are readily available		67.2
Most children have access to a good school	\bigcirc	73.2
Lifelong learning opportunities are provided by local institutions		68.7
Businesses are creating new jobs		61.4
Minorities feel welcome		63.8
Governance		
Information on local government decisions are easily accessible		61.8
Corruption of city officials is not an issue of concern		57.5
Residents contribute to decision making of local government		58.8
Residents provide feedback on local government projects		67.8

-				
Gov	/orr	าวท	60	

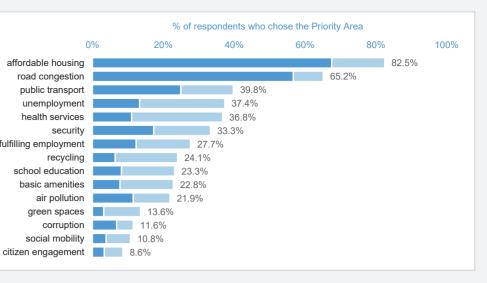
Opportunities (Work & School)

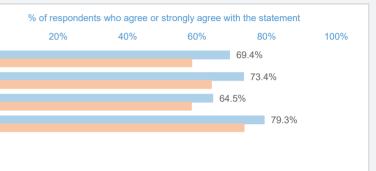
IT skills are taught well in schools

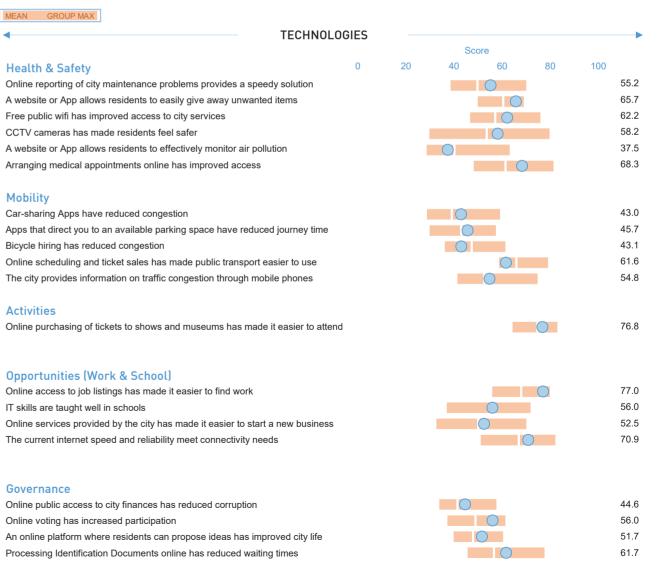
ooverhance
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved city
Processing Identification Documents online has reduced waiting times

The current internet speed and reliability meet connectivity needs

Online access to job listings has made it easier to find work







Bangkok

SMART CITY RANKING

76

Out of 118

BACKGROUND INFORMATION

City Population 10,540,000

(UN World Urbanization Prospects)

71 in 2020

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CC STRUCTURES

B

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

2016	2017	2018	2019	1 yr change
0.753	0.762	0.765	0.777	+0.012
76.4	76.7	76.9	77.2	+0.3
14.3	14.7	14.7	15.0	+0.3
7.6	7.7	7.7	7.9	+0.2
14,966	15,548	16,129	17,781	+1,652
	0.753 76.4 14.3 7.6	0.753 0.762 76.4 76.7 14.3 14.7 7.6 7.7	0.753 0.762 0.765 76.4 76.7 76.9 14.3 14.7 14.7 7.6 7.7 7.7	0.753 0.762 0.765 0.777 76.4 76.7 76.9 77.2 14.3 14.7 14.7 15.0 7.6 7.7 7.7 7.9

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

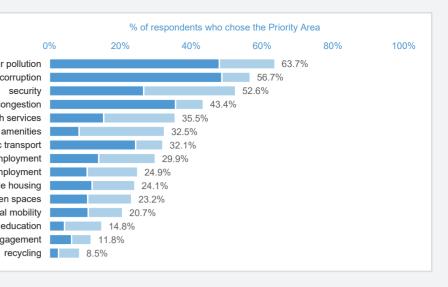
0% air pollution corruption security road congestion health services basic amenities public transport unemployment fulfilling employment affordable housing green spaces social mobility school education 14.8% citizen engagement 11.8%

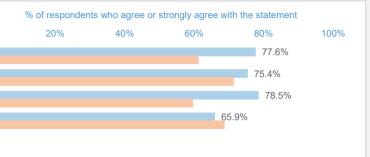
ATTITUDES

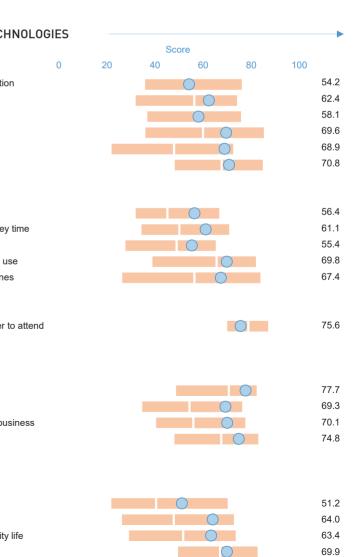
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

Center of the constraint of the provide state is a state of the provide information on that is congestion is not a problem is a state of the provide information on that provide information on that provide information on that provide information on that problem is a provide inform				
STRUCTURES Score TECHNOLOGIES Health & Safety 0 20 40 60 80 100 Health & Safety 0 Baic sanitation meets the needs of the poorest areas Recycling services are salifactory 67.5 A website or App allows residents to easily give away unwanted terms Public safety is not a problem 67.5 A website or App allows residents to easily give away unwanted terms Aubics as the salifactory 9.0 0.0 0.0 0.0 A website or App allows residents to easily give away unwanted terms Aubics as the salifactory 0.0 0.0 0.0 A website or App allows residents to effectively monitor air pollution Fulfic congestion is not a problem 0.0 0.0 A ranging medical appointments online has improved access or Unitors Public tarisport is salisfactory 0.0 0.0 0.0 Arranging Apps have reduced congestion Public tarisport is salisfactory 0.0 0.0 0.0 0.0 0.0 Public tarisport is salisfactory 0.0 0.0 0.0 0.0 0.0 Public tarisport is salisfactory 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				
Health & Safety 0 20 40 60 80 100 Health & Safety 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CTDI			
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Traffic congestion is not a problem 24.8 Car-sharing Apps have reduced congestion Public transport is satisfactory 36.4 Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones Activities Activities Green spaces are satisfactory 54.3 Cultural activities (shows, bars, and museums) are satisfactory 62.2 Opportunities (Work & School) Opportunities (Work & School) Employment finding services are readily available 58.0 Most children have access to a good school 56.7 Lifelong learning opportunities are provided by local institutions 55.0 Businesses are creating new jobs 61.2	Mehility		Mobility	
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Employment finding services are readily available58.0Online access to job listings has made it easier to find workMost children have access to a good school56.7IT skills are taught well in schoolsLifelong learning opportunities are provided by local institutions55.0Online services provided by the city has made it easier to start a new businessBusinesses are creating new jobs61.2The current internet speed and reliability meet connectivity needs	Cultural activities (shows, bars, and museums) are satisfactory		62.2	
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Businesses are creating new jobs 61.2 The current internet speed and reliability meet connectivity needs	Most children have access to a good school		56.7 IT skills are taught well in	schools
	Lifelong learning opportunities are provided by local institutions		55.0 Online services provided	by the city has made it easier to start a new business
Minorities feel welcome 52.8	Businesses are creating new jobs		61.2 The current internet spee	d and reliability meet connectivity needs
	Minorities feel welcome		52.8	
Governance Governance	Governance		Governance	
Information on local government decisions are easily accessible 0 44.9 Online public access to city finances has reduced corruption	Information on local government decisions are easily accessible			ity finances has reduced corruption
Corruption of city officials is not an issue of concern 29.2 Online voting has increased participation	Corruption of city officials is not an issue of concern			
Residents contribute to decision making of local government 44.0 An online platform where residents can propose ideas has improved city life	Residents contribute to decision making of local government		44.0 An online platform where	residents can propose ideas has improved city life
Residents provide feedback on local government projects 48.5 Processing Identification Documents online has reduced waiting times	Residents provide feedback on local government projects		48.5 Processing Identification	Documents online has reduced waiting times







Barcelona

SMART CITY RANKING

BACKGROUND INFORMATION

City Population 1,640,000

(Eurostat)

58

Out of 118

49 in 2020

SMART CITY RATING

B

BB in 2020

FACTOR RATINGS

B

STRUCTURES

BB

TECHNOLOGIES

GROUP

9

L

All ratings range from AAA to D



2016	2017	2018	2019	1 yr change
0.888	0.891	0.893	0.904	+0.011
83.1	83.3	83.4	83.6	+0.2
17.8	17.9	17.9	17.6	-0.3
9.8	9.8	9.8	10.3	+0.5
33,379	34,226	35,041	40,975	+5,934
	0.888 83.1 17.8 9.8	0.888 0.891 83.1 83.3 17.8 17.9 9.8 9.8	0.8880.8910.89383.183.383.417.817.917.99.89.89.8	0.8880.8910.8930.90483.183.383.483.617.817.917.917.69.89.89.89.810.3

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing fulfilling employment security air pollution unemployment health services corruption road congestion school education

0%

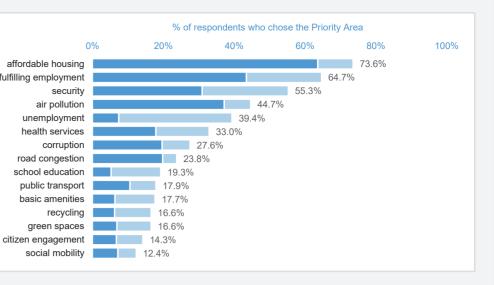
ATTITUDES

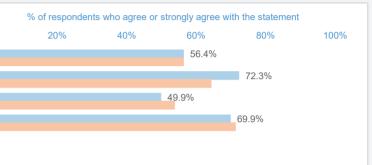
You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities

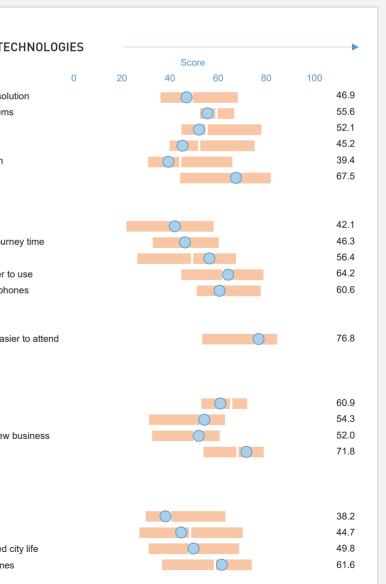
The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

Recycling services are satisfactory 61.3 A website or App allows residents to easily give aw Public safety is not a problem 50.2 Free public will has improved access to city service Air pollution is not a problem 24.6 CCTV cameres has made residents feel safet Medical services provision is satisfactory 61.0 A website or App allows residents to effectively mo Finding housing with rent equal to 50% or less of a monthly salary is not a problem 25.0 Mobility Traffic congestion is not a problem 25.0 Car-sharing Apps have reduced congestion Public transport is satisfactory 65.8 Apps that directly up to a valiable parking space 1 Bicycle hiring has reduced congestion Online scheduling and ticket sales has made reduced congestion Cultural activities (stows, bars, and museums) are satisfactory 59.6 Online purchasing of tickets to shows and museum Cultural activities (Work & School) 77.5 Opportunities (Work & School) Online access to good shool Endogram 61.0 63.3 IT skills are taugh well in school The current internet speed and reliability meet con Businesses are creating new jobs 71.5 Online public access to ity finances has reduced or fill and ticket alse has made reduced oreduce and reliability meet con B	
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Residents contribute to decision making of local government 37.6 An online platform where residents can propose ide	51.6 Online public access to city finances has reduced corruption
	36.0 Online voting has increased participation
	37.6 An online platform where residents can propose ideas has improved of
Residents provide feedback on local government projects 44.7 Processing Identification Documents online has rec	44.7 Processing Identification Documents online has reduced waiting times







Beijing

SMART CITY RANKING

69

Out of 118

82 in 2020

BACKGROUND INFORMATION

City Population 20.460.000

Mongoli (UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.
Expected years of schooling	13.9	13.9	13.9	14.0	+0.
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-7

PRI	AREAS
	AREAS

L

74.5

84.1

79.6

77.0

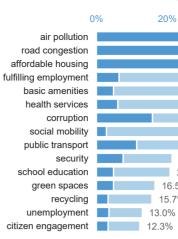
70.0

79.6

78.4

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
Tou are connotable with lace recognition technologies to lower chine	
You feel the availability of online information has increased your trust in authorities	3
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	
LEGEND: GROUP MEAN CITY	

STRUCTURES				LEGEND	MIN	CITY	MEAN GROUP MAX
		Sc	ore				
Health & Safety 0	20	40	60	80	100		Health & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc	82.6		Online reporting of city n
Recycling services are satisfactory				\bigcirc	75.8		A website or App allows
Public safety is not a problem				\bigcirc	72.3		Free public wifi has impr
Air pollution is not a problem		\bigcirc			44.9		CCTV cameras has mad
Medical services provision is satisfactory				\bigcirc	78.2		A website or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			\bigcirc		55.4		Arranging medical appoi
Mobility							Mobility
Traffic congestion is not a problem		\bigcirc			34.9		Car-sharing Apps have
Public transport is satisfactory			\bigcirc		62.4		Apps that direct you to a
							Bicycle hiring has reduce
							Online scheduling and ti
							The city provides inform

Activities	
Green spaces are satisfactory	
Cultural activities (shows bars and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	

Governance 78.1 Information on local government decisions are easily accessible 58.5 Corruption of city officials is not an issue of concern 65.0 Residents contribute to decision making of local government 76.9 Residents provide feedback on local government projects

•	TEC	;
Health & Saf	ety	
Online reporting	of city maintenance problems provides a speedy solut	i
A website or App	allows residents to easily give away unwanted items	
Free public wifi h	as improved access to city services	
CCTV cameras h	nas made residents feel safer	
A website or App	allows residents to effectively monitor air pollution	
Arranging medic	al appointments online has improved access	
Mobility		
0 1		

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CC in 2020

FACTOR RATINGS

CC STRUCTURES

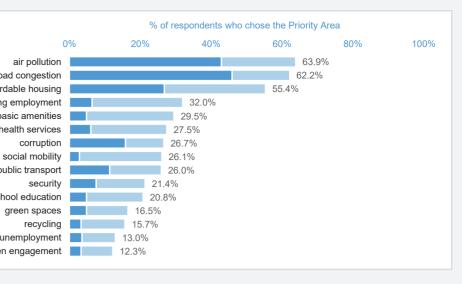
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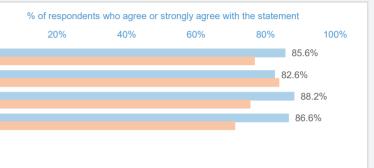
TECHNOLOGIES

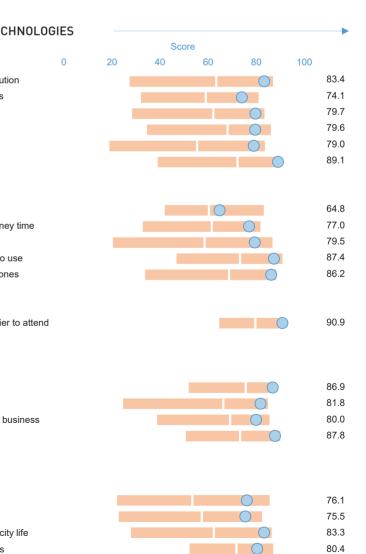
GROUP

4

All ratings range from AAA to D







Bengaluru

SMART CITY RANKING

93

Out of 118

BACKGROUND INFORMATION

City Population 12.330.000

Governance

Corruption of city officials is not an issue of concern

(UN World Urbanization Prospects)



95 in 2020

SMART CITY RATING CC C in 2020

FACTOR RATINGS

CC STRUCTURES

CC

TECHNOLOGIES

GROUP

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.637	0.643	0.647	0.645	-0.002
Life expectancy at Birth	68.9	69.2	69.4	69.7	+0.3
Expected years of schooling	12.3	12.3	12.3	12.2	-0.1
Mean years of schooling	6.4	6.5	6.5	6.5	+0.0
GNI per capita (PPP \$)	6,075	6,446	6,829	6,681	-148

PRIORITY /	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution road congestion basic amenities corruption affordable housing dreen spaces health services fulfilling employment security recycling unemployment public transport citizen engagement 13.7% social mobility 11.7%

ΔΤ	тіт	םט־	FS

	0%			
You are willing to concede personal data in order to improve traffic congestion				
You are comfortable with face recognition technologies to lower crime				
You feel the availability of online information has increased your trust in authorities				
The proportion of your day-to-day payment transactions that are no (% of transactions)	on-cash			
LEGEND: GROUP MEAN CITY				

STRUCTURES				LEGEN		MEAN GROUP MAX
Sincorones		Sco	ore			
Health & Safety 0	20	40	60	80	100	Health & Safety
Basic sanitation meets the needs of the poorest areas			\bigcirc		62.0	Online reporting of city mainten
Recycling services are satisfactory			Õ		59.8	A website or App allows resider
Public safety is not a problem		0			48.1	Free public wifi has improved a
Air pollution is not a problem					27.8	CCTV cameras has made resid
Medical services provision is satisfactory			(71.3	A website or App allows resider
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		C)		49.0	Arranging medical appointments
Mobility						Mobility
Traffic congestion is not a problem					22.8	Car-sharing Apps have reduced
Public transport is satisfactory					60.9	Apps that direct you to an availa
						Bicycle hiring has reduced cong
						Online scheduling and ticket cal

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	

Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	



enance problems provides a speedy solution lents to easily give away unwanted items access to city services sidents feel safer lents to effectively monitor air pollution nts online has improved access

ed congestion ailable parking space have reduced journey time ngestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

64.5

77.4

70.0

71.0

66.0

74.0

68.2

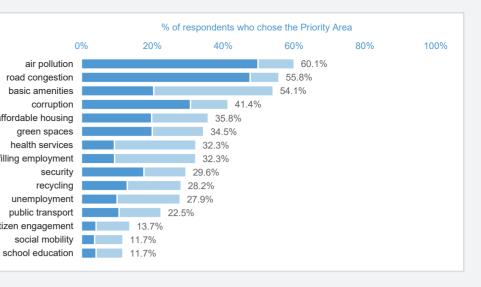
Online purchasing of tickets to shows and museums has made it easier to attend

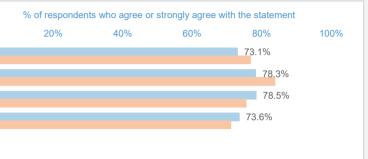
Opportunities (Work & School)

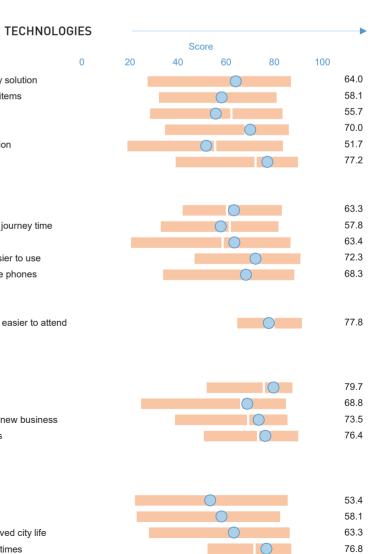
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Berlin

SMART CITY RANKING

BACKGROUND INFORMATION

City Population 3,670,000

(Eurostat)

Out of 118

50

38 in 2020

SMART CITY RATING

BB BBB in 2020

FACTOR RATINGS

BBB STRUCTURES

BB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

.Minsk Belarus (Kiew Ukrain

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
_ife expectancy at Birth	80.9	81.0	81.2	81.3	+0.1
Expected years of schooling	17.1	17.1	17.1	17.0	-0.1
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing security road congestion unemplovment air pollution school education public transport basic amenities recycling green spaces

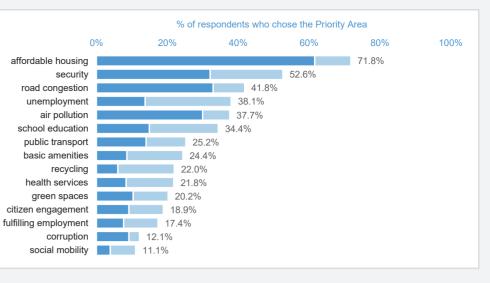
ATTITUDES

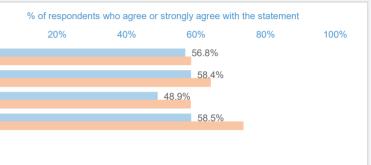
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

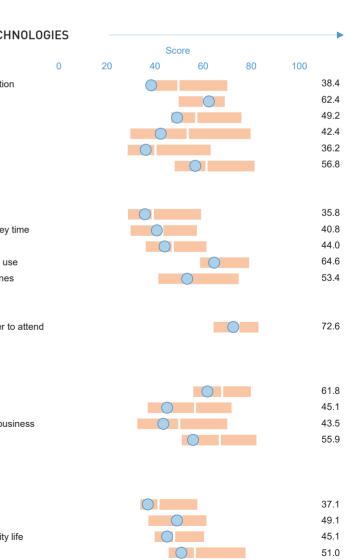
LEGEND: GROUP MEAN CITY

		LEGEND: MIN OCITY	Y MEAN GROUP MAX
STRUCTURES	Score		TECHNOLOGIES
Health & Safety 0	20 40 60	80 100	Health & Safety 0
Basic sanitation meets the needs of the poorest areas	20 10 00	68.7	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		70.1	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		51.6	Free public wifi has improved access to city services
Air pollution is not a problem		38.6	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		69.6	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		26.7	Arranging medical appointments online has improved access
· · · · · · · · · · · · · · · · · · ·			·
Mobility			Mobility
Traffic congestion is not a problem		34.3	Car-sharing Apps have reduced congestion
Public transport is satisfactory		59.0	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		64.2	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		74.1	
Opportunities (Work & School)		50.0	Opportunities (Work & School)
Employment finding services are readily available		59.2	Online access to job listings has made it easier to find work
Most children have access to a good school		57.2	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs		57.2	Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs
Minorities feel welcome		57.1	The current internet speed and reliability meet connectivity needs
Minorities reel welcome		57.1	
Governance			Governance
Information on local government decisions are easily accessible		53.1	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		48.6	Online voting has increased participation
Residents contribute to decision making of local government		46.5	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		53.6	Processing Identification Documents online has reduced waiting times

0%







Bilbao



10

BACKGROUND INFORMATION

City Population 350 000

(Eurostat)

Health & Safety

Mobility

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

Out of 118



24 in 2020

SMART CITY RATING BBB BBB in 2020

FACTOR RATINGS

STRUCTURES

BBB

TECHNOLOGIES

GROUP

Ζ

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.888	0.891	0.893	0.904	+0.011
Life expectancy at Birth	83.1	83.3	83.4	83.6	+0.2
Expected years of schooling	17.8	17.9	17.9	17.6	-0.3
Mean years of schooling	9.8	9.8	9.8	10.3	+0.5
GNI per capita (PPP \$)	33,379	34,226	35,041	40,975	+5,934

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% fulfilling employment affordable housing unemployment securitv health services citizen engagement school education social mobility air pollution corruption road congestion public transport 16.3% basic amenities 10.0%

n%

Δ.	ττι	TU	DES
~			

	0 70
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

LEGEND: STRUCTURES Score 80 0 20 40 60 100 Health & Safety 77.4 Online reporting of city maintenance problems provides a speedy solution \bigcirc 74.3 A website or App allows residents to easily give away unwanted items 64.3 Free public wifi has improved access to city services 52.6 CCTV cameras has made residents feel safer 75.1 A website or App allows residents to effectively monitor air pollution 27.8 Arranging medical appointments online has improved access Mobility 47.8 Car-sharing Apps have reduced congestion 81.4 Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use

Activities	
Green spaces are satisfactory	7
Cultural activities (shows, bars, and museums) are satisfactory	8
Opportunities (Work & School)	
Employment finding services are readily available	7
Most children have access to a good school	7
Lifelong learning opportunities are provided by local institutions	7
Businesses are creating new jobs	4
Minorities feel welcome	6
Governance	
Information on local government decisions are easily accessible	6
Corruption of city officials is not an issue of concern	Ę
Residents contribute to decision making of local government	Ę
Residents provide feedback on local government projects	Ę

The city provides information on traffic congestion through mobile phones

Activities

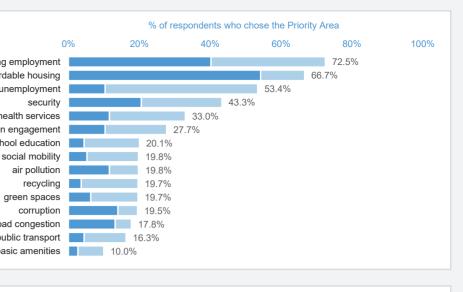
Online purchasing of tickets to shows and museums has made it easier to attend

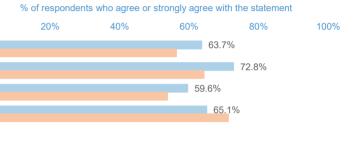
Opportunities (Work & School)

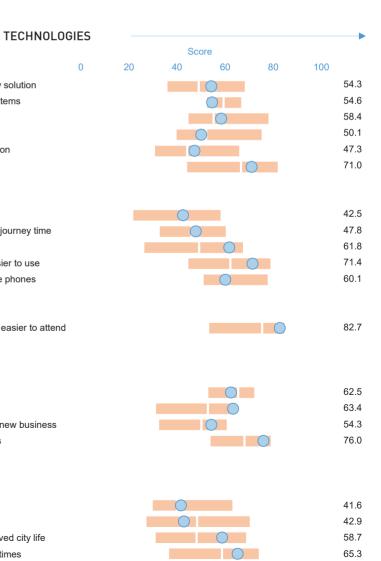
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Birmingham

SMART CITY RANKING

51

Out of 118

BACKGROUND INFORMATION

City Population 1 140 000

(Eurostat)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem



40 in 2020

SMART CITY RATING

BB

BBB in 2020

FACTOR RATINGS

BB STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.918	0.919	0.920	0.932	+0.012
Life expectancy at Birth	81.1	81.2	81.2	81.3	+0.1
Expected years of schooling	17.4	17.4	17.4	17.5	+0.1
Mean years of schooling	12.9	12.9	13.0	13.2	+0.2
GNI per capita (PPP \$)	38,421	39,216	39,507	46,071	+6,564

STRUCTURES

Score

60

 \bigcirc

 \bigcirc

40

20

PRIORITY AREAS

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0% affordable housing unemployment road congestion security health services air pollution fulfilling employment school education recycling areen spaces public transport basic amenities 15.1%

Δ	ΤТ	ΙΤΙ	JD	ES

30.2

59.5

38.3

21.5

48.3

61.9

71.5

61.2

61.6

57.1

55.4

59.8

56.6

41.5

46.4

51.1

ATTITUD	ED		()%
You are will	ing to concede persona	al data in order to imp	prove traffic congestion	
You are con	nfortable with face reco	ognition technologies	to lower crime	
You feel the	availability of online in	formation has increas	sed your trust in authorities	
The proporti (% of transa	ion of your day-to-day actions)	payment transactions	that are non-cash	
LEGEND:	GROUP MEAN	CITY		

LEGEND: 80 100 Health & Safety 58.5 Online reporting of city maintenance problems provides a speedy solution 62.3 A website or App allows residents to easily give away unwanted items 36.4

Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use

The city provides information on traffic congestion through mobile phones

Activities

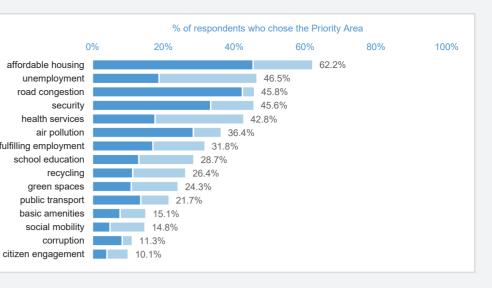
Online purchasing of tickets to shows and museums has made it easier to attend

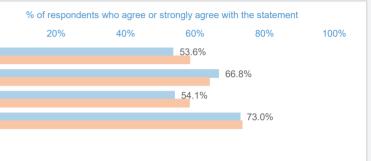
Opportunities (Work & School)

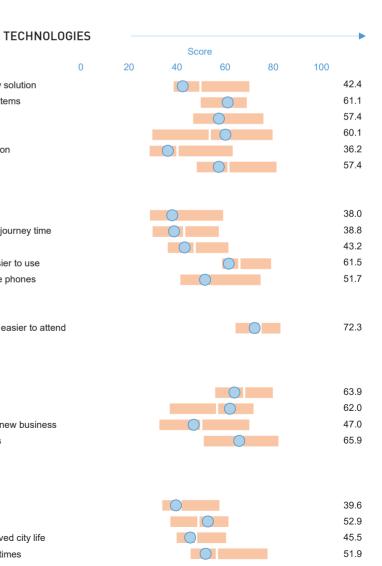
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Bogota

SMART CITY RANKING 16

Out of 118

BACKGROUND INFORMATION

City Population 10.980.000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.759	0.760	0.761	0.767	+0.006
Life expectancy at Birth	76.7	76.9	77.1	77.3	+0.2
Expected years of schooling	14.6	14.6	14.6	14.4	-0.2
Mean years of schooling	8.3	8.3	8.3	8.5	+0.2
GNI per capita (PPP \$)	13,087	12,963	12,896	14,257	+1,361

PRIORITY AREAS

63.5

66.9

45.7

40.1

41.2

33.6

27.4

43.9

16.9

27.0

37.3

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0% security health services corruption unemployment air pollution public transport fulfilling employment affordable housing basic amenities road concestion school education social mobility recycling green spaces 10.1% citizen engagement 7.9%

ATTITUDES	0%				
You are willing to concede personal data in order to improve traffic congestion					
You are comfortable with face recognition technologies to lower crime					
You feel the availability of online information has increased your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)					
LEGEND: GROUP MEAN CITY					

					LEGEND	: MIN	CITY	MEAN	GROUP MAX	
	STRUCTURES							-		TECH
			Sc	ore						
	Health & Safety ⁰	20	40	60	80	100		Healt	h & Safety	
	Basic sanitation meets the needs of the poorest areas		\bigcirc			31.8		Online	reporting of city ma	aintenance problems provides a speedy solution
	Recycling services are satisfactory					45.4		A webs	ite or App allows re	esidents to easily give away unwanted items
	Public safety is not a problem					20.7		Free pu	ublic wifi has impro	ved access to city services
	Air pollution is not a problem	0				21.2		CCTV	cameras has made	e residents feel safer
^	Medical services provision is satisfactory		\bigcirc			40.1		A webs	ite or App allows re	esidents to effectively monitor air pollution
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem	\bigcirc				23.3		Arrangi	ng medical appoin	tments online has improved access
	Mobility							Mobil	ity	
	Traffic congestion is not a problem	\bigcirc				15.0		Car-sha	aring Apps have re	duced congestion
5	Public transport is satisfactory	\bigcirc				26.4		Apps th	nat direct you to an	available parking space have reduced journey
								Bicycle	hiring has reduced	d congestion
								Online	scheduling and tick	ket sales has made public transport easier to us
								The city	y provides informat	tion on traffic congestion through mobile phones
	Activities							Activi	ties	

Activities Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

92 in 2020

SMART CITY RATING

CC in 2020

 \square

FACTOR RATINGS

D

STRUCTURES

D

TECHNOLOGIES

GROUP

Minorities feel welcome

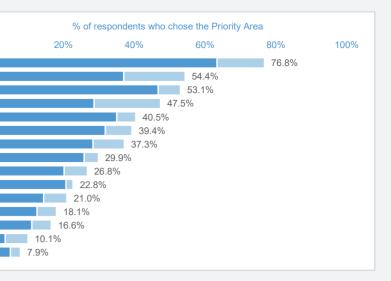
Residents contribute to decision making of local government

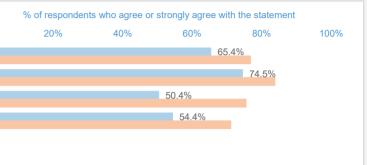
Residents provide feedback on local government projects

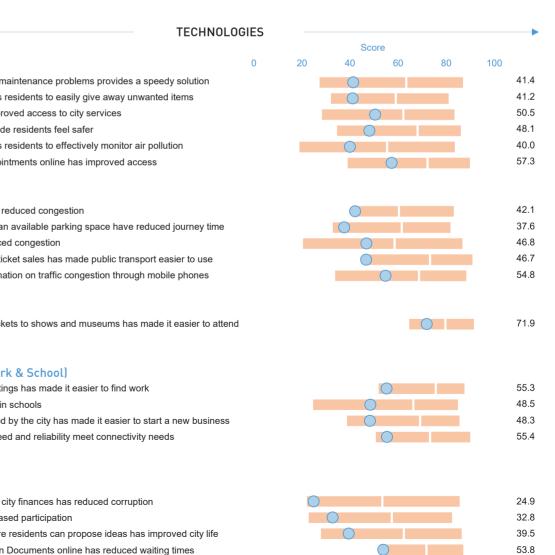
Governance

All ratings range from AAA to D









Bologna

SMART CITY RANKING

77

BACKGROUND INFORMATION

City Population 400,000

(Eurostat)

Out of 118

70 in 2020

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

B STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

2016	2017	2018	2019	1 yr change
0.878	0.881	0.883	0.892	+0.009
83.0	83.2	83.4	83.5	+0.1
16.2	16.2	16.2	16.1	-0.2
10.2	10.2	10.2	10.4	+0.2
34,818	35,573	36,141	42,776	+6,635
	0.878 83.0 16.2 10.2	0.878 0.881 83.0 83.2 16.2 16.2 10.2 10.2	0.878 0.881 0.883 83.0 83.2 83.4 16.2 16.2 16.2 10.2 10.2 10.2	0.878 0.881 0.883 0.892 83.0 83.2 83.4 83.5 16.2 16.2 16.2 16.1 10.2 10.2 10.2 10.4

PRIORITY AREAS

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0% air pollution security affordable housing road condestion unemployment fulfilling employment recycling corruption public transport social mobility citizen engagement basic amenities 15.7% green spaces 14.0% health services 13.9%

ATTITUDES

	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in author	ities
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

LEGEND:

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

50.6

52.2

61.8

45.0

44.3

52.9

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

			000	10			
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas					\bigcirc		73.9
Recycling services are satisfactory							71.8
Public safety is not a problem			\bigcirc)			48.8
Air pollution is not a problem							29.1
Medical services provision is satisfactory					\bigcirc		78.2
Finding housing with rent equal to 30% or less of a monthly salary is not a	problem						78.5
Mobility							
Traffic congestion is not a problem		(32.0
Public transport is satisfactory				\bigcirc			64.1
Activities					_		
Green spaces are satisfactory					\bigcirc		75.6
Cultural activities (shows, bars, and museums) are satisfactory							82.8
Opportunities (Work & School)							
Employment finding services are readily available			\bigcirc				39.9
Most children have access to a good school				(72.9
Lifelong learning opportunities are provided by local institutions				\bigcirc			67.5

STRUCTURES

Score

 \bigcirc

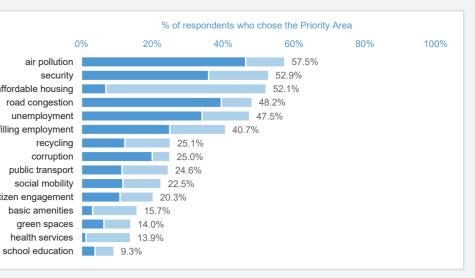
Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern

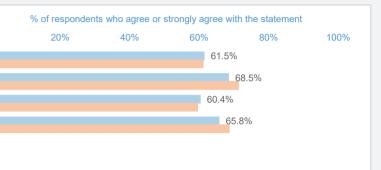
Businesses are creating new jobs

Minorities feel welcome

Governance

Residents contribute to decision making of local government Residents provide feedback on local government projects







Bordeaux

SMART CITY RANKING

32

Out of 118

BACKGROUND INFORMATION

City Population 650,000

(Eurostat)

N/A

not in 2020

SMART CITY RATING

BB

not in 2020

FACTOR RATINGS

BBB STRUCTURES

BB

TECHNOLOGIES

GROUP

9

L

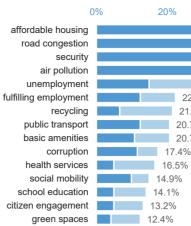
All ratings range from AAA to D

Country	2016	2017	2018	2019	1 yr change
HDI	0.887	0.890	0.891	0.901	+0.010
Life expectancy at Birth	82.3	82.4	82.5	82.7	+0.2
Expected years of schooling	15.5	15.5	15.5	15.6	+0.1
Mean years of schooling	11.4	11.4	11.4	11.5	+0.1
GNI per capita (PPP \$)	38,926	39,935	40,511	47,173	+6,662

PRIORITY AREAS

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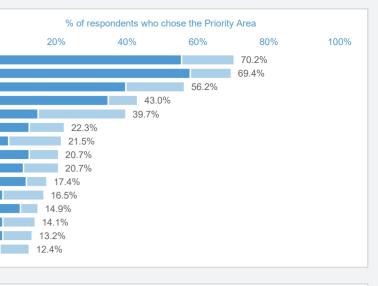


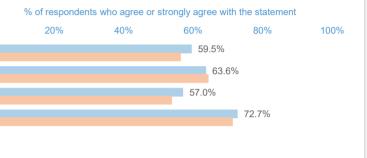
ATTITUDES

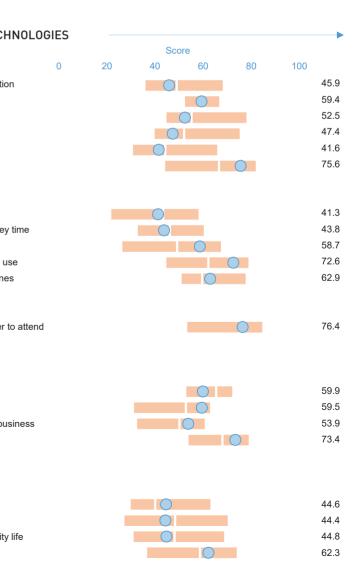
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

	LEGEN		TY MEAN GROUP MAX	
STRUCTURES			▲	ECHNOLOGIES
	Score			
Health & Safety 0	20 40 60 80	100	Health & Safety	0
Basic sanitation meets the needs of the poorest areas		55.4	Online reporting of city maintenance problems provides a speedy s	olution
Recycling services are satisfactory	\bigcirc	65.3	A website or App allows residents to easily give away unwanted ite	ms
Public safety is not a problem		44.1	Free public wifi has improved access to city services	
Air pollution is not a problem		30.2	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory		72.9	A website or App allows residents to effectively monitor air pollution	1
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		25.6	Arranging medical appointments online has improved access	
Mobility			Mobility	
Traffic congestion is not a problem		22.5	Car-sharing Apps have reduced congestion	
Public transport is satisfactory		65.0	Apps that direct you to an available parking space have reduced jo	urney time
			Bicycle hiring has reduced congestion	
			Online scheduling and ticket sales has made public transport easie	r to use
			The city provides information on traffic congestion through mobile	
Activities			Activities	
Green spaces are satisfactory		80.6	Online purchasing of tickets to shows and museums has made it ea	asier to attend
Cultural activities (shows, bars, and museums) are satisfactory		87.6		
Opportunities (Work & School)			Opportunities (Work & School)	
Employment finding services are readily available		64.2	Online access to job listings has made it easier to find work	
Most children have access to a good school		74.0	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions		65.6	Online services provided by the city has made it easier to start a ne	w business
Businesses are creating new jobs		55.9	The current internet speed and reliability meet connectivity needs	
Minorities feel welcome		59.2		
		00.2		
Governance			Governance	
Information on local government decisions are easily accessible		63.5	Online public access to city finances has reduced corruption	
Corruption of city officials is not an issue of concern		50.1	Online voting has increased participation	
Residents contribute to decision making of local government		47.1	An online platform where residents can propose ideas has improve	d city life
		52.9		-
Residents provide feedback on local government projects		52.9	Processing Identification Documents online has reduced waiting tin	162







Boston

SMART CITY RANKING

57

Out of 118

36 in 2020

SMART

CITY

RATING

B

BBB in 2020

FACTOR

RATINGS

BBB

STRUCTURES

B

TECHNOLOGIES

GROUP

9

L

BACKGROUND INFORMATION

City Population 4,310,000

(UN World Urbanization Prospects)



esian CC BY 3.0 Man Data © O

change
+0.006
+0.0
+0.0
+0.0
+7,686

PRIORITY AREAS

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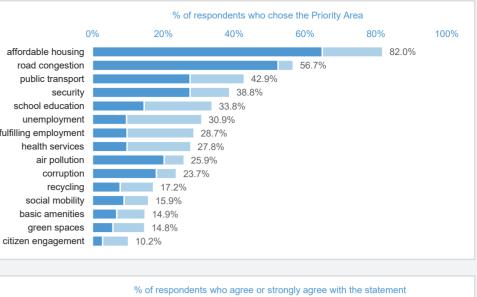
The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

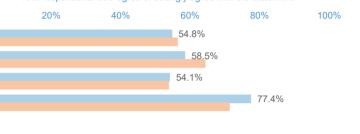
0% affordable housing road congestion public transport security school education unemployment fulfilling employment health services air pollution corruption social mobility 15.9% basic amenities 14.9% green spaces 14.8%

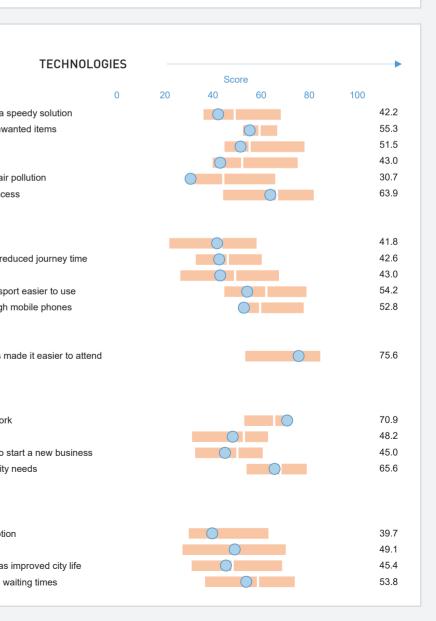
ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

		LEGEND: MIN (CITY MEAN GROUP MAX	
STRUCTURES			•	TECH
	Score			
Health & Safety 0	20 40 60	80 100	Health & Safety	
Basic sanitation meets the needs of the poorest areas	\bigcirc	61.1	Online reporting of city maintenance pro	oblems provides a speedy solution
Recycling services are satisfactory		68.2	A website or App allows residents to ea	sily give away unwanted items
Public safety is not a problem		42.1	Free public wifi has improved access to	city services
Air pollution is not a problem		43.3	CCTV cameras has made residents fee	l safer
Medical services provision is satisfactory		75.1	A website or App allows residents to eff	ectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		27.8	Arranging medical appointments online	has improved access
Mobility			Mobility	
Traffic congestion is not a problem		17.3	Car-sharing Apps have reduced conges	stion
Public transport is satisfactory		46.3	Apps that direct you to an available parl	king space have reduced journey
			Bicycle hiring has reduced congestion	
			Online scheduling and ticket sales has	made public transport easier to us
			The city provides information on traffic of	congestion through mobile phones
Activities			Activities	
Green spaces are satisfactory		65.4	Online purchasing of tickets to shows a	nd museums has made it easier to
Cultural activities (shows, bars, and museums) are satisfactory		82.1		
Opportunities (Work & School)			Opportunities (Work & School)	
Employment finding services are readily available		68.5	Online access to job listings has made i	
Most children have access to a good school		61.1	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions		69.1	Online services provided by the city has	s made it easier to start a new bus
Businesses are creating new jobs		69.6	The current internet speed and reliabilit	y meet connectivity needs
Minorities feel welcome		59.1		-
Governance			Governance	
Information on local government decisions are easily accessible		66.6	Online public access to city finances ha	s reduced corruption
			· · ·	-
		44.9	Online voting has increased participatio	n
Corruption of city officials is not an issue of concern Residents contribute to decision making of local government		44.9 54.1	Online voting has increased participatio An online platform where residents can	

All ratings range from AAA to D







Bratislava

SMART CITY RANKING

96

BACKGROUND INFORMATION

City Population 440.000

(Eurostat)

Mobility

Traffic congestion is not a problem

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Corruption of city officials is not an issue of concern

Residents provide feedback on local government projects

Lifelong learning opportunities are provided by local institutions

Most children have access to a good school

Public transport is satisfactory

Out of 118

76 in 2020

SMART CITY RATING CC CCC in 2020

FACTOR RATINGS

CC STRUCTURES

CC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

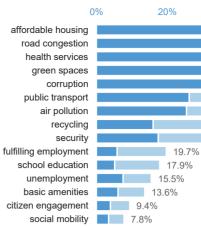
Country	2016	2017	2018	2019	1 yr change
HDI	0.851	0.854	0.857	0.860	+0.003
Life expectancy at Birth	77.0	77.2	77.4	77.5	+0.1
Expected years of schooling	14.5	14.5	14.5	14.5	+0.0
Mean years of schooling	12.6	12.6	12.6	12.7	+0.1
GNI per capita (PPP \$)	28,706	29,544	30,672	32,113	+1,441

PRIORITY A	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

LEGEND: GROUP MEAN CITY



ATTITUDES

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	

CITY MEAN GROUP MAX

TEC
ems provides a speedy soluti
give away unwanted items
y services
afer
ively monitor air pollution
s improved access
n
g space have reduced journe
de public transport easier to
gestion through mobile phon
museums has made it easier
y af iv s n g

67.6

64.2

68.0

61.7

65.5

42.7

LEGEND:

MIN

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

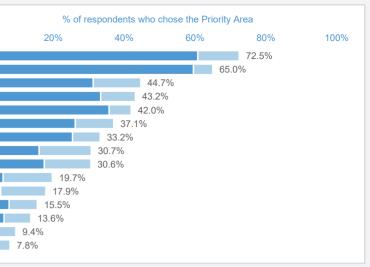
Governance

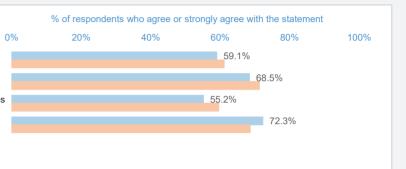
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

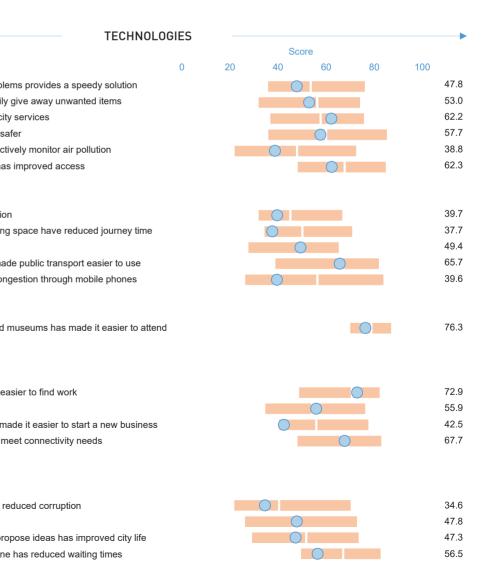
STRUCTURES 0 Health & Safety Basic sanitation meets the needs of the poorest areas Recycling services are satisfactory Public safety is not a problem Air pollution is not a problem Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem

Activities Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory









Brisbane



16

Out of 118

BACKGROUND INFORMATION

City Population 2,410,000

(UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.935	0.937	0.938	0.944	+0.00
Life expectancy at Birth	83.0	83.1	83.3	83.4	+0.
Expected years of schooling	22.9	22.1	22.1	22.0	-0.
Mean years of schooling	12.6	12.7	12.7	12.7	+0.
GNI per capita (PPP \$)	43,653	43,756	44,097	48,085	+3,98

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% affordable housing road congestion unemployment health services public transport fulfilling employment security corruption recycling

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities

The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

		LEGEND: MIN	CITY MEAN GROUP MAX
STRUCTURES			TECHNOLOGIES
	Score		
Health & Safety 0	20 40 60	80 100	Health & Safety 0 20
Basic sanitation meets the needs of the poorest areas		73.0	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		70.4	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		56.6	Free public wifi has improved access to city services
Air pollution is not a problem		53.6	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		72.2	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		37.7	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		26.2	Car-sharing Apps have reduced congestion
Public transport is satisfactory		56.6	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		72.4	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		79.4	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		66.2	Online access to job listings has made it easier to find work
Most children have access to a good school		77.6	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		71.5	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		57.7	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		63.2	
Governance			Governance
Information on local government decisions are easily accessible		63.9	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		45.8	Online voting has increased participation
Residents contribute to decision making of local government		50.5	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		62.8	Processing Identification Documents online has reduced waiting times

SMART CITY

14 in 2020

RATING BBB

A in 2020

FACTOR RATINGS

P STRUCTURES

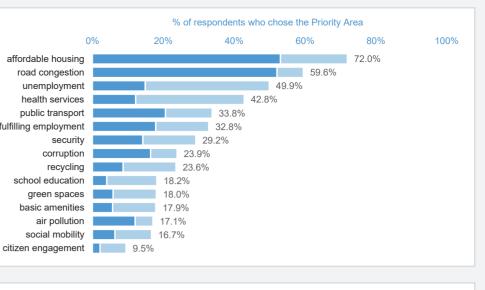
BBB

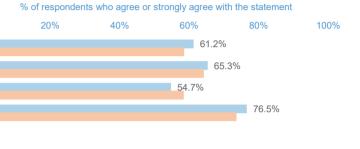
TECHNOLOGIES

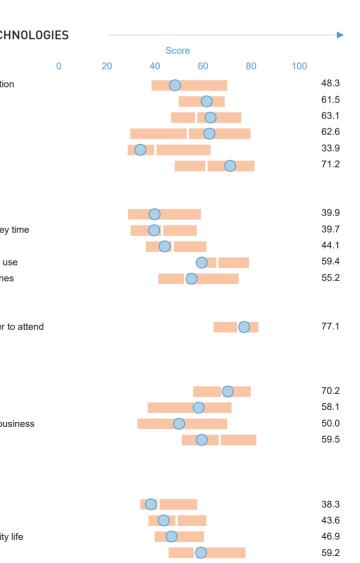
GROUP

1

All ratings range from AAA to D







Brussels

SMART CITY RANKING

52

Out of 118

BACKGROUND INFORMATION

City Population 1.220.000

(Eurostat)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

60 in 2020

SMART CITY RATING

BB B in 2020

FACTOR RATINGS

BB STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

2016	2017	2018	2019	1 yr change
0.915	0.917	0.919	0.931	+0.012
81.1	81.3	81.5	81.6	+0.1
19.7	19.7	19.7	19.8	+0.1
11.8	11.8	11.8	12.1	+0.3
42,260	43,300	43,821	52,085	+8,264
	0.915 81.1 19.7 11.8	0.9150.91781.181.319.719.711.811.8	0.9150.9170.91981.181.381.519.719.719.711.811.811.8	0.9150.9170.9190.93181.181.381.581.619.719.719.719.811.811.811.812.1

STRUCTURES

0

45.7

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% affordable housing air pollution security road congestion unemployment health services fulfilling employment recvclina corruption green spaces public transport school education social mobility

ATTITUDES
You are willing to concede personal da

You ata in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime

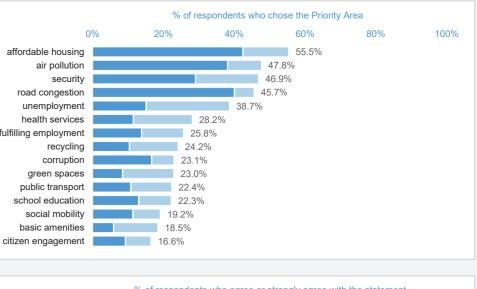
You feel the availability of online information has increased your trust in authorities

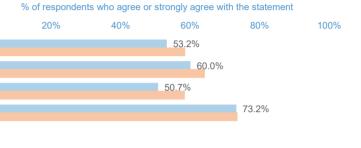
The proportion of your day-to-day payment transactions that are non-cash (% of transaction

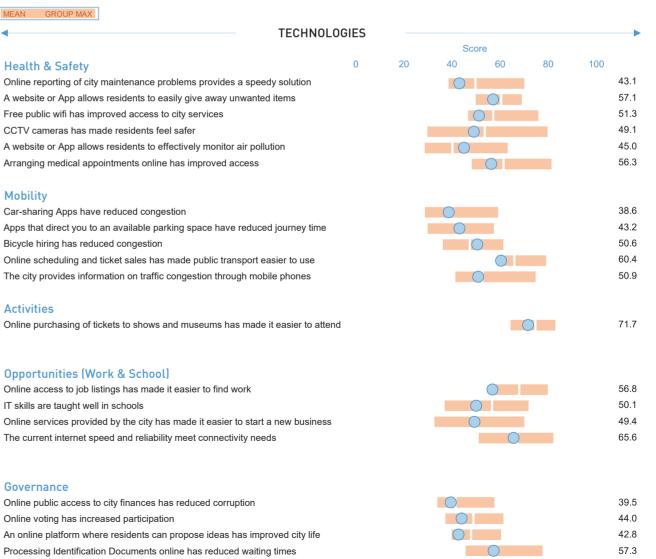
LEGEND: GROUP MEAN CITY

		LEGEND:	MIN	CITY	MEAN GROUP MAX	
						FS
Sco	ore					
20 40	60	80	100		Health & Safety	0
			5	7.6	Online reporting of city maintenance problems provides a speedy solution	
	0		5	9.9	A website or App allows residents to easily give away unwanted items	
	0		5	2.2	Free public wifi has improved access to city services	
			2	9.2	CCTV cameras has made residents feel safer	
-	\bigcirc		6	8.6	A website or App allows residents to effectively monitor air pollution	
			3	3.7	Arranging medical appointments online has improved access	
					Mobility	
			2	6.3	Car-sharing Apps have reduced congestion	
	\bigcirc		6	0.0	Apps that direct you to an available parking space have reduced journey time	
					Bicycle hiring has reduced congestion	
					Online scheduling and ticket sales has made public transport easier to use	
					The city provides information on traffic congestion through mobile phones	
					Activities	
	\bigcirc		7	0.0	Online purchasing of tickets to shows and museums has made it easier to attend	
			7	'3.8		
					Opportunities (Work & School)	
			6	3.6	Online access to job listings has made it easier to find work	
	\bigcirc		5	7.5	IT skills are taught well in schools	
			6	3.7	Online services provided by the city has made it easier to start a new business	
			5	0.9	The current internet speed and reliability meet connectivity needs	
\bigcirc			4	6.1		
					Governance	
	\bigcirc		5	5.0	Online public access to city finances has reduced corruption	
			4	2.3	Online voting has increased participation	
			4	1.0	An online platform where residents can propose ideas has improved city life	

0%







Bucharest

SMART CITY RANKING 106

BACKGROUND INFORMATION

City Population 2.130.000

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Most children have access to a good school

(Eurostat)

Out of 118

87 in 2020

SMART CITY RATING

CC in 2020

FACTOR RATINGS

STRUCTURES

CC

TECHNOLOGIES

GROUP

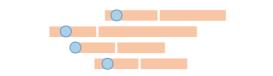
3

All ratings range from AAA to D

Country	2016	2017	2018	2019	1 yr change
HDI	0.808	0.813	0.816	0.828	+0.012
Life expectancy at Birth	75.6	75.8	75.9	76.1	+0.2
Expected years of schooling	14.3	14.3	14.3	14.3	+0.0
Mean years of schooling	11.0	11.0	11.0	11.1	+0.1
GNI per capita (PPP \$)	21,173	22,828	23,906	29,497	+5,591

wear years of schooling	11.0	11.0		1.0	11.1		+0.1		
GNI per capita (PPP \$)	21,173	22,828	23,9	006	29,497		+5,591	LEGE	ND: GROUP MEA
							LEGE	ND: MIN	CITY MEAN
•		STRUCTU	RES						
					Sco	ore			
Health & Safety			0	20	40	60	80	100	Healt
Basic sanitation meets the needs of the poo	orest areas							42.2	Online
Recycling services are satisfactory					0			33.1	A webs
Public safety is not a problem								45.9	Free pu
Air pollution is not a problem				\bigcirc				15.4	CCTV
Medical services provision is satisfactory					\bigcirc			39.0	A webs
Finding housing with rent equal to 30% or le	ess of a monthly sala	ry is not a proble	m					27.2	Arrangi
Mobility									Mobil
Traffic congestion is not a problem								16.0	Car-sha
Public transport is satisfactory					\bigcirc			29.4	Apps th

Activities Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory



PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution road congestion corruption health services basic amenities recvclina green spaces security public transport fulfilling employment school education affordable housing citizen engagement unemployment 11.3%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

AN CITY

GROUP MAX

0%

Ith & Safety

ne reporting of city maintenance problems provides a speedy solution bsite or App allows residents to easily give away unwanted items public wifi has improved access to city services V cameras has made residents feel safer bsite or App allows residents to effectively monitor air pollution nging medical appointments online has improved access

bilitv

sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use

The city provides information on traffic congestion through mobile phones

Activities

48.4

64.4

54.0

50.0

48.0

51.2

52.3

39.9

18.8

22.8

36.2

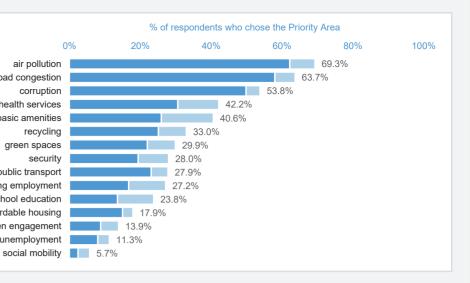
Online purchasing of tickets to shows and museums has made it easier to attend

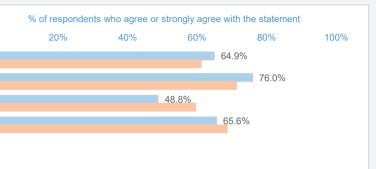
Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







Budapest

SMART CITY RANKING

97

BACKGROUND INFORMATION

City Population 1,750,000

(Eurostat)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

Out of 118

77 in 2020

SMART CITY RATING CC CCC in 2020

FACTOR RATINGS

CC STRUCTURES

CC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.838	0.841	0.845	0.854	+0.009
Life expectancy at Birth	76.3	76.5	76.7	76.9	+0.2
Expected years of schooling	15.1	15.1	15.1	15.2	+0.1
Mean years of schooling	11.8	11.9	11.9	12.0	+0.1
GNI per capita (PPP \$)	25,081	25,774	27,144	31,329	+4,185

STRUCTURES

0

20

 \bigcirc

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing health services corruption securitv air pollution fulfilling employment road congestion areen spaces unemployment public transport basic amenities school education 14.4% social mobility 9.3%

0%

ATTITUDES

LEGEND:

100

24.9

50.2

48.7

72.7

63.5

49.8

61.0

61.3

27.7

50.0

27.8

33.3

44.4

80

	70
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	

MIN Health & Safety 49.2 Online reporting of city maintenance problems provides a speedy solution 55.8 A website or App allows residents to easily give away unwanted items 50.2 Free public wifi has improved access to city services 30.2 CCTV cameras has made residents feel safer 35.2 A website or App allows residents to effectively monitor air pollution 19.6 Arranging medical appointments online has improved access

Ν

LEGEND: GROUP MEAN CITY

Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journe
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to
The city provides information on traffic congestion through mobile phone

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

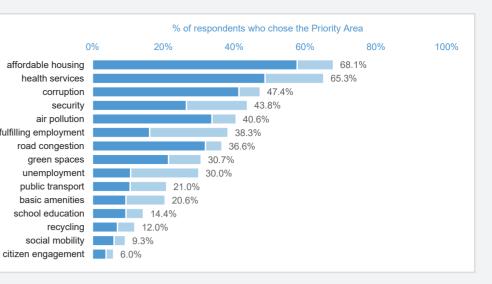
Governance

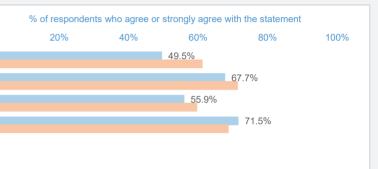
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

Score

60

40







Buenos Aires

SMART CITY RANKING

98

Out of 118

88 in 2020

BACKGROUND INFORMATION

City Population 15,150,000

(UN World Urbanization Prospects)

Businesses are creating new jobs

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Minorities feel welcome

Governance



Country	2016	2017	2018	2019	1 yr change
HDI	0.828	0.832	0.830	0.845	+0.015
Life expectancy at Birth	76.2	76.4	76.5	76.7	+0.2
Expected years of schooling	17.4	17.6	17.6	17.7	+0.1
Mean years of schooling	10.5	10.6	10.6	10.9	+0.3
GNI per capita (PPP \$)	18,249	18,462	17,611	21,190	+3,579

PRIORITY AREAS

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security unemployment corruption health services affordable housing fulfilling employment school education basic amenities road congestion air pollution citizen engagement 13.7% social mobility 10.6% green spaces 10.3%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

					LEGEND	: MIN	CITY	MEAN	GROUP MAX
	EC				LEGEND				
SINOCION	LJ		Sc	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas			\bigcirc			41.8		Online	reporting of city
Recycling services are satisfactory						48.7		A webs	site or App allow
Public safety is not a problem		\bigcirc				23.4		Free pu	ublic wifi has imp
Air pollution is not a problem		\bigcirc				27.1		CCTV	cameras has ma
Medical services provision is satisfactory						48.7		A webs	site or App allow
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	ı					25.0		Arrang	ing medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem						22.2		Car-sh	aring Apps have
Public transport is satisfactory			C)		47.4		Apps th	nat direct you to
								Bicycle	hiring has redu
								Online	scheduling and
								The cit	y provides inform
Activities								Activi	ties
Green spaces are satisfactory					\bigcirc	75.6		Online	purchasing of tio
Cultural activities (shows, bars, and museums) are satisfactory						77.3			
Opportunities (Work & School)								Орро	rtunities (Wo
Employment finding services are readily available			\bigcirc			45.4		Online	access to job lis
Most children have access to a good school			\bigcirc			35.4		IT skills	s are taught well
Lifelong learning opportunities are provided by local institutions			(50.4		Online	services provide

Health & Safety Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use

The city provides information on traffic congestion through mobile phones Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

34.7

42.9

50.3

22.3

32.1

43.8

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CC CC in 2020

FACTOR RATINGS

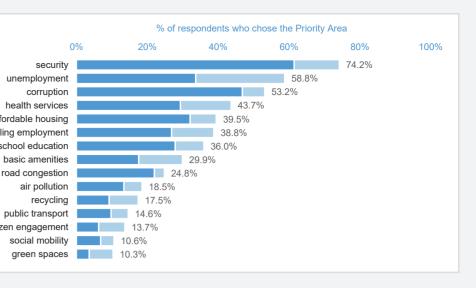
STRUCTURES

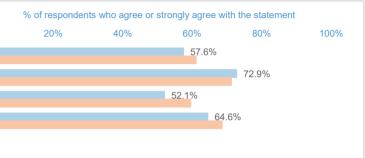
CC

TECHNOLOGIES

GROUP

3







Busan



37

Out of 118

BACKGROUND INFORMATION

City Population 3,470,000

(UN World Urbanization Prospects) en Design CC BY 3.0 Map Data © Ope

Country	2016	2017	2018	2019	1 yr change
HDI	0.901	0.904	0.906	0.916	+0.010
Life expectancy at Birth	82.4	82.6	82.8	83.0	+0.2
Expected years of schooling	16.4	16.4	16.4	16.5	+0.1
Mean years of schooling	12.2	12.2	12.2	12.2	+0.0
GNI per capita (PPP \$)	35,122	35,945	36,757	43,044	+6,287

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% fulfilling employment unemployment road congestion affordable housing air pollution corruption basic amenities security green spaces public transport citizen engagement school education 16.0% health services 15.5%

ATTITUDES

Ocr

-

71.9

69.9

66.2

24.4

75.7

44.6

ATTIODES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	es
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

				LEGEND:	MIN
STRUCTURES		Sc	ore		
Health & Safety 0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas			(\bigcirc	7
Recycling services are satisfactory					6
Public safety is not a problem			\bigcirc		6
Air pollution is not a problem	C	1			2
Medical services provision is satisfactory				\bigcirc	7
Finding housing with rent equal to 30% or less of a monthly salary is not a problem					4

Traffic congestion is not a problem	29.4
Public transport is satisfactory	66.8

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

TΥ	MEAN GROUP MAX	
	•	TE
	Health & Safety	
	Online reporting of city maintenance problems provides	a speedy sol
	A website or App allows residents to easily give away ur	wanted item
	Free public wifi has improved access to city services	
	CCTV cameras has made residents feel safer	
	A website or App allows residents to effectively monitor	air pollution
	Arranging medical appointments online has improved ac	cess
	No. 1 111	
	Mobility	

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use

The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY

46 in 2020

RATING BB

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BB in 2020
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FACTOR RATINGS

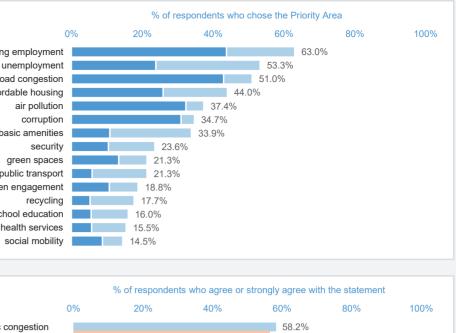
B STRUCTURES

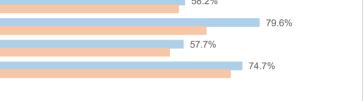
BBB

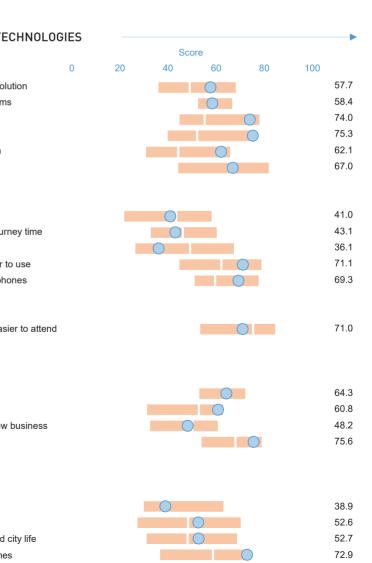
TECHNOLOGIES

GROUP

2











Out of 118

106 in 2020

SMART

CITY RATING

D in 2020

FACTOR

RATINGS

D

STRUCTURES

BACKGROUND INFORMATION

Opportunities (Work & School)

Governance

Corruption of city officials is not an issue of concern

City Population 20,900,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.695	0.696	0.700	0.707	+0.007
Life expectancy at Birth	71.5	71.7	71.8	72.0	+0.2
Expected years of schooling	13.1	13.1	13.1	13.3	+0.2
Mean years of schooling	7.2	7.2	7.3	7.4	+0.1
GNI per capita (PPP \$)	10,323	10,473	10,744	11,466	+722

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

health services road congestion air pollution corruption affordable housing unemplovment basic amenities school education green spaces fulfilling employment public transport security recycling citizen engagement 11.9% social mobility 5.0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
	-
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND	MIN	CITY	MEAN	GROUF
•	STRUCTURES						•		
			Sco	re					
Health & Safety	0	20	40	60	80	100		Health	ı & Sa
Basic sanitation meets the needs of the poorest areas						58.0		Online re	eporting
Recycling services are satisfactory			\bigcirc			43.8		A websit	te or Ap
Public safety is not a problem			\bigcirc			34.8		Free put	olic wifi
Air pollution is not a problem		\bigcirc				19.6		CCTV c	ameras
Medical services provision is satisfactory			C)		49.4		A websit	te or Ap
Finding housing with rent equal to 30% or less of a monthly sala	ry is not a problem		\bigcirc			35.6		Arrangin	ig med
Mobility								Mobili	ty
Traffic congestion is not a problem		\bigcirc				15.0		Car-sha	ring Ap
Public transport is satisfactory			\bigcirc			46.0		Apps that	at direc
								Bicycle I	hiring h
								Online s	chedul
								The city	provid

TECHNOLOGIES

GROUP

All ratings range from AAA to D

Activities		
Green spaces are satisfactory	\bigcirc	
Cultural activities (shows, bars, and museums) are satisfactory		

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	



•	TEC
Health & Safety	
Online reporting of city maintenance problems provide	es a speedy solut
A website or App allows residents to easily give away	unwanted items
Free public wifi has improved access to city services	
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively monitor	or air pollution
Arranging medical appointments online has improved	access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

39.1

62.5

34.5

43.5

41.3

42.8

60.2

Online purchasing of tickets to shows and museums has made it easier to attend

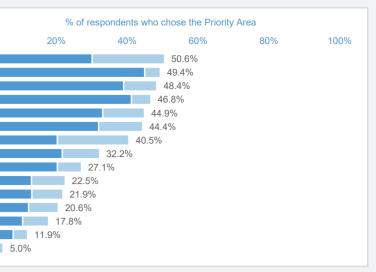
Opportunities (Work & School)

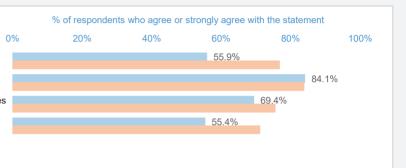
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

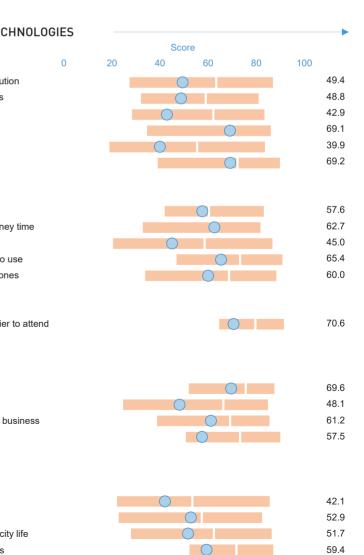
Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

0%







Cape Town

SMART CITY RANKING 105

BACKGROUND INFORMATION

City Population 4.620.000

Governance

Cultural activities (shows, bars, and museums) are satisfactory

(UN World Urbanization Prospects)

Out of 118

103 in 2020

SMART CITY RATING

D in 2020

FACTOR RATINGS

STRUCTURES

TECHNOLOGIES

GROUP

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.702	0.704	0.705	0.709	+0.004
Life expectancy at Birth	63.2	63.5	63.9	64.1	+0.2
Expected years of schooling	13.7	13.7	13.7	13.8	+0.1
Mean years of schooling	10.2	10.2	10.2	10.2	+0.0
GNI per capita (PPP \$)	11,908	11,864	11,756	12,129	+373

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% unemployment affordable housing security basic amenities health services corruption fulfilling employment school education public transport road congestion air pollution 11.3% citizen engagement 8.9% social mobility 8.0%

ATTITUDES

61.7

72.3

ATTIODES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	es
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

				LEGEN		TY MEAN GROUP MAX.
STRUCTURES						TECH
		Sc	ore			
Health & Safety 0	20	40	60	80	100	Health & Safety
Basic sanitation meets the needs of the poorest areas		\bigcirc			41.6	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory					55.2	A website or App allows residents to easily give away unwanted items
Public safety is not a problem	C)			27.0	Free public wifi has improved access to city services
Air pollution is not a problem		\bigcirc			37.4	CCTV cameras has made residents feel safer
Medical services provision is satisfactory			\bigcirc		53.2	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	C)			26.7	Arranging medical appointments online has improved access
Mobility						Mobility
Traffic congestion is not a problem		\bigcirc			30.9	Car-sharing Apps have reduced congestion
Public transport is satisfactory		\bigcirc			43.9	Apps that direct you to an available parking space have reduced journey

Activities Green spaces are satisfactory \bigcirc

Opportunities (Work & School)	
Employment finding services are readily available	44.3
Most children have access to a good school	45.2
Lifelong learning opportunities are provided by local institutions	48.8
Businesses are creating new jobs	46.8
Minorities feel welcome	44.2



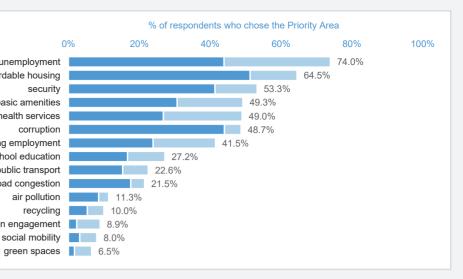
Activities Online purchasing of tickets to shows and museums has made it easier to attend

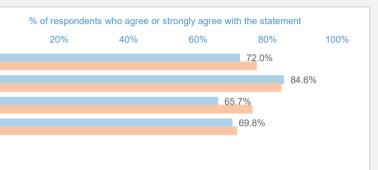
Bicycle hiring has reduced congestion

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Chengdu

SMART CITY RANKING

72

Out of 118

69 in 2020

BACKGROUND INFORMATION

City Population 9,140,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr chang
HDI	0.749	0.753	0.758	0.761	+0.00
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.
Expected years of schooling	13.9	13.9	13.9	14.0	+0.
Mean years of schooling	7.8	7.8	7.9	8.1	+0.
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

From	а	list	of	15	indicators,	survey

PRIORITY AREAS

respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% road congestion air pollution affordable housing fulfilling employment corruption basic amenities health services school education recycling social mobility security unemployment citizen engagement 18.2% public transport 17.6%

<u>а</u> т	T 17		
ΑI	111	TUE	JES

			0	%
You are willing	g to concede persona	al data in order to imp	rove traffic congestion	
You are comfo	ortable with face reco	gnition technologies t	to lower crime	
You feel the a	vailability of online in	formation has increas	sed your trust in authorities	
The proportior (% of transact	, , ,	payment transactions	that are non-cash	
LEGEND:	GROUP MEAN	CITY		

				LEGEN	D: MIN	CITY MEAN GROUP MAX
STRUCTURES				LEGEN		
		Sc	ore			
Health & Safety 0	20	40	60	80	100	Health & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc	81.1	Online reporting of city r
Recycling services are satisfactory			(70.7	A website or App allows
Public safety is not a problem				0	73.4	Free public wifi has imp
Air pollution is not a problem		(\bigcirc		51.2	CCTV cameras has mad
Medical services provision is satisfactory				\bigcirc	73.9	A website or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			\bigcirc		61.6	Arranging medical appo
Mobility						Mobility
Traffic congestion is not a problem					42.4	Car-sharing Apps have
Public transport is satisfactory)	67.8	Apps that direct you to a

ngestion is not a problem	4
nsport is satisfactory	6

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	76.3
Most children have access to a good school	75.7
Lifelong learning opportunities are provided by local institutions	61.3
Businesses are creating new jobs	71.3
Minorities feel welcome	78.5

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

Health & Safety
Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

79.3

81.6

70.1

49.3

57.1

68.3

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART

CITY RATING CCC CCC in 2020

FACTOR RATINGS

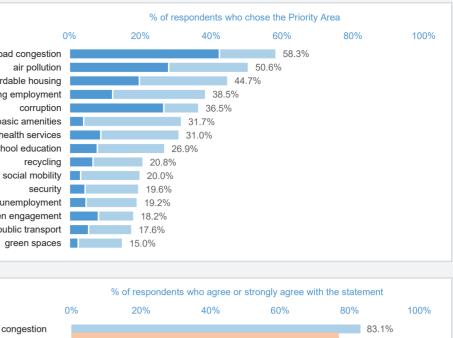
CC STRUCTURES

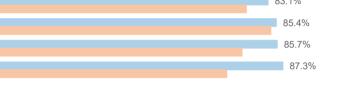
CCC

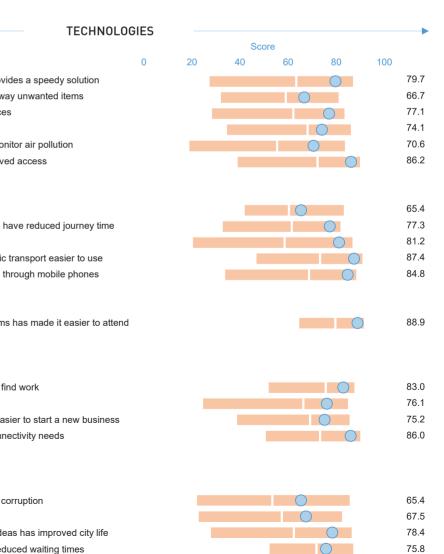
TECHNOLOGIES

GROUP

4







Chicago

SMART CITY RANKING

59

Out of 118

41 in 2020

SMART

CITY RATING

B

BACKGROUND INFORMATION

(UN World Urbanization Prospects)

City Population 8,870,000

ND SD NE KS MO OK

	201/	0017	0010	0010	4
Country	2016	2017	2018	2019	1 yr chang
HDI	0.919	0.919	0.920	0.926	+0.00
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.
Expected years of schooling	16.3	16.3	16.3	16.3	+0.
Mean years of schooling	13.4	13.4	13.4	13.4	+0.
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,68

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% security affordable housing health services school education corruption unemployment road congestion fulfilling employment air pollution public transport basic amenities 15.4% green spaces 13.8% social mobility 13.8% citizen engagement 10.8%

ATTITUDES	0%			
You are willing to concede personal data in order to improve traffic congestion				
You are comfortable with face recognition technologies to lower crime				
You feel the availability of online information has increased your trust in authorities				
The proportion of your day-to-day payment transactions that are non-cash				
(% of transactions)				
LEGEND: GROUP MEAN CITY				

Online voting has increased participation

			LEGENI	D: MIN (CITY MEAN GROUP MAX	
STRUCTURES		0		•	•	TE
Health & Safety 0	20 40	Score 60	80	100	Haalth & Cafatra	
Treatting Safety	20 40	00	00	50.3	Health & Safety	
Basic sanitation meets the needs of the poorest areas		0			Online reporting of city maintenance proble	
Recycling services are satisfactory				59.7	A website or App allows residents to easily	o ,
Public safety is not a problem				29.2	Free public wifi has improved access to city	
Air pollution is not a problem				34.5	CCTV cameras has made residents feel sa	
Medical services provision is satisfactory				57.9	A website or App allows residents to effect	vely monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem				38.7	Arranging medical appointments online has	s improved access
Mobility					Mobility	
Traffic congestion is not a problem				29.2	Car-sharing Apps have reduced congestion	n
Public transport is satisfactory				52.5	Apps that direct you to an available parking	space have reduced jou
					Bicycle hiring has reduced congestion	
					Online scheduling and ticket sales has made	de public transport easier
					The city provides information on traffic con-	gestion through mobile ph
Activities					Activities	
Green spaces are satisfactory				61.6	Online purchasing of tickets to shows and r	museums has made it eas
Cultural activities (shows, bars, and museums) are satisfactory			\bigcirc	76.5		
Opportunities (Work & School)					Opportunities (Work & School)	
Employment finding services are readily available				62.7	Online access to job listings has made it ea	asier to find work
Most children have access to a good school				48.7	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions				56.6	Online services provided by the city has ma	ade it easier to start a new
Businesses are creating new jobs				62.6	The current internet speed and reliability m	
Minorities feel welcome				57.8	The current internet speed and reliability in	eet connectivity needs
				51.0		
Governance					Governance	
Information on local government decisions are easily accessible				62.8	Online public access to city finances has re	educed corruption

Information on local government decisions are easily accessible 29.1 \bigcirc Corruption of city officials is not an issue of concern 49.0 Residents contribute to decision making of local government Residents provide feedback on local government projects 55.7

STRUCTURES

GROUP

2

All ratings range from AAA to D

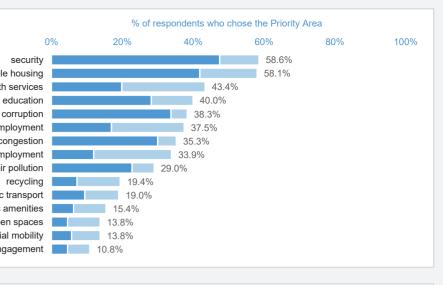
BBB in 2020

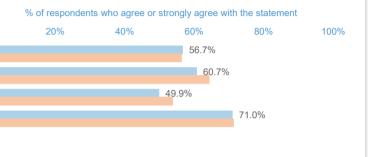
FACTOR RATINGS

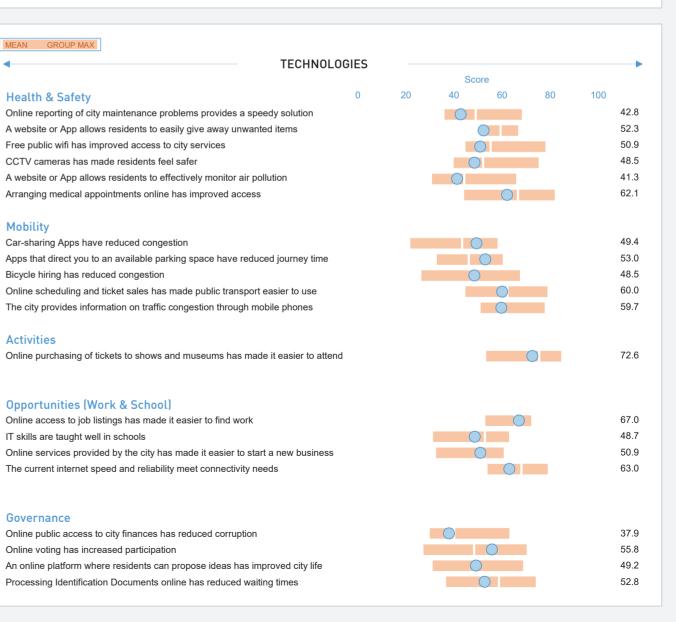
B

BB

TECHNOLOGIES







Chongqing

SMART CITY RANKING

67

Out of 118

BACKGROUND INFORMATION

City Population 15,870,000

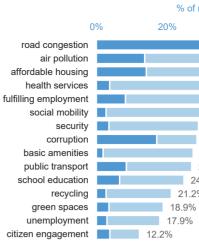
(UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr chango
HDI	0.749	0.753	0.758	0.761	+0.00
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.
Expected years of schooling	13.9	13.9	13.9	14.0	+0
Mean years of schooling	7.8	7.8	7.9	8.1	+0.
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-7

PRIORITY A	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	s
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: GROUP MEAN CITY

		LEGEN	D: MIN	CITY	MEAN GROUP M	AX		
STRUCTURES		LEGENE		Oliti			TECHNOLOGIES	
STRUCTURES	Sc	ore					TECHNOLOGIES	
0	20 40	60 80	100		Health & Safet	tv	0	20
areas			83.0			f city maintenance problems pr	rovides a speedy solution	
			77.0			allows residents to easily give a		
			75.9		Free public wifi has	s improved access to city servi	ices	
			69.0		CCTV cameras has	is made residents feel safer		
			81.5		A website or App a	allows residents to effectively m	nonitor air pollution	
a monthly salary is not a problem		\bigcirc	68.8		Arranging medical	appointments online has impro	oved access	
					Mobility			
			53.2			have reduced congestion		
			71.2		0 11	ou to an available parking space	e have reduced journey time	
						reduced congestion		1
					Online scheduling a	and ticket sales has made pub	olic transport easier to use	
					The city provides in	nformation on traffic congestion	n through mobile phones	
					Activities			
			81.5		Online purchasing	of tickets to shows and museu	ums has made it easier to attend	
re satisfactory			81.0					
					Opportunities ((Work & School)		
e			78.5			ob listings has made it easier to	o find work	
			76.6		IT skills are taught	well in schools		
ocal institutions			67.6		Online services pro	ovided by the city has made it e	easier to start a new business	
			76.7		The current interne	et speed and reliability meet co	onnectivity needs	
		\bigcirc	82.7					
					Governance			
asily accessible			76.4		Online public acces	ess to city finances has reduced	d corruption	
ern			63.0		Online voting has ir	increased participation		

65.4

73.5

64 in 2020

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

GROUP

4

All ratings range from AAA to D

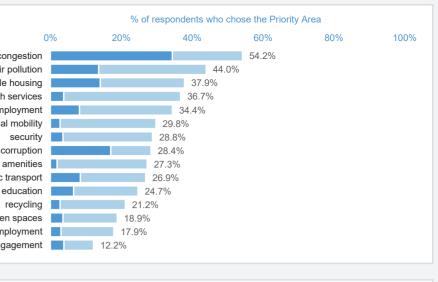
			So	ore		
Health & Safety	0	20	40	60	80	10
Basic sanitation meets the needs of the poorest areas					\bigcirc	
Recycling services are satisfactory					\bigcirc	
Public safety is not a problem					\bigcirc	
Air pollution is not a problem						
Medical services provision is satisfactory					\bigcirc	
Finding housing with rent equal to 30% or less of a monthly salary is not	a problem					
Mobility Traffic congestion is not a problem Public transport is satisfactory		-		0	0	
Activities Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory			-	_		

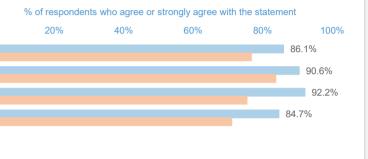
Opportunities (Work & School) Employment finding services are readily available Most children have access to a good school Lifelong learning opportunities are provided by loca Businesses are creating new jobs Minorities feel welcome

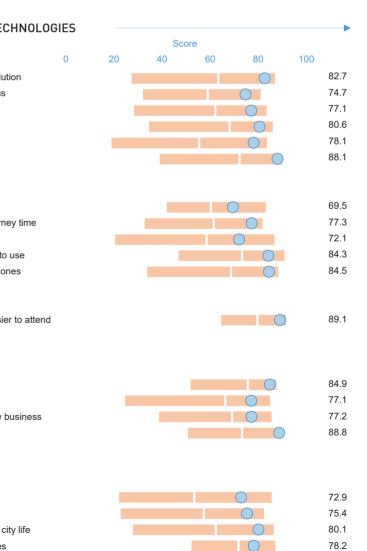
Governance

Information on local government decisions are easi Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved city
Processing Identification Documents online has reduced waiting times







Copenhagen

SMART CITY RANKING

7

Out of 118

BACKGROUND INFORMATION

City Population 1 350 000

(UN World Urbanization Prospects)

Rolarus

Country	2016	2017	2018	2019	1 yr change
HDI	0.928	0.929	0.930	0.940	+0.010
Life expectancy at Birth	80.6	80.7	80.8	80.9	+0.1
Expected years of schooling	19.1	19.1	19.1	18.9	-0.2
Mean years of schooling	12.6	12.6	12.6	12.6	+0.0
GNI per capita (PPP \$)	47,729	48,338	48,836	58,662	+9,826

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

LEGEND: GROUP MEAN CITY

0% affordable housing air pollution road congestion unemplovment green spaces public transport security fulfilling employment basic amenities school education recycling citizen engagement 17.4% health services 15.6%

0%

ATTITUDES

73.7

74.5

67.9

49.1

78.7

28.9

41.5

64.5

76.1

82.1

LEGEND:

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

STRUCTURES Score 80 20 40 60 100 Health & Safety Basic sanitation meets the needs of the poorest areas Recycling services are satisfactory Public safety is not a problem Air pollution is not a problem Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem Mobility Traffic congestion is not a problem Public transport is satisfactory Activities Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory \bigcirc

Opportunities (Work & School) 75.1 Employment finding services are readily available Most children have access to a good school 80.4 75.4 Lifelong learning opportunities are provided by local institutions 73.7 Businesses are creating new jobs 60.9 \bigcirc Minorities feel welcome Governance 64.2 Information on local government decisions are easily accessible 61.5 Corruption of city officials is not an issue of concern 62.1 Residents contribute to decision making of local government 67.3 Residents provide feedback on local government projects

CITY	MEAN GROUP MAX	
	4	TEC
	Health & Safety	
	Online reporting of city maintenance problems provides a speed	ly solut
	A website or App allows residents to easily give away unwanted	items
	Free public wifi has improved access to city services	
	CCTV cameras has made residents feel safer	
	A website or App allows residents to effectively monitor air pollu	tion
	Arranging medical appointments online has improved access	
	Mobility	
	Car-sharing Apps have reduced congestion	
	Apps that direct you to an available parking space have reduced	l journe
	Bicycle hiring has reduced congestion	
	Online scheduling and ticket sales has made public transport ea	sier to
	The city provides information on traffic congestion through mobil	le phor
	Activities	
	Online purchasing of tickets to shows and museums has made	t easie

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

6 in 2020

SMART CITY RATING

AA in 2020

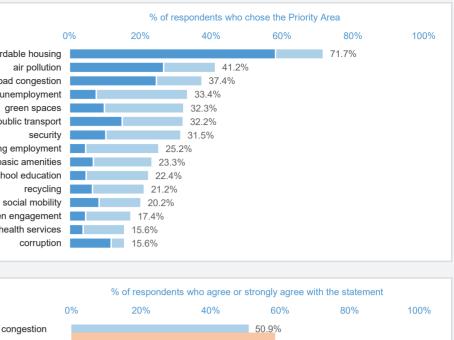
FACTOR RATINGS

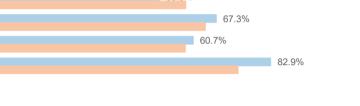
ΔΔ STRUCTURES

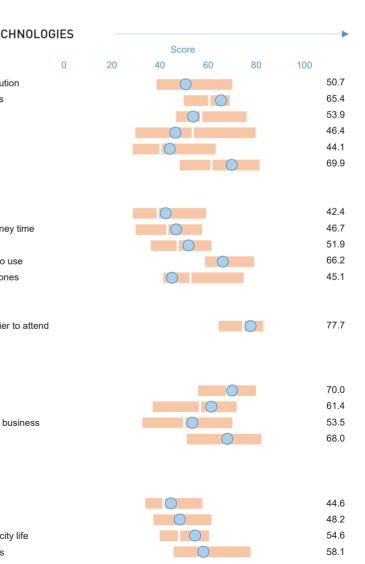
TECHNOLOGIES

GROUP

1







Denver

SMART CITY RANKING

45

Out of 118

35 in 2020

SMART

CITY

BACKGROUND INFORMATION

City Population 2.830.000

WA SD OR NE - Sat Lake (UN World Urbanization Prospects) co KS MO San Jose CA AZ Albuquerqu . Los Angeles . Phoen San Diego .

Country	2016	2017	2018	2019	1 yr change
HDI	0.919	0.919	0.920	0.926	+0.006
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.0
Expected years of schooling	16.3	16.3	16.3	16.3	+0.0
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,686

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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LEGEND: GROUP MEAN CITY

CITY MEAN

0% affordable housing road congestion air pollution school education health services unemplovment security fulfilling employment public transport recycling corruption green spaces 11.9% basic amenities 11.2% social mobility 10.8%

ATTITUDES

LEGEND:

MIN

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

STRUCTURES Score 40 0 20 60 Health & Safety Basic sanitation meets the needs of the poorest areas Recycling services are satisfactory Public safety is not a problem Air pollution is not a problem Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem \bigcirc Mobility Traffic congestion is not a problem Public transport is satisfactory Activities Green spaces are satisfactory

Cultural activities (shows, bars, and museums) are satisfactory

Opportunities (Work & School) Employment finding services are readily available Most children have access to a good school Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs Minorities feel welcome Governance 63.6 Information on local government decisions are easily accessible 43.2 Corruption of city officials is not an issue of concern 54.9 Residents contribute to decision making of local government 62.9 Residents provide feedback on local government projects

	LEGEND			
		•	•	TECHN
60	80	100	Healt	n & Safety
		53.8	Online r	eporting of city maintenance problems provides a speedy solution
0		64.1	A webs	te or App allows residents to easily give away unwanted items
		46.3	Free pu	blic wifi has improved access to city services
		31.8	CCTV o	ameras has made residents feel safer
\bigcirc		65.9	A websi	te or App allows residents to effectively monitor air pollution
		20.5	Arrangi	ng medical appointments online has improved access
			Mobil	ty
		22.1	Car-sha	ring Apps have reduced congestion
		52.9	Apps th	at direct you to an available parking space have reduced journey ti
			Bicycle	hiring has reduced congestion
			Online	cheduling and ticket sales has made public transport easier to use
			The city	provides information on traffic congestion through mobile phones
			Activi	ies
\bigcirc		67.9	Online p	purchasing of tickets to shows and museums has made it easier to
	\bigcirc	79.3		
			Oppor	tunities (Work & School)
\bigcirc		69.9	Online a	access to job listings has made it easier to find work
\bigcirc		63.2	IT skills	are taught well in schools
\bigcirc		64.1	Online	services provided by the city has made it easier to start a new busir
\bigcirc		67.2	The cur	rent internet speed and reliability meet connectivity needs
\bigcirc		61.8		

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

RATING BB

BBB in 2020

RATINGS

BB

GROUP

L

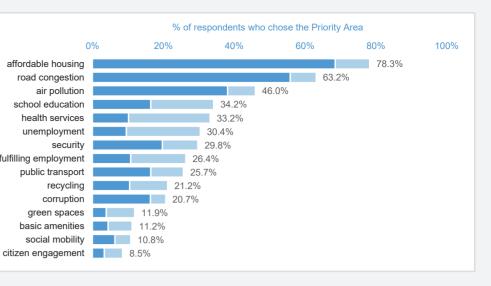
All ratings range from AAA to D

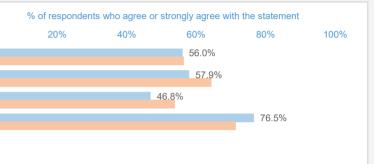
FACTOR

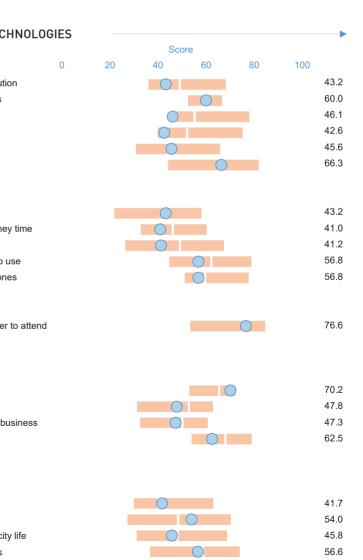
STRUCTURES

B

TECHNOLOGIES







Dubai



29

Out of 118

43 in 2020

BACKGROUND INFORMATION

(UN World Urbanization Prospects)

Governance

City Population 2.880.000 • Medina

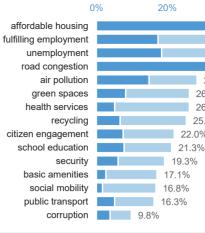
2016 0.863 77.5	2017 0.864 77.6	2018 0.866 77.8	2019 0.890 78.0	1 yr change +0.024
77.5	77.6	77.8	70 0	.0.2
		77.0	78.0	+0.2
13.6	13.6	13.6	14.3	+0.7
10.8	10.9	11.0	12.1	+1.1
67,410	67,136	66,912	67,462	+550
	10.8	10.8 10.9	10.8 10.9 11.0	10.8 10.9 11.0 12.1

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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CITY MEAN GROUP MAX



ATTITUDES

MIN

82.5

81.9

76.1

62.1

83.2

53.8

47.4

81.9

78.0

82.9

85.9

73.8

57.6

67.2

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

LEGEND: STRUCTURES Score 80 0 20 40 60 100 Health & Safety Basic sanitation meets the needs of the poorest areas \bigcirc Recycling services are satisfactory \bigcirc Public safety is not a problem Air pollution is not a problem Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem Mobility Traffic congestion is not a problem Public transport is satisfactory

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	66.9
Most children have access to a good school	74.0
Lifelong learning opportunities are provided by local institutions	69.1
Businesses are creating new jobs	66.5
Minorities feel welcome	79.4

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

TEC
Health & Safety
Online reporting of city maintenance problems provides a speedy soluti
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journe
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to
The city provides information on traffic congestion through mobile phon

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING BB

FACTOR RATINGS

BB in 2020

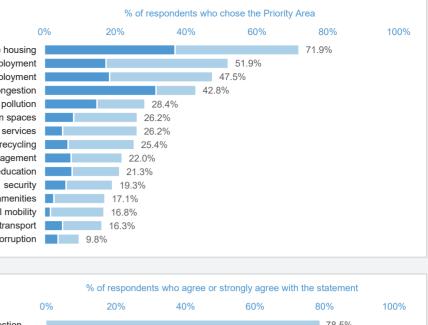
BB STRUCTURES

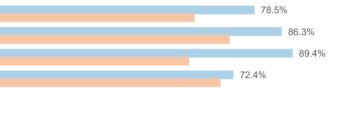
BB

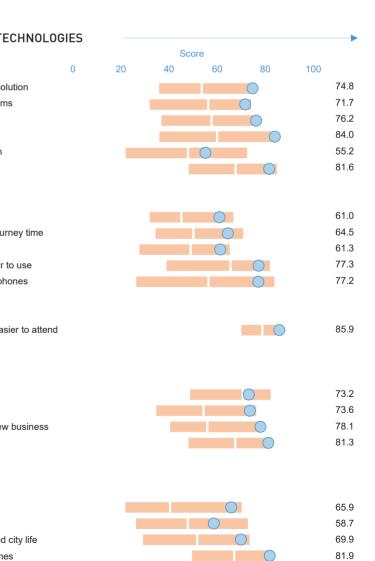
TECHNOLOGIES

GROUP

3







Dublin



48

Out of 118

BACKGROUND INFORMATION

City Population 1,230,000

(UN World Urbanization Prospect



34 in 2020

SMART CITY RATING

BB BBB in 2020

FACTOR RATINGS

BB STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

12			01	-
A. 5		57	14	
lenmark	මා මානා Den	•Edinburgh	liner dous	
	2	1		
1-2-		-95	-En	
• Hamburg	Netherlands	United Kingdom	Dublin	
Germany	• Amsterdam	2 { })	Ireland	-
him	•Brussels	Long	Edisted (
Frankfurt	Luxemburg	Inglish Channel	4	
	Paris my	and a		
·Muni	s.	5		
zerla		Map tiles by Stamen E		

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.939	0.942	0.955	+0.013
Life expectancy at Birth	81.6	81.9	82.1	82.3	+0.2
Expected years of schooling	18.8	18.8	18.8	18.7	-0.1
1 , 0	12.5	12.5	12.5	10.7	+0.2
Mean years of schooling					
GNI per capita (PPP \$)	50,911	52,799	55,660	68,371	+12,711

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% affordable housing health services road congestion public transport security unemployment fulfilling employment recvclina air pollution corruption school education 14.2% green spaces 13.8% social mobility 12.7%

ATTIODES)%					
You are willing to concede personal data in order to improve traffic congestion						
You are comfortable with face recognition technologies to lower crime						
You feel the availability of online information has increased your trust in authorities						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)						
LEGEND: GROUP MEAN CITY						

					LEGE	ND: MIN	1	CITY	MEAN	GROUP MAX	
STRUCTUR	RES								•		
			Sco								
Health & Safety	0	20	40	60	80	100			Healt	h & Safety	
Basic sanitation meets the needs of the poorest areas							61.6		Online	reporting of city mainte	nar
Recycling services are satisfactory				\bigcirc			63.9		A webs	site or App allows reside	ente
Public safety is not a problem			\bigcirc				40.8		Free pu	ublic wifi has improved	acc
Air pollution is not a problem			\bigcirc				46.1		CCTV	cameras has made res	ide
Medical services provision is satisfactory			\bigcirc				48.5		A webs	site or App allows reside	ents
Finding housing with rent equal to 30% or less of a monthly salary is not a proble	m						12.7		Arrang	ing medical appointmer	nts
Mobility									Mobil	ity	
Traffic congestion is not a problem		\bigcirc					22.7		Car-sh	aring Apps have reduce	ed (
Public transport is satisfactory			С)			49.4		Apps th	nat direct you to an ava	ilab
									Bicycle	hiring has reduced cor	nge
									Online	scheduling and ticket s	ale
									The cit	y provides information	on t
Activities									Activi	ties	

Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

Online reporting of city maintenance problems provides a speedy solu
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
A 4 1 111

ed congestion lable parking space have reduced journey time gestion ales has made public transport easier to use on traffic congestion through mobile phones

Activities

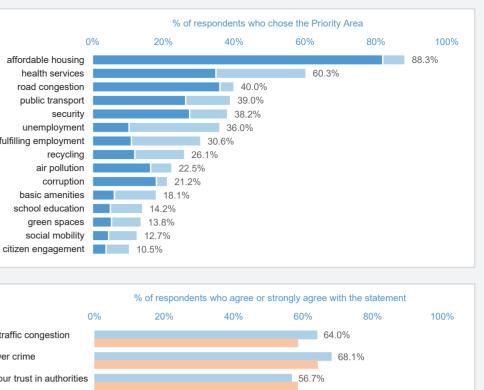
Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times



75.2%



Dusseldorf

SMART CITY RANKING

20

Out of 118

BACKGROUND INFORMATION

City Population 630,000

(UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
Life expectancy at Birth	80.9	81.0	81.2	81.3	+0.
Expected years of schooling	17.1	17.1	17.1	17.0	-0.
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY	AREAS
----------	-------

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affordable housing road congestion security air pollution unemployment public transport basic amenities recvcling green spaces fulfilling employment health services 15.9% citizen engagement 15.1%

0%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

	LEGE		ITY MEAN GROUP MAX
STRUCTURES		•	TECHNOLOGIES
	Score		
Health & Safety 0	20 40 60 80	100	Health & Safety 0
Basic sanitation meets the needs of the poorest areas		71.5	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		73.3	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		62.1	Free public wifi has improved access to city services
Air pollution is not a problem	\bigcirc	43.3	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		77.8	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		28.7	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		38.9	Car-sharing Apps have reduced congestion
Public transport is satisfactory		60.7	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		67.2	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		76.2	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		64.2	Online access to job listings has made it easier to find work
Most children have access to a good school		65.7	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		61.6	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		61.1	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		58.1	
Governance			Governance
Information on local government decisions are easily accessible		57.5	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		56.0	Online voting has increased participation
Residents contribute to decision making of local government		53.9	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		58.5	Processing Identification Documents online has reduced waiting times

SMART

CITY

13 in 2020

RATING BBB

A in 2020

FACTOR RATINGS

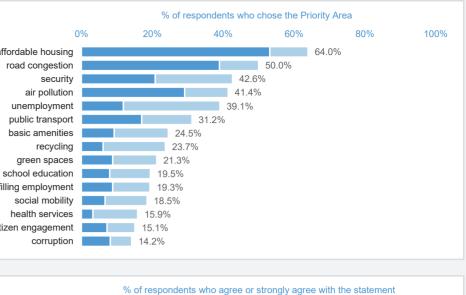
P STRUCTURES

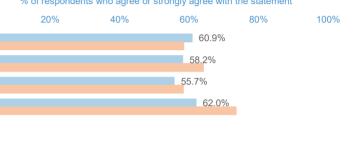
BBB

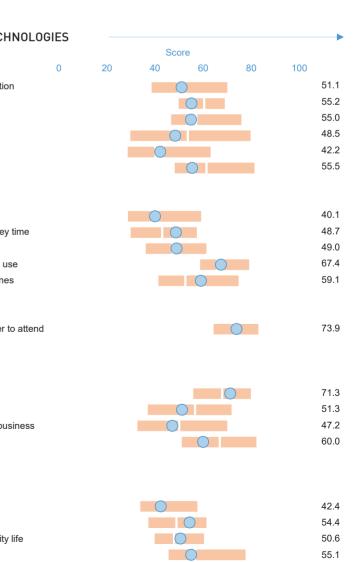
TECHNOLOGIES

GROUP

1







Geneva

SMART CITY RANKING **BACKGROUND INFORMATION**

City Population 200,000

(Eurostat)

Country

Corruption of city officials is not an issue of concern

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Out of 118

8

7 in 2020

SMART CITY RATING

 Δ

AA in 2020

FACTOR RATINGS

ΔΔ STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

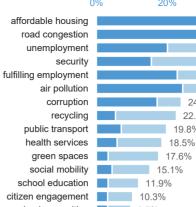
.Paris 2016 2017 2018 2019 1 yr change

HDI	0.943	0.943	0.946	0.955	+0.009	
Life expectancy at Birth	83.3	83.5	83.6	83.8	+0.2	
Expected years of schooling	16.2	16.2	16.2	16.3	+0.1	
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0	
GNI per capita (PPP \$)	58,138	57,301	59,375	69,394	+10,019	

PRIORITY	AREAS

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AT	тіт	UD	ES

ATTITUD	ED		()%					
You are will	You are willing to concede personal data in order to improve traffic congestion								
You are con	You are comfortable with face recognition technologies to lower crime								
You feel the	You feel the availability of online information has increased your trust in authorities								
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)									
LEGEND:	GROUP MEAN	CITY							

LEGEND: MIN CITY MEAN GROUP MAX

Online voting has increased participation

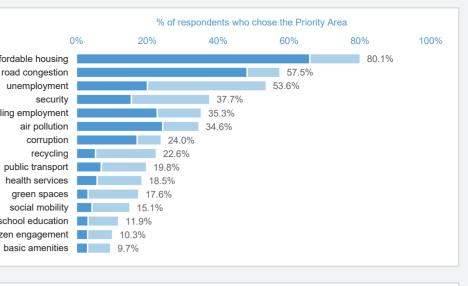
STRUCTURES	5 —					-	▲ TI
		Sc	ore				
Health & Safety 0) 20	40	60	80	100		Health & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc	7	3.9	Online reporting of city maintenance problems provides a speedy so
Recycling services are satisfactory					7	9.9	A website or App allows residents to easily give away unwanted iten
Public safety is not a problem					6	9.0	Free public wifi has improved access to city services
Air pollution is not a problem			\bigcirc		5	1.7	CCTV cameras has made residents feel safer
Medical services provision is satisfactory					8	0.6	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem					2	3.1	Arranging medical appointments online has improved access
Mobility							Mobility
Traffic congestion is not a problem		\bigcirc			3	1.0	Car-sharing Apps have reduced congestion
Public transport is satisfactory				\bigcirc	7	3.4	Apps that direct you to an available parking space have reduced jou
							Bicycle hiring has reduced congestion
							Online scheduling and ticket sales has made public transport easier
							The city provides information on traffic congestion through mobile ph
Activities							Activities
Green spaces are satisfactory				\bigcirc	8	3.0	Online purchasing of tickets to shows and museums has made it eas
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	8	0.5	
Opportunities (Work & School)							Opportunities (Work & School)
Employment finding services are readily available					6	3.4	Online access to job listings has made it easier to find work
Most children have access to a good school					8	3.6	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions					7	0.2	Online services provided by the city has made it easier to start a new
Businesses are creating new jobs		\bigcirc			4	5.2	The current internet speed and reliability meet connectivity needs
Minorities feel welcome			\bigcirc		6	1.7	
Governance							Governance
Information on local government decisions are easily accessible			(7	1.5	Online public access to city finances has reduced corruption

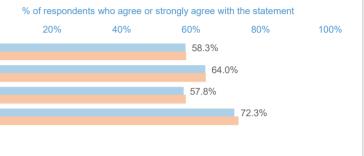
54.9

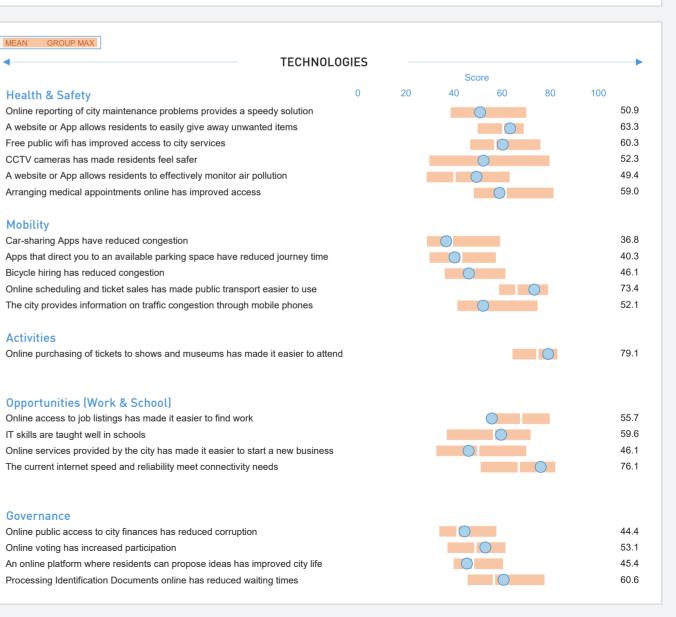
67.4

66.4

0%







Glasgow

SMART CITY RANKING

49

Out of 118

BACKGROUND INFORMATION

City Population 620 000

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

(Eurostat)

N/A

not in 2020

SMART CITY RATING BB

not in 2020

FACTOR RATINGS

BB STRUCTURES

BBB

TECHNOLOGIES

GROUP

Л

All ratings range from AAA to D

Sweder Dubin United Kingdom reland United Kingdom Lonidon Dubin United Kingdom Dubin United Ki	
Baketa Chrostel - Brokter Map tiles by Starmen Design CC BY 3.0 Map Data © OpenStreetMap	

Country	2016	2017	2018	2019	1 yr change
HDI	0.918	0.919	0.920	0.932	+0.012
ife expectancy at Birth	81.1	81.2	81.2	81.3	+0.1
Expected years of schooling	17.4	17.4	17.4	17.5	+0.1
Mean years of schooling	12.9	12.9	13.0	13.2	+0.2
GNI per capita (PPP \$)	38,421	39,216	39,507	46,071	+6,564

STRUCTURES

0

20

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing unemployment health services recvclina road congestion fulfilling employment public transport school education social mobility security green spaces air pollution basic amenities 13.8%

ATTITUDES

			07	U				
You are willing to concede personal data in order to improve traffic congestion								
You are comfortable with face recognition technologies to lower crime								
You feel the	e availability of online i	nformation has increas	sed your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)								
,	,	0.77.4						
LEGEND:	GROUP MEAN	CITY						

	LEGEND: MIN		MEAN GROUP MAX
			TEC
Score			
40 60 8	0 100		Health & Safety
		57.9	Online reporting of city maintenance problems provides a speedy solut
		59.6	A website or App allows residents to easily give away unwanted items
		40.8	Free public wifi has improved access to city services
		38.3	CCTV cameras has made residents feel safer
		61.7	A website or App allows residents to effectively monitor air pollution
		35.4	Arranging medical appointments online has improved access

Mobility

31.7

55.7

66.7

72.8

63.4

65.3

60.3

52.3

64.4

51.8

39.6

43.8

52.6

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

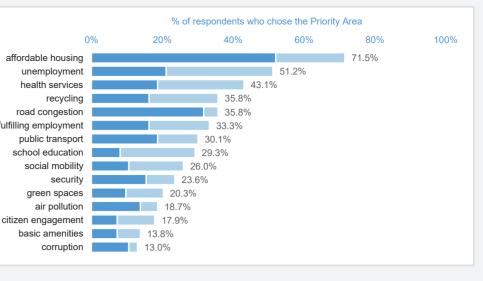
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

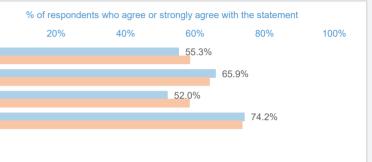
Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

0%

٥%







Gothenburg

SMART CITY RANKING

L6

BACKGROUND INFORMATION

City Population 560,000

(Eurostat)

Out of 118

31 in 2020

SMA CIT RATING BB

BBB in 2020

FACTOR RATINGS

BBB

STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Residents provide feedback on local government projects

Country	2016	2017	2018	2019	1 yr change
HDI	0.934	0.935	0.937	0.945	+0.008
Life expectancy at Birth	82.4	82.5	82.7	82.8	+0.1
Expected years of schooling	18.8	18.8	18.8	19.5	+0.7
Mean years of schooling	12.4	12.4	12.4	12.5	+0.1
GNI per capita (PPP \$)	46,662	47,398	47,955	54,508	+6,553

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas nand priority attention.

0% affordable housing health services security unemployment public transport school education road congestion fulfilling employment air pollution corruption basic amenities 13.3%

JDES

			0	%				
You are willing	You are willing to concede personal data in order to improve traffic congestion							
You are comfor	You are comfortable with face recognition technologies to lower crime							
You feel the ava	ailability of online info	ormation has increas	sed your trust in authorities					
The proportion (% of transaction)	of your day-to-day pa ons)	ayment transactions	that are non-cash					
LEGEND: GI	ROUP MEAN	CITY						

I EGEND. MINE CITY MEAN GROUP MAX Health & Safety Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access Mobility Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion

Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

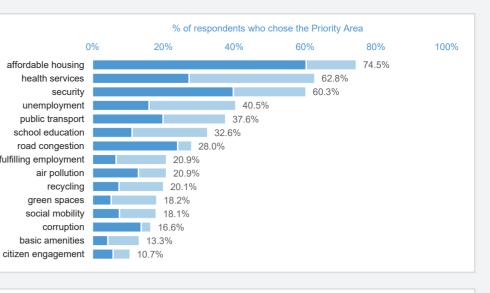
52.7

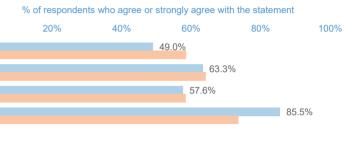
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

antouron M	ali dan De	nmark • Copenhagen		•Regis Latvia	also dema
d Kingdom	Netherlands • Amsterdam	•Hamburg •Berlin Germany	-Warsaw	F	ATTITU
		Map tiles by	Stamen Design CC BY 3.	0 Map Data © OpenStreetMap	You are wi
2016	2017	2018	2019	1 yr change	You are co
0.934	0.935	0.937	0.945	+0.008	You feel th
82.4	82.5	82.7	82.8	+0.1	i du leer ui
18.8	18.8	18.8	19.5	+0.7	The propor (% of trans
12.4	12.4	12.4	12.5	+0.1	(% 01 trans
46,662	47,398	47,955	54,508	+6,553	LEGEND:

					LEGEND:	MIN	I (
	RES						-
			Sc	ore			
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas							63.9
Recycling services are satisfactory				0			68.2
Public safety is not a problem			\bigcirc				44.8
Air pollution is not a problem							51.6
Medical services provision is satisfactory							58.2
Finding housing with rent equal to 30% or less of a monthly salary is not a proble	em						25.1
Mobility							
Traffic congestion is not a problem							30.4
Public transport is satisfactory							55.8
Activities							
Green spaces are satisfactory					\bigcirc		79.3
Cultural activities (shows, bars, and museums) are satisfactory					0		77.3
Opportunities (Work & School)							
Employment finding services are readily available							63.4
Most children have access to a good school							66.9
Lifelong learning opportunities are provided by local institutions				\bigcirc			66.2
Businesses are creating new jobs				\bigcirc			65.4
Minorities feel welcome							58.2
Governance							
Information on local government decisions are easily accessible				\bigcirc			62.9
Corruption of city officials is not an issue of concern							49.4
Residents contribute to decision making of local government			\bigcirc				45.3

RT		
ΓY		
ING		







Guangzhou

SMART CITY RANKING

68

Out of 118

68 in 2020

SMART

CITY

BACKGROUND INFORMATION

City Population 13.300.000

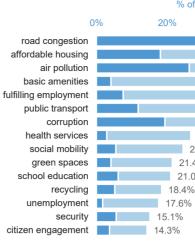


2016 0.749 76.2	2017 0.753 76.5	2018 0.758 76.7	2019 0.761	1 yr change +0.003
76.2	76.5	76 7	76.0	. 0. /
		10.1	76.9	+0.2
13.9	13.9	13.9	14.0	+0.
7.8	7.8	7.9	8.1	+0.2
14,311	15,212	16,127	16,057	-70

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	s
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	
LEGEND: GROUP MEAN CITY	

Free public wifi has improved access to city services

A website or App allows residents to effectively monitor air pollution

Arranging medical appointments online has improved access

CCTV cameras has made residents feel safer

							0	
					LEGEN	D: MIN		MEAN GROUP MAX
< STI	RUCTURES						•	
			So	ore				
Health & Safety	0	20	40	60	80	100	H	Health & Safety
Basic sanitation meets the needs of the poorest areas					\bigcirc	84.7	C	Online reporting of city r
Recycling services are satisfactory					\bigcirc	76.1	A	A website or App allows
Public safety is not a problem				\bigcirc		67.7	F	ree public wifi has imp
Air pollution is not a problem				\bigcirc		51.8	C	CCTV cameras has ma
Medical services provision is satisfactory					\bigcirc	82.6	A	A website or App allows
Finding housing with rent equal to 30% or less of a monthly salary is no	t a problem			\bigcirc		57.3	A	Arranging medical appo
Mobility							1	Mobility
Traffic congestion is not a problem						38.2	C	Car-sharing Apps have

Mobility	
Traffic congestion is not a problem	
Public transport is satisfactory	

67.7
51.8
82.6
57.3
38.2
66.1

 \bigcirc

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	82.9
Most children have access to a good school	75.9
Lifelong learning opportunities are provided by local institutions	66.2
Businesses are creating new jobs	79.2
Minorities feel welcome	79.7

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

$\mathbf{)}$	38.2	Car-sharing Apps have reduced congestion
	66.1	Apps that direct you to an available parking s
		Bicycle hiring has reduced congestion
		Online scheduling and ticket sales has made
		The city provides information on traffic conge

77.8

55.0

65.9

74.1

	Activities
77.8	Online purchasing of tickets to shows and muse
84.1	

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

RATING CCC

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FACTOR
RATINGS
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CCC in 2020

CCC STRUCTURES

CCC

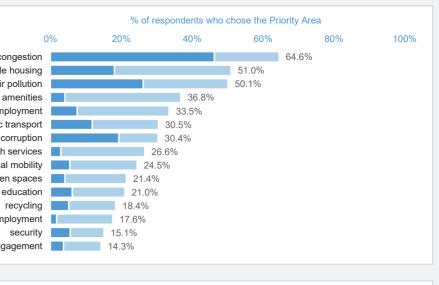
TECHNOLOGIES

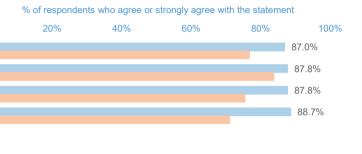
GROUP

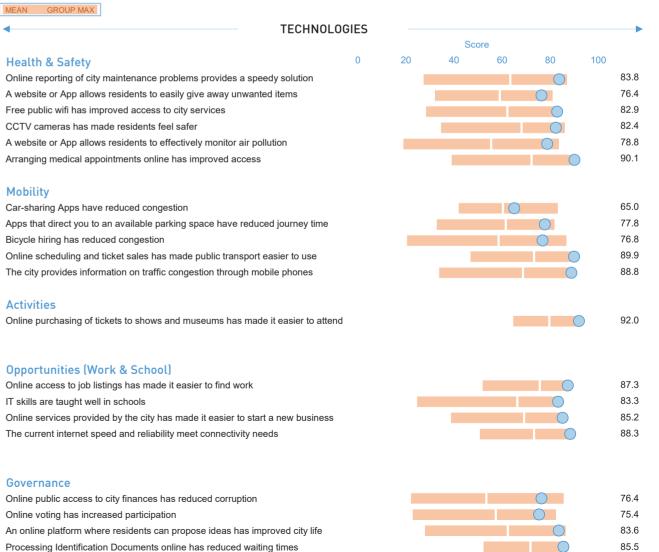
4

All ratings range

from AAA to D







Hamburg

SMART CITY RANKING

BACKGROUND INFORMATION

City Population 1,850,000

(Eurostat)

Out of 118

40

22 in 2020

SMART CITY RATING

BB

A in 2020

FACTOR RATINGS

P STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
Life expectancy at Birth	80.9	81.0	81.2	81.3	+0.1
Expected years of schooling	17.1	17.1	17.1	17.0	-0.1
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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affordable housing road congestion unemployment air pollution security public transport school education basic amenities social mobility fulfilling employment 18.8% citizen engagement 18.6%

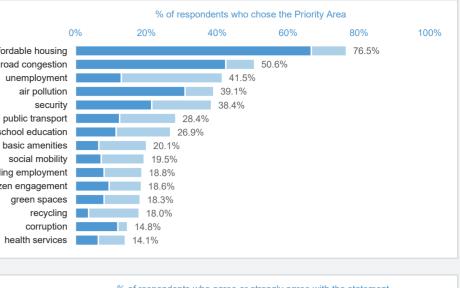
ATTITUDES

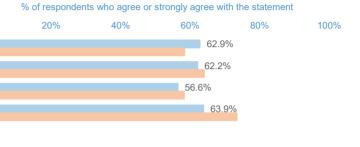
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

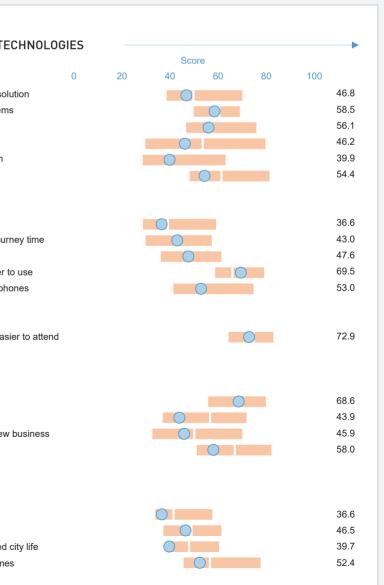
LEGEND: GROUP MEAN CITY

		LEGEND:	MIN	CITY MEAN GROUP MAX	
STRUCTURES			`	;	TEC
	Score				
Health & Safety 0	20 40 60	80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas			67.8	Online reporting of city maintenance	problems provides a speedy solu
Recycling services are satisfactory			74.3	A website or App allows residents to	
Public safety is not a problem			56.6	Free public wifi has improved access	to city services
Air pollution is not a problem			39.3	CCTV cameras has made residents f	eel safer
Medical services provision is satisfactory			75.4	A website or App allows residents to	effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			23.1	Arranging medical appointments onlir	e has improved access
Mobility				Mobility	
Traffic congestion is not a problem			29.8	Car-sharing Apps have reduced cong	estion
Public transport is satisfactory			62.9	Apps that direct you to an available p	arking space have reduced journ
				Bicycle hiring has reduced congestior	1
				Online scheduling and ticket sales ha	s made public transport easier to
				The city provides information on traffi	c congestion through mobile pho
Activities				Activities	
Green spaces are satisfactory		\bigcirc	72.6	Online purchasing of tickets to shows	and museums has made it easie
Cultural activities (shows, bars, and museums) are satisfactory		\bigcirc	79.4		
Opportunities (Work & School)				Opportunities (Work & Schoo	U)
Employment finding services are readily available			66.5	Online access to job listings has mad	e it easier to find work
Most children have access to a good school			67.6	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions			61.1	Online services provided by the city h	as made it easier to start a new b
Businesses are creating new jobs			59.0	The current internet speed and reliab	lity meet connectivity needs
Minorities feel welcome		l i	60.3		
Governance				Governance	
Information on local government decisions are easily accessible			56.3	Online public access to city finances I	nas reduced corruption
Corruption of city officials is not an issue of concern			52.7	Online voting has increased participation	ion
Residents contribute to decision making of local government			53.8	An online platform where residents ca	n propose ideas has improved c
Residents provide feedback on local government projects			55.1	Processing Identification Documents	online has reduced waiting times

0%







Hangzhou

SMART CITY RANKING

66

Out of 118

65 in 2020

SMART

CITY

RATING

CCC

CCC in 2020

FACTOR

RATINGS

CCC

STRUCTURES

CCC

TECHNOLOGIES

GROUP

4

All ratings range

from AAA to D

BACKGROUND INFORMATION

City Population 7,640,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRI	ORITY	AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% road congestion affordable housing air pollution fulfilling employment health services basic amenities social mobility security school education public transport corruption green spaces citizen engagement 15.3%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
•	STRUCTURES					•	•	•	
			Sco	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas					\bigcirc	83.9		Online	reporting of city
Recycling services are satisfactory					\bigcirc	80.2		A webs	site or App allow
Public safety is not a problem					\bigcirc	77.6		Free pu	ublic wifi has imp
Air pollution is not a problem				\bigcirc		65.5		CCTV	cameras has ma
Medical services provision is satisfactory					\bigcirc	81.7		A webs	site or App allow
Finding housing with rent equal to 30% or less of a monthly sala	ry is not a problem			\bigcirc		59.2		Arrangi	ing medical appo
Mobility								Mobil	lity
Traffic congestion is not a problem			\bigcirc)		48.4		Car-sha	aring Apps have
Public transport is satisfactory						70.7		Apps th	nat direct you to
								Bicycle	hiring has redu
								Online	scheduling and
								The city	y provides inform

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

•	TE
Health & Safety	
Online reporting of city maintenance problems provides	a speedy sol
A website or App allows residents to easily give away ur	nwanted item
Free public wifi has improved access to city services	
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively monitor	air pollution
Arranging medical appointments online has improved ac	cess

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

82.2

83.9

82.1

77.8

72.4

80.0

82.2

75.2

59.1

66.9

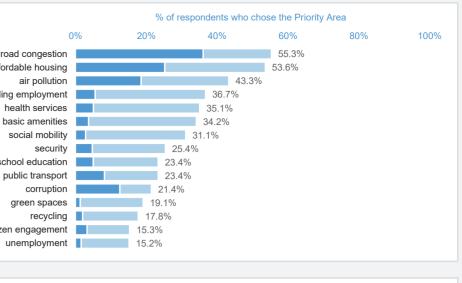
73.0

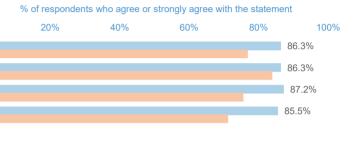
Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Hanoi

SMART CITY RANKING

87

Out of 118

84 in 2020

SMART

BACKGROUND INFORMATION

City Population 4.680.000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
· · · · · · · · · · · · · · · · · · ·					+0.01
HDI	0.685	0.690	0.693	0.704	
Life expectancy at Birth	75.2	75.2	75.3	75.4	+0.
Expected years of schooling	12.7	12.7	12.7	12.7	+0.
Mean years of schooling	8.1	8.2	8.2	8.3	+0.1
GNI per capita (PPP \$)	5,638	5,916	6,220	7,433	+1,21

PRIORITY /	AREAS
------------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution road congestion basic amenities corruption green spaces affordable housing public transport health services security unemployment fulfilling employment school education 13.8% social mobility 6.5% citizen engagement 5.9%

0%

ATTITUDES You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities

The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

STRI	ICTURES							
5110	OTORES		Sc	ore				
Health & Safety	0	20	40	60	80	100	Healt	h & Safety
Basic sanitation meets the needs of the poorest areas					\bigcirc	72.0	Online I	reporting of city
Recycling services are satisfactory				\bigcirc		60.1	A webs	ite or App allows
Public safety is not a problem					\bigcirc	78.9	Free pu	ıblic wifi has imp
Air pollution is not a problem			\bigcirc			33.3	CCTV o	cameras has ma
Medical services provision is satisfactory						76.1	A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a	problem			\bigcirc		58.8	Arrangi	ng medical appo
Mobility							Mobil	ity
Traffic congestion is not a problem		\bigcirc				24.4	Car-sha	aring Apps have
Public transport is satisfactory			C)		48.4	Apps th	at direct you to a
							Bicycle	hiring has reduc
							Online	scheduling and t
							The city	/ provides inform

Activities	
Green spaces are satisfactory	61.2
Cultural activities (shows, bars, and museums) are satisfactory	72.5
Opportunities (Work & School)	
Employment finding services are readily available	75.5

Employment finding services are readily available	/5.5
Most children have access to a good school	82.5
Lifelong learning opportunities are provided by local institutions	64.9
Businesses are creating new jobs	81.9
Minorities feel welcome	70.8

Governance 74.0 Information on local government decisions are easily accessible 39.9 Corruption of city officials is not an issue of concern \bigcirc 62.7 Residents contribute to decision making of local government 70.2 Residents provide feedback on local government projects

•	TECH
Health & Safety	
Online reporting of city mail	intenance problems provides a speedy solution
A website or App allows re	sidents to easily give away unwanted items
Free public wifi has improv	ved access to city services
CCTV cameras has made	residents feel safer
A website or App allows re	sidents to effectively monitor air pollution
Arranging medical appoint	ments online has improved access
Mobility	
Car-sharing Apps have rec	duced congestion
Apps that direct you to an a	available parking space have reduced journey
Biovela biring bas reduced	congestion

Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

CITY RATING CC CC in 2020

FACTOR RATINGS

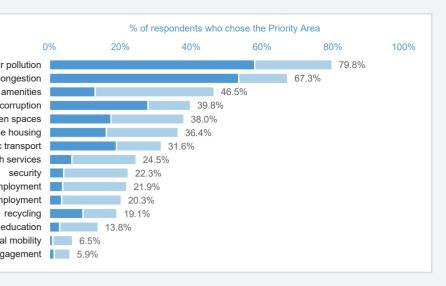
CC STRUCTURES

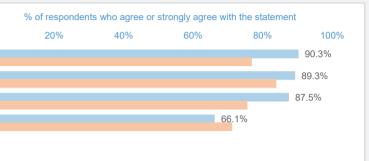
CC

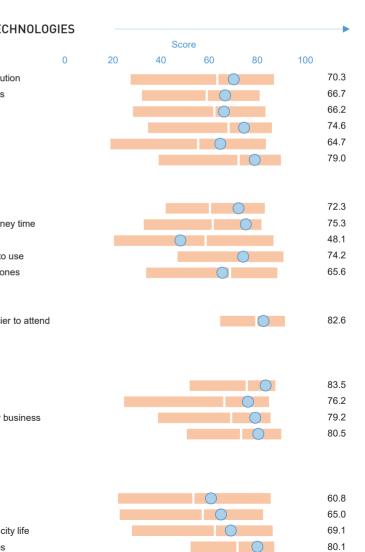
TECHNOLOGIES

A set state

GROUP







Hanover

SMART CITY RANKING **BACKGROUND INFORMATION**

City Population 540,000

(Eurostat)

Out of 118

47

33 in 2020

SMART CITY RATING

BB BBB in 2020

FACTOR RATINGS

P STRUCTURES

BB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Belarus Poland

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
Life expectancy at Birth	80.9	81.0	81.2	81.3	+0.1
Expected years of schooling	17.1	17.1	17.1	17.0	-0.1
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY A	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing road congestion security unemployment school education recycling air pollution public transport citizen engagement

ATTITUDES

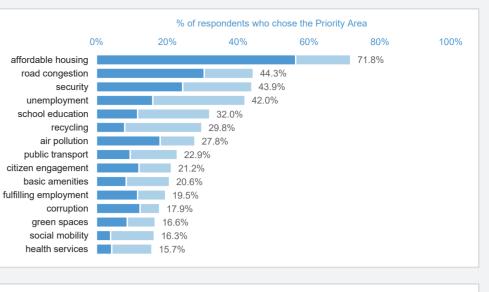
You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

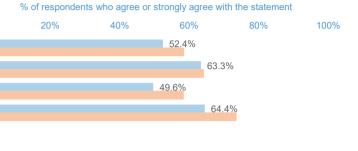
LEGEND: GROUP MEAN CITY

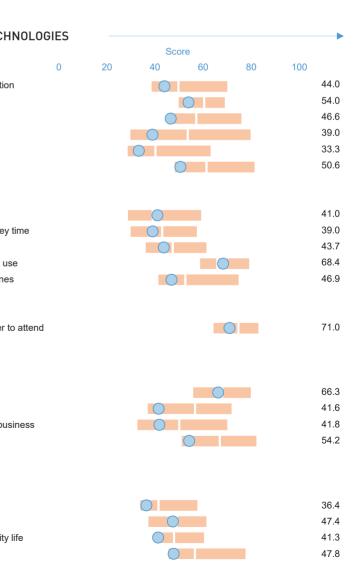
		LEGEND: MIN	CITY MEAN GROUP MAX	
		LEGEND: MIN		_
STRUCTURES		•	TECHNOLOGIES	\$
	Score			
Health & Safety 0	20 40 60	80 100	Health & Safety 0	
Basic sanitation meets the needs of the poorest areas		66.6	Online reporting of city maintenance problems provides a speedy solution	
Recycling services are satisfactory		73.7	A website or App allows residents to easily give away unwanted items	
Public safety is not a problem		56.4	Free public wifi has improved access to city services	
Air pollution is not a problem		50.2	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory		75.3	A website or App allows residents to effectively monitor air pollution	
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		30.2	Arranging medical appointments online has improved access	
Mobility			Mobility	
Traffic congestion is not a problem		42.5	Car-sharing Apps have reduced congestion	
Public transport is satisfactory		68.1	Apps that direct you to an available parking space have reduced journey time	
			Bicycle hiring has reduced congestion	
			Online scheduling and ticket sales has made public transport easier to use	
			The city provides information on traffic congestion through mobile phones	
Activities			Activities	
Green spaces are satisfactory		71.0	Online purchasing of tickets to shows and museums has made it easier to attend	
Cultural activities (shows, bars, and museums) are satisfactory		76.6		
Opportunities (Work & School)			Opportunities (Work & School)	
Employment finding services are readily available		62.8	Online access to job listings has made it easier to find work	
Most children have access to a good school		66.7	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions		59.1	Online services provided by the city has made it easier to start a new business	
Businesses are creating new jobs		56.3	The current internet speed and reliability meet connectivity needs	
Minorities feel welcome		60.4		
Governance			Governance	
Information on local government decisions are easily accessible		54.9	Online public access to city finances has reduced corruption	
Corruption of city officials is not an issue of concern		53.3	Online voting has increased participation	
Residents contribute to decision making of local government		47.9	An online platform where residents can propose ideas has improved city life	
Residents provide feedback on local government projects		50.4	Processing Identification Documents online has reduced waiting times	
			- · · ·	

0%

0%







Helsinki

SMART CITY RANKING BACKGROUND INFORMATION

City Population 650 000

(Eurostat)

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Out of 118

2 in 2020

SMART CITY RATING

AA in 2020

FACTOR RATINGS

ΔΔ STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Nonwa 2017 2017 2010 2010 1. vr chong

Country	2016	2017	2018	2019	1 yr change	
HDI	0.922	0.924	0.925	0.938	+0.013	
Life expectancy at Birth	81.4	81.6	81.7	81.9	+0.2	
Expected years of schooling	19.3	19.3	19.3	19.4	+0.1	
Mean years of schooling	12.4	12.4	12.4	12.8	+0.4	
GNI per capita (PPP \$)	40,609	41,142	41,779	48,511	+6,732	

					LEGEN	D: MIN	Осп	Y MEAN	GROUP MAX
	STRUCTURES						•		
	STREETERES		Sc	ore			-		
Health & Safety	0	20	40	60	80	100		Heal	th & Safety
Basic sanitation meets the needs of the poorest areas					\bigcirc	7	3.3		reporting of city mai
Recycling services are satisfactory						7	6.4	A web	site or App allows re
Public safety is not a problem						6	9.6	Free p	ublic wifi has improv
Air pollution is not a problem						5	8.8	CCTV	cameras has made
Medical services provision is satisfactory						6	68.1	A web	site or App allows re
Finding housing with rent equal to 30% or less of a monthly salary i	s not a problem	C				2	28.4	Arrang	jing medical appoint
Mobility								Mobi	lity
Traffic congestion is not a problem				\bigcirc		5	54.4	Car-sh	naring Apps have rec
Public transport is satisfactory					\bigcirc	7	8.8	Apps t	hat direct you to an a
								Bicycle	e hiring has reduced
								Online	scheduling and tick
								The ci	ty provides information
Activities								Activ	ities
Green spaces are satisfactory					\bigcirc	7	6.9	Online	purchasing of ticket
Cultural activities (shows, bars, and museums) are satisfactory						7	7.8		
Opportunities (Work & School)								Оррс	ortunities (Work
Employment finding services are readily available				\bigcirc		6	5.2	Online	access to job listing
Most children have access to a good school					\bigcirc	8	80.6	IT skill	s are taught well in s
Lifelong learning opportunities are provided by local institutions					\bigcirc	7	'4.1	Online	services provided b
Businesses are creating new jobs						e	9.9	The cu	urrent internet speed
Minorities feel welcome						5	6.4		
Governance								Gove	rnance
Information on local government decisions are easily accessible						6	6.06	Online	public access to city
Corruption of city officials is not an issue of concern				\bigcirc		5	6.8	Online	voting has increase

54.7

63.7

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% health services affordable housing security public transport unemployment recycling green spaces fulfilling employment basic amenities road congestion social mobility air pollution school education citizen engagement 13.5%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

naintenance problems provides a speedy solution residents to easily give away unwanted items oved access to city services de residents feel safer residents to effectively monitor air pollution ntments online has improved access

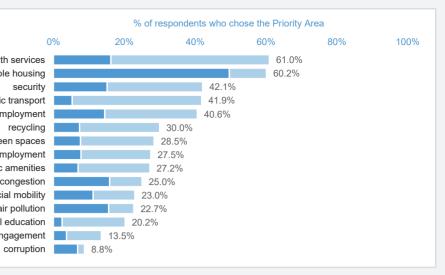
educed condestion n available parking space have reduced journey time ed congestion cket sales has made public transport easier to use ation on traffic congestion through mobile phones

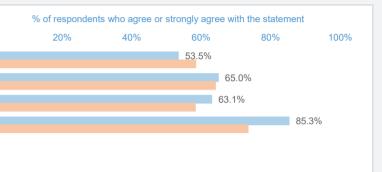
ets to shows and museums has made it easier to attend

rk & School)

ngs has made it easier to find work schools I by the city has made it easier to start a new business ed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Ho Chi Minh City



BACKGROUND INFORMATION

City Population 8.600.000

Health & Safety

Mobility

Public safety is not a problem

Air pollution is not a problem

Traffic congestion is not a problem

Public transport is satisfactory

(UN World Urbanization Prospects)



Out of 118

83 in 2020

SMART CITY RATING CC CC in 2020

FACTOR RATINGS

CC STRUCTURES

CC

TECHNOLOGIES

GROUP

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.685	0.690	0.693	0.704	+0.011
Life expectancy at Birth	75.2	75.2	75.3	75.4	+0.1
Expected years of schooling	12.7	12.7	12.7	12.7	+0.0
Mean years of schooling	8.1	8.2	8.2	8.3	+0.1
GNI per capita (PPP \$)	5,638	5,916	6,220	7,433	+1,213

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% air pollution road congestion security basic amenities affordable housing corruption public transport health services green spaces unemployment fulfilling employment school education 11.9% social mobility 6.8%

AT	ΤI	тι	JD	ES

		01	70						
You are willing to concede personal data in order to improve traffic congestion									
You are comfortable with face recognition technologies to lower crime									
You feel the availability of online information has increased your trust in authorities									
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)									
LEGEND: GROUP MEAN	TY	_							
LEGEND. GROUP WEAN	1.1								

LEGEND: STRUCTURES Score 80 0 20 40 60 100 Health & Safety 70.8 Basic sanitation meets the needs of the poorest areas Online reporting of city maintenance problems provides a speedy solution 65.0 Recycling services are satisfactory A website or App allows residents to easily give away unwanted items \bigcirc 70.1 Free public wifi has improved access to city services \bigcirc 36.3 CCTV cameras has made residents feel safer 73.8 Medical services provision is satisfactory A website or App allows residents to effectively monitor air pollution Finding housing with rent equal to 30% or less of a monthly salary is not a problem 54.6 Arranging medical appointments online has improved access Mobility

Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to u
The city provides information on traffic congestion through mobile phone

Activities

63.3

75.5

83 1

83.9

65.5

82.7

74.1

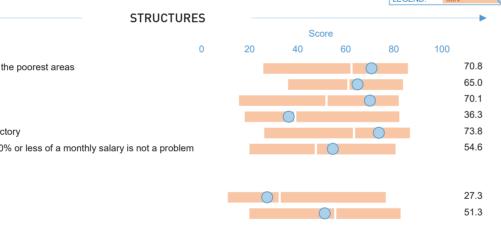
Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

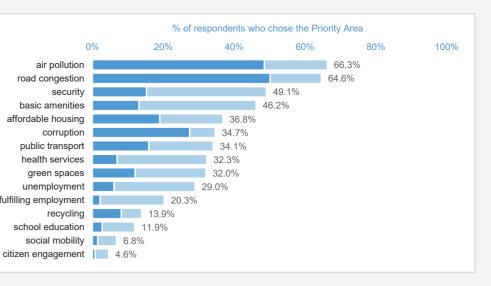
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

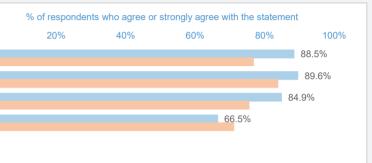


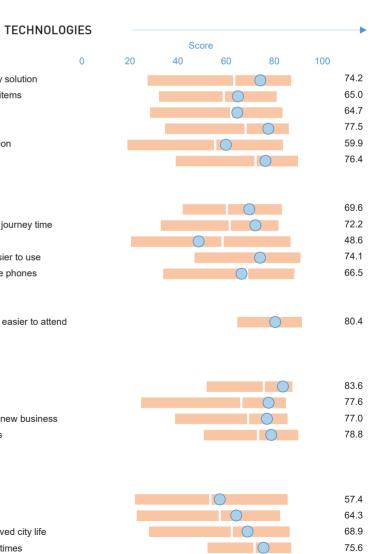
Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	\bigcirc
Opportunities (Work & School)	
Employment finding services are readily available	

Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	

Governance 72.6 Information on local government decisions are easily accessible 39.6 Corruption of city officials is not an issue of concern 62.7 Residents contribute to decision making of local government 71.1 Residents provide feedback on local government projects







Hong Kong

SMART CITY RANKING

L1

Out of 118

BACKGROUND INFORMATION

City Population 7,550,000

(UN World Urbanization Prospects)

Employment finding services are readily available

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Most children have access to a good school

Businesses are creating new jobs

Minorities feel welcome

Governance



2016	2017	2018	2019	1 yr change
0.931	0.937	0.939	0.949	+0.010
84.3	84.5	84.7	84.9	+0.2
16.3	16.5	16.5	16.9	+0.4
12.0	12.0	12.0	12.3	+0.3
55,816	58,553	60,221	62,985	+2,764
	0.931 84.3 16.3 12.0	0.931 0.937 84.3 84.5 16.3 16.5 12.0 12.0	0.931 0.937 0.939 84.3 84.5 84.7 16.3 16.5 16.5 12.0 12.0 12.0	0.931 0.937 0.939 0.949 84.3 84.5 84.7 84.9 16.3 16.5 16.5 16.9 12.0 12.0 12.0 12.3

PRIORITY A	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

LEGEND: GROUP MEAN CITY

affordable housing corruption health services citizen engagement air pollution unemployment fulfilling employment social mobility road congestion school education security recycling basic amenities

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
۲ ST	RUCTURES								
			Sco	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				(71.8		Online	reporting of city r
Recycling services are satisfactory			\bigcirc			42.9		A webs	ite or App allows
Public safety is not a problem				\bigcirc		56.4		Free pu	ıblic wifi has imp
Air pollution is not a problem		\bigcirc				28.7		CCTV o	ameras has ma
Medical services provision is satisfactory				\bigcirc		60.1		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is n	ot a problem					21.5		Arrangi	ng medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem		\bigcirc				25.2		Car-sha	aring Apps have
Public transport is satisfactory						58.6		Apps th	at direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t
								The city	v provides inform
Activities								Activi	ties
Green spaces are satisfactory			\bigcirc			46.6		Online	purchasing of tic
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc		54.3			
Opportunities (Work & School)								Оррог	tunities (Wo

A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to u
The city provides information on traffic congestion through mobile phone
Activities
Online purchasing of tickets to shows and museums has made it easier
Opportunities (Work & School)

Opportunities (work & School)
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

67.4

63.9

63.6

56.1

48.2

56.5

36.4

36.8

51.4

 \bigcirc

 \bigcirc

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING

32 in 2020

BB

BBB in 2020

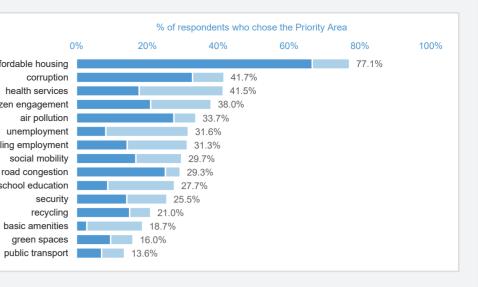
FACTOR RATINGS

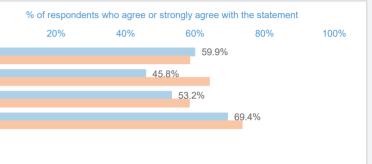
BB STRUCTURES

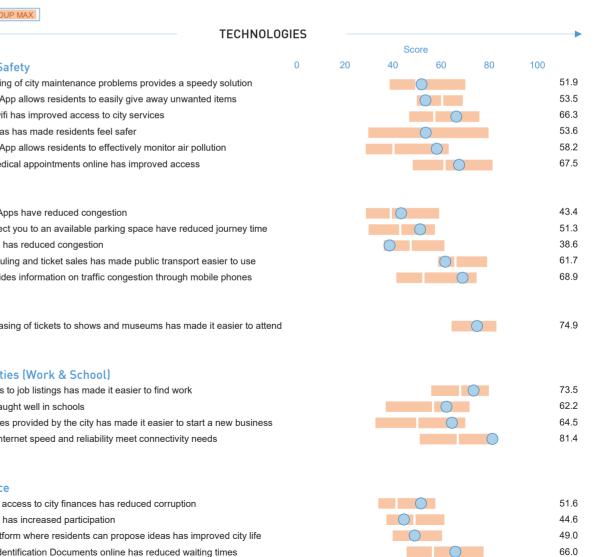
TECHNOLOGIES

GROUP

1







Hyderabad

SMART CITY RANKING

92

Out of 118

BACKGROUND INFORMATION

City Population 10.000.000

Country

Life expectancy at Birth

Mean years of schooling

GNI per capita (PPP \$)

Expected years of schooling

HDI

(UN World Urbanization Prospects)

85 in 2020

SMART CITY RATING CC CC in 2020

FACTOR

RATINGS

STRUCTURES Hea Basi Rec Pub Air p

2016

0.637

68.9

12.3

6.4

6,075

2017

0 643

69.2

12.3

6.5

6,446

2018

0 647

69.4

12.3

6.5

6,829

2019

0 645

69.7

12.2

6.5

6,681

1 yr change

-0.002

+0.3

-0.1

+0.0

-148

LEGEND:

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School) Employment finding services are readily available \bigcirc Most children have access to a good school Lifelong learning opportunities are provided by local institutions \bigcirc Businesses are creating new jobs \bigcirc Minorities feel welcome

Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% air pollution basic amenities unemployment health services road congestion areen spaces fulfilling employment security corruption recvclina affordable housing public transport school education citizen engagement 12.8%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

Health & Safety Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

CITY MEAN

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

66.7

74.8

67.6

69.1

60.1

71.9

73.9

68.4

37.8

54.6

60.5

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

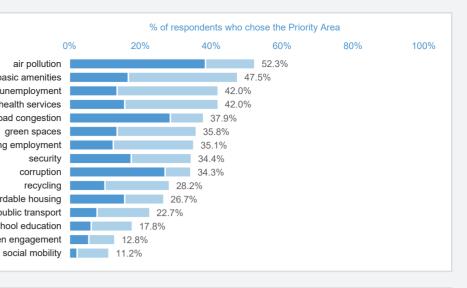
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

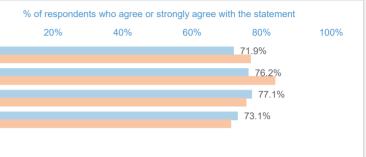
	31	RUCTURES						
				Sco	ore			
Health & Safety		0	20	40	60	80	100	
Basic sanitation meets the needs of	the poorest areas				\bigcirc		6	64.5
Recycling services are satisfactory					\bigcirc		6	63.3
Public safety is not a problem							5	50.3
Air pollution is not a problem				\bigcirc			3	33.5
Medical services provision is satisfa	actory				C)	6	8.8
Finding housing with rent equal to 3	0% or less of a monthly salary is n	ot a problem			\bigcirc		5	54.1
Mobility								
Traffic congestion is not a problem				\bigcirc			3	32.7
Public transport is satisfactory							6	65.5

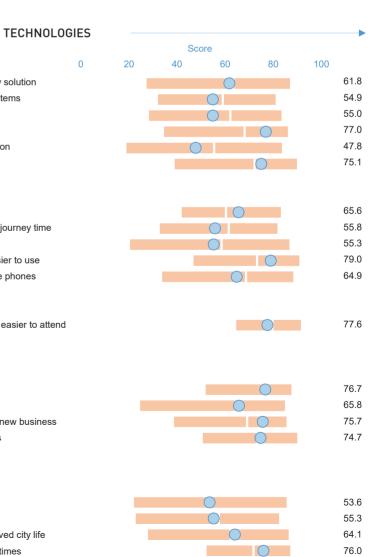
CC STRUCTURES CC

TECHNOLOGIES

GROUP







Istanbul

SMART CITY RANKING

94

Out of 118

N/A

not in 2020

SMART

CITY

RATING

CC

not in 2020

FACTOR

RATINGS

CC

STRUCTURES

B

TECHNOLOGIES

GROUP

3

All ratings range

from AAA to D

BACKGROUND INFORMATION

(UN World Urbanization Prospects)

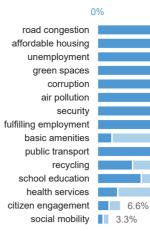
City Population 15,190,000

Country	2016	2017	2018	2019	1 yr change
HDI	0.800	0.805	0.807	0.820	+0.013
Life expectancy at Birth	76.9	77.2	77.4	77.7	+0.3
Expected years of schooling	16.4	16.4	16.4	16.6	+0.2
Mean years of schooling	7.6	7.7	7.7	8.1	+0.4
GNI per capita (PPP \$)	23,409	24,702	24,905	27,701	+2,796

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transactio LEGEND: GROUP MEAN CITY

					LEGEN	D: M	IN	CITY	MEAN	GROUP MAX
STRUCT	TURES								•	
			Sc	ore						
Health & Safety	0	20	40	60	80	100			Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc			66.5		Online	reporting of city
Recycling services are satisfactory				\bigcirc			50.8		A webs	ite or App allows
Public safety is not a problem			\bigcirc				41.3		Free pu	ublic wifi has imp
Air pollution is not a problem		(30.3		CCTV	cameras has ma
Medical services provision is satisfactory				\bigcirc			57.0		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a pro	blem)				28.4		Arrangi	ing medical appo
Mobility									Mobil	ity
Traffic congestion is not a problem		\bigcirc					11.6		Car-sha	aring Apps have
Public transport is satisfactory			\bigcirc				39.0		Apps th	nat direct you to a
									Bicycle	hiring has reduc
									Online	scheduling and t
									The city	y provides inforn
Activities									Activi	ties
Green spaces are satisfactory		\bigcirc					26.9		Online	purchasing of tic
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc			51.8			

Opportunities (Work & School)

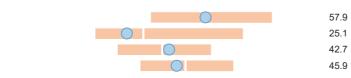
Employment finding services are readily available Most children have access to a good school Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs Minorities feel welcome

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects



\bigcirc	



Health & Safety
Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer

website or App allows residents to effectively monitor air pollution ranging medical appointments online has improved access

obility

ar-sharing Apps have reduced congestion ops that direct you to an available parking space have reduced journey time cycle hiring has reduced congestion nline scheduling and ticket sales has made public transport easier to use ne city provides information on traffic congestion through mobile phones

ctivities

49.7

36.8

58.0

42.0

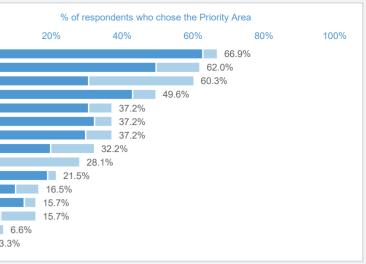
54.5

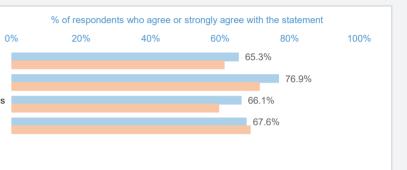
nline purchasing of tickets to shows and museums has made it easier to attend

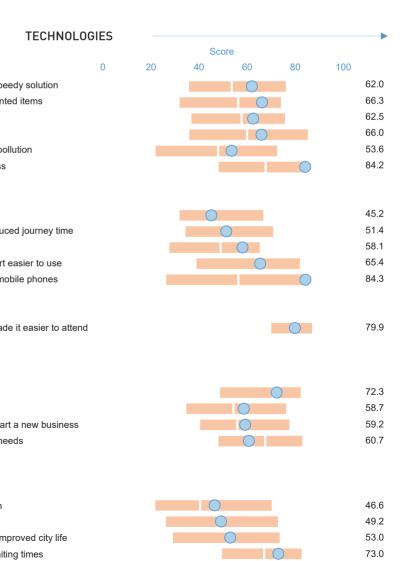
Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







Jakarta



91

Out of 118

94 in 2020

BACKGROUND INFORMATION

City Population 10.770.000

(UN World Urbanization Prospects)

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions



2016	2017	2018	2019	1 yr change
0.700	0.704	0.707	0.718	+0.011
71.0	71.3	71.5	71.7	+0.2
12.9	12.9	12.9	13.6	+0.7
8.0	8.0	8.0	8.2	+0.2
10,419	10,811	11,256	11,459	+203
	0.700 71.0 12.9 8.0	0.7000.70471.071.312.912.98.08.0	0.7000.7040.70771.071.371.512.912.912.98.08.08.0	0.7000.7040.7070.71871.071.371.571.712.912.912.913.68.08.08.08.2

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution road congestion basic amenities unemplovment corruption health services security green spaces affordable housing public transport fulfilling employment social mobility 8.2%

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

GROUP MAX

					LEGEND:	MIN	CITY	MEAN	G
4	STRUCTURES							-	
			Sc	ore					
Health & Safety	0	20	40	60	80	100		Healt	th 8
Basic sanitation meets the needs of the poorest areas				\bigcirc		59.3		Online	rep
Recycling services are satisfactory				\bigcirc		57.6		A web	site
Public safety is not a problem			\bigcirc			46.4		Free p	ublic
Air pollution is not a problem						24.3		CCTV	cam
Medical services provision is satisfactory				\bigcirc		64.5		A web	site (
Finding housing with rent equal to 30% or less of a monthly salary	is not a problem			\bigcirc		52.8		Arrang	jing i
Mobility								Mobi	lity
Traffic congestion is not a problem						19.4		Car-sh	narin
Public transport is satisfactory				\bigcirc		60.4		Apps t	hat o
								Bicycle	e hiri
								Online	sch
								The cit	ty pr
Activities								Activ	itie

es Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CC C in 2020

FACTOR RATINGS

CC STRUCTURES

CC **TECHNOLOGIES**

GROUP

All ratings range from AAA to D

61.5

71.4

61.9

64.6

59.7

80.7

68.4



lth & Safety	
ne reporting of city	maintenance problems

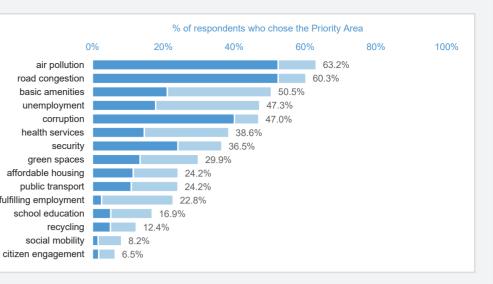
s provides a speedy solution te or App allows residents to easily give away unwanted items blic wifi has improved access to city services ameras has made residents feel safer te or App allows residents to effectively monitor air pollution

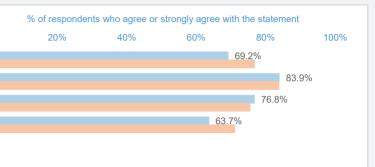
ng medical appointments online has improved access

ring Apps have reduced congestion at direct you to an available parking space have reduced journey time hiring has reduced congestion

cheduling and ticket sales has made public transport easier to use

provides information on traffic congestion through mobile phones









SMART CITY RANKING

53

Out of 118

BACKGROUND INFORMATION

City Population 250,000

(Eurostat)

N/A

not in 2020

SMART CITY RATING BB

not in 2020

FACTOR RATINGS

BBB STRUCTURES

BB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Belarus Vienna

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
Life expectancy at Birth	80.9	81.0	81.2	81.3	+0.1
Expected years of schooling	17.1	17.1	17.1	17.0	-0.1
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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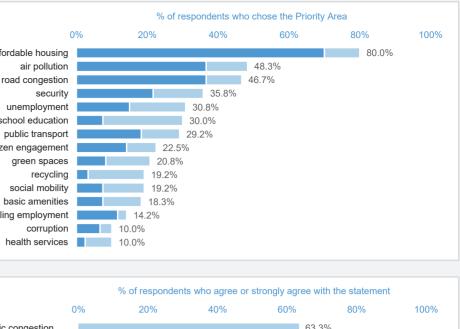
0% affordable housing air pollution road congestion security unemployment school education public transport citizen engagement green spaces fulfilling employment 14.2% corruption 10.0%

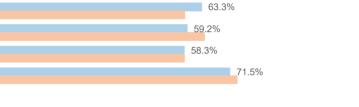
ATTITUDES

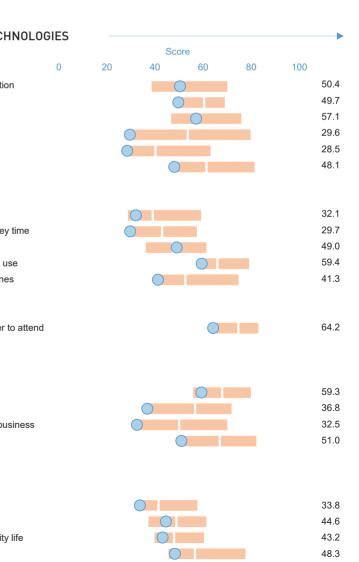
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

		LEGEND: MIN CI	TY MEAN GROUP MAX
STRUCTURES			TECHNOLOGIES
	Score		
Health & Safety 0	20 40 60	80 100	Health & Safety 0
Basic sanitation meets the needs of the poorest areas		68.1	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory	\bigcirc	73.2	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		57.8	Free public wifi has improved access to city services
Air pollution is not a problem		41.3	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		82.6	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		23.6	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		36.0	Car-sharing Apps have reduced congestion
Public transport is satisfactory		59.9	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		70.7	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		66.4	
Opportunities (Work & School)		50.5	Opportunities (Work & School)
Employment finding services are readily available		58.5	Online access to job listings has made it easier to find work
Most children have access to a good school		69.4	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		53.8	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		55.4 56.7	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		50.7	
Governance			Governance
Information on local government decisions are easily accessible		57.4	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		63.2	Online voting has increased participation
Residents contribute to decision making of local government		50.0	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		53.2	Processing Identification Documents online has reduced waiting times











82

Out of 118

98 in 2020

SMART

CITY RATING

CCC

STRUCTURES

GROUP

3

All ratings range

from AAA to D

BACKGROUND INFORMATION

City Population 2,990,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.746	0.747	0.750	0.779	+0.029
Life expectancy at Birth	71.7	71.8	72.0	72.1	+0.1
Expected years of schooling	15.1	15.1	15.1	15.1	+0.0
Mean years of schooling	11.3	11.3	11.3	11.4	+0.1
GNI per capita (PPP \$)	7,601	7,670	7,994	13,216	+5,222
Givi per capita (FFF \$)	7,001	1,010	1,554	10,210	

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% corruption road congestion air pollution affordable housing basic amenities recvclina security health services fulfilling employment unemplovment public transport green spaces 11.8% citizen engagement 11.0% school education 8.6% social mobility 5.8%

ATTITUDES

ATTIODES	0%						
You are willing to concede personal data in order to improve traffic congestion							
You are comfortable with face recognition technologies to lower crime							
You feel the availability of online information has increased your trust in auth	norities						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)							
LEGEND: GROUP MEAN CITY							

C in 2020	STRUCTURES	
	Health & Safety 0	20
	Basic sanitation meets the needs of the poorest areas	
	Recycling services are satisfactory	
FACTOR	Public safety is not a problem	
RATINGS	Air pollution is not a problem	
INATITO S	Medical services provision is satisfactory	
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem	
00		
CC	Mobility	
	Traffic congestion is not a problem	

0	20	40	60	80	100
			\bigcirc		54.7
		\bigcirc			39.0
		\bigcirc			46.3
	C)			28.0
					41.1
lem	(31.3

Score

LEGEND:

MIN

65.6

72.9

70.4

62.5

61.4

55.3

49.7

61.0

23.4

33.7

55.0

18.7
50.3

 \bigcirc

 \bigcirc

ししし	
	Activities
TECHNOLOGIES	Green spaces are satisfactory

Public transport is satisfactory

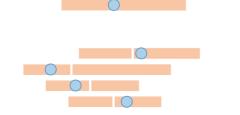
Green spaces are satisfactory
Cultural activities (shows, bars, and museums) are satisfactory

Opportunities (Work & School)

Employment finding services are readily available Most children have access to a good school Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs Minorities feel welcome

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects



CITY	MEAN	GROUP MAX			
					TECH
					TECI
	Health	& Safety			
	Online re	porting of city	maintenance pr	oblems provide	es a speedy solution
	A website	e or App allow	s residents to ea	asily give away	unwanted items
	Free pub	lic wifi has im	proved access t	o city services	
	CCTV ca	meras has ma	ade residents fe	el safer	
	A website	e or App allow	s residents to ef	fectively monito	or air pollution
	Arranging	g medical app	ointments online	e has improved	access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

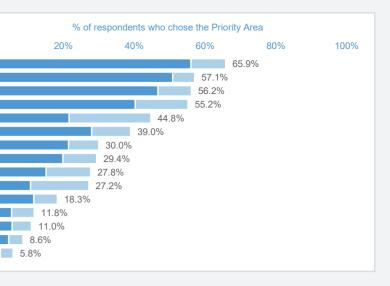
Activities

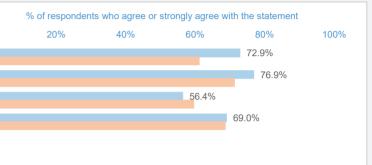
Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times









SMART CITY RANKING

80

Out of 118

58 in 2020

BACKGROUND INFORMATION

Employment finding services are readily available

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Most children have access to a good school

Businesses are creating new jobs

Minorities feel welcome

Governance

City Population 770,000

Polarus (UN World Urbanization Prospects) (Kiev

Country	2016	2017	2018	2019	1 yr change
HDI	0.864	0.868	0.872	0.880	+0.008
Life expectancy at Birth	78.1	78.3	78.5	78.7	+0.2
Expected years of schooling	16.4	16.4	16.4	16.3	-0.1
Mean years of schooling	12.3	12.3	12.3	12.5	+0.2
GNI per capita (PPP \$)	25,042	26,182	27,626	31,623	+3,997

PRIORITY	AREAS
----------	-------

61.4

67.8

67.4

63.4

58.1

60.5

38.8

51.4

58.1

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution affordable housing road congestion dreen spaces security health services fulfilling employment public transport recycling basic amenities corruption social mobility 12.1% school education 10.5% citizen engagement 7.6%

ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	s
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND) MIN	CITY	MEAN GROUP MAX	
、					LEGENL			MEAN GROUP MAX	
J	STRUCTURES		_					•	TECH
			Scor						
-	Health & Safety 0	20	40	60	80	100		Health & Safety	
	Basic sanitation meets the needs of the poorest areas			\bigcirc		61.6		Online reporting of ci	ity maintenance problems provides a speedy solutior
_	Recycling services are satisfactory			\bigcirc		58.6		A website or App allo	ows residents to easily give away unwanted items
R	Public safety is not a problem			\bigcirc		58.5		Free public wifi has i	mproved access to city services
S	Air pollution is not a problem	\bigcirc				20.0		CCTV cameras has	made residents feel safer
	Medical services provision is satisfactory					47.4		A website or App allo	ows residents to effectively monitor air pollution
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem					26.1		Arranging medical ap	ppointments online has improved access
	Mobility							Mobility	
	Traffic congestion is not a problem	\bigcirc				28.5			ive reduced congestion
ES	Public transport is satisfactory			\bigcirc		56.6		Apps that direct you	to an available parking space have reduced journey
								Bicycle hiring has red	
								, ,	nd ticket sales has made public transport easier to us
								-	ormation on traffic congestion through mobile phones
	Activities							Activities	
GIES	Green spaces are satisfactory				_	59.4			f tickets to shows and museums has made it easier to
JLJ						77.5		Offinite purchasing of	
	Cultural activities (shows, bars, and museums) are satisfactory					77.5			
-									
	Opportunities (Work & School)							Opportunities (V	Nork & Schoolj

Opportunities (work & School)
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC B in 2020

FACTOR RATINGS

CCC STRUCTURE

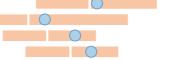
CCC

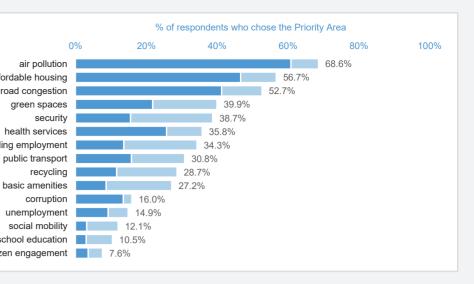
TECHNOLOGI

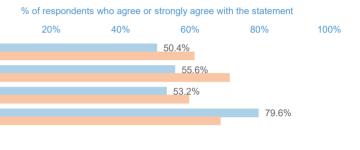
GROUP

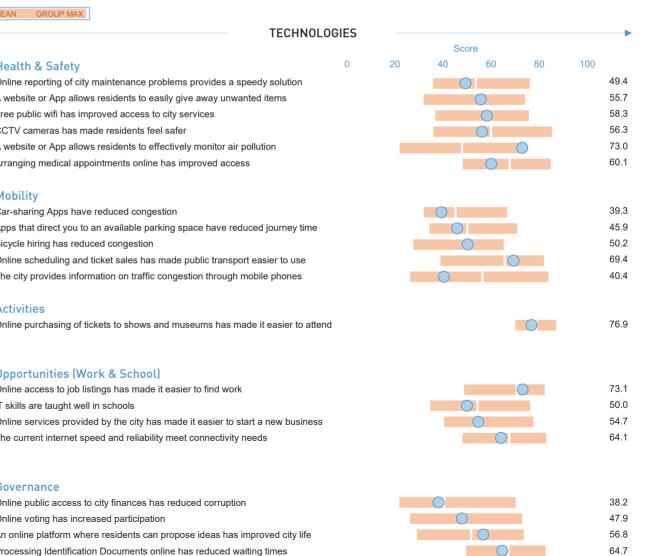
3

All ratings range from AAA to D









Kuala Lumpur

SMART CITY RANKING

74

Out of 118

BACKGROUND INFORMATION

City Population 8.000.000

(UN World Urbanization Prospects)

Minorities feel welcome

Governance

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

54 in 2020

SMART CITY RATING CCC B in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.801	0.802	0.804	0.810	+0.006
Life expectancy at Birth	75.6	75.8	76.0	76.2	+0.2
Expected years of schooling	13.7	13.5	13.5	13.7	+0.2
Mean years of schooling	10.2	10.2	10.2	10.4	+0.2
GNI per capita (PPP \$)	25,394	26,555	27,227	27,534	+307

PRIORITY	AREAS
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The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% road congestion affordable housing corruption security unemployment health services air pollution fulfilling employment public transport basic amenities recycling social mobility 11.9%

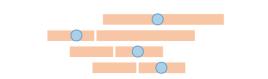
0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	s
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND:	MIN		Y MEAN	GROUP MAX
↓	STRUCTURES						•		
			Sco	ore					
Health & Safety	0	20	40	60	80	100		Healt	th & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc		65.	6	Online	reporting of city r
Recycling services are satisfactory				0		53.	4	A web	site or App allows
Public safety is not a problem			\bigcirc			45.	2	Free p	ublic wifi has imp
Air pollution is not a problem						36.	3	CCTV	cameras has ma
Medical services provision is satisfactory					\bigcirc	74.	9	A web	site or App allows
Finding housing with rent equal to 30% or less of a monthly salary is	s not a problem		\bigcirc			44.	4	Arrang	jing medical appo
Mobility								Mobi	lity
Traffic congestion is not a problem		\bigcirc				24.	1	Car-sh	naring Apps have
Public transport is satisfactory				\bigcirc		58.	8	Apps t	hat direct you to a
								Bicycle	e hiring has reduc
								Online	scheduling and t
								The cit	ty provides inform
Activities								Activ	ities
Green spaces are satisfactory				\bigcirc		54.	3	Online	purchasing of tic

Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	



Health & Safety
Online reporting of city maintenance problems provides a speedy sol
A website or App allows residents to easily give away unwanted item
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access

bility

-sharing Apps have reduced congestion s that direct you to an available parking space have reduced journey time cle hiring has reduced congestion ne scheduling and ticket sales has made public transport easier to use city provides information on traffic congestion through mobile phones

ivities

67.0

64.7

69.9

68.1

69.7

58.9

57.9

24.1

49.7

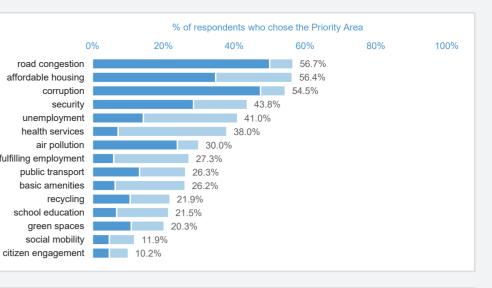
59.4

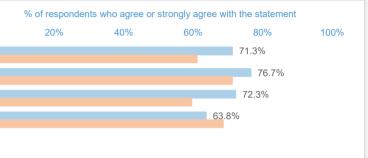
ne purchasing of tickets to shows and museums has made it easier to attend

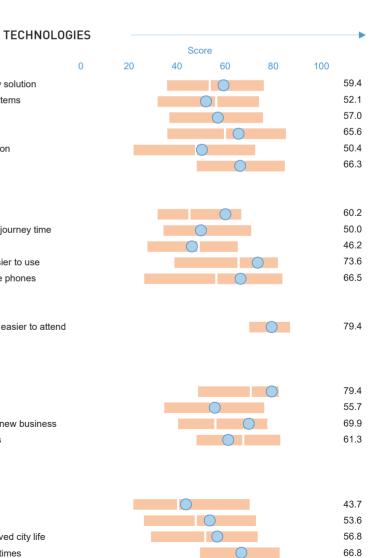
Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







Lagos

SMART CITY RANKING 15

Out of 118

BACKGROUND INFORMATION

Businesses are creating new jobs

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Minorities feel welcome

Governance

City Population 14.370.000

.Kano Kaduna (UN World Urbanization Prospects)

2016	2017	2018	2019	1 yr chang
0.528	0.533	0.534	0.539	+0.00
53.5	54.0	54.3	54.7	+0.
9.5	9.7	9.7	10.0	+0
6.3	6.5	6.5	6.7	+0.
5,336	5,203	5,086	4,910	-17
	0.528 53.5 9.5 6.3	0.528 0.533 53.5 54.0 9.5 9.7 6.3 6.5	0.528 0.533 0.534 53.5 54.0 54.3 9.5 9.7 9.7 6.3 6.5 6.5	0.528 0.533 0.534 0.539 53.5 54.0 54.3 54.7 9.5 9.7 9.7 10.0 6.3 6.5 6.5 6.7

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% security unemployment affordable housing health services road congestion corruption basic amenities fulfilling employment school education public transport air pollution recycling 8.1% citizen engagement 6.2% social mobility 5.9% green spaces 2.9%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

			LEGE	ND: MIN	CITY MEAN GROUP MAX	
STRUCTURES				•	4	ТЕСН
		Score				
Health & Safety ⁰	20	40	60 80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas		\bigcirc		45.8	Online reporting of city maintenance proble	ems provides a speedy solution
Recycling services are satisfactory				45.4	A website or App allows residents to easily	/ give away unwanted items
Public safety is not a problem				31.9	Free public wifi has improved access to cit	ly services
Air pollution is not a problem	\bigcirc			18.8	CCTV cameras has made residents feel sa	afer
Medical services provision is satisfactory		\bigcirc		39.3	A website or App allows residents to effect	ively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem				19.8	Arranging medical appointments online ha	s improved access
Mobility					Mobility	
Traffic congestion is not a problem	\bigcirc			10.8	Car-sharing Apps have reduced congestio	'n
Public transport is satisfactory		\bigcirc		36.6	Apps that direct you to an available parking	g space have reduced journey
					Bicycle hiring has reduced congestion	
					Online scheduling and ticket sales has ma	de public transport easier to us
					The city provides information on traffic cor	gestion through mobile phone:
Activities					Activities	
Green spaces are satisfactory				46.5	Online purchasing of tickets to shows and	museums has made it easier t
Cultural activities (shows, bars, and museums) are satisfactory			\bigcirc	74.2		
Opportunities (Work & School)					Opportunities (Work & School)	
Employment finding services are readily available		\bigcirc		40.1	Online access to job listings has made it e	asier to find work
Most children have access to a good school		\bigcirc		40.6	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions				38.5	Online services provided by the city has m	ade it easier to start a new bus

ught well in schools provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

63.3

47.9

38.4

13.2

23.5

36.2

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART

109 in 2020

CITY RATING

 \square D in 2020

FACTOR RATINGS

Г STRUCTURES

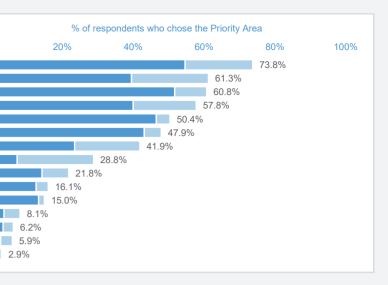
D

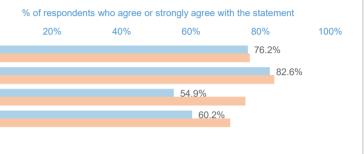
TECHNOLOGIES

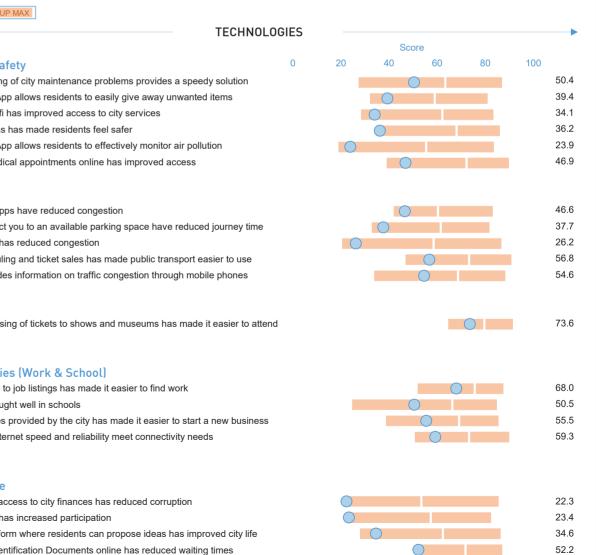
GROUP

All ratings range from AAA to D









Lausanne

SMART CITY RANKING

5

Out of 118

BACKGROUND INFORMATION

City Population 140.000

(Eurostat)

N/A

not in 2020

SMART CITY RATING

Δ

not in 2020



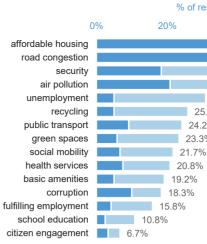
Country	2016	2017	2018	2019	1 yr change
HDI	0.943	0.943	0.946	0.955	+0.009
Life expectancy at Birth	83.3	83.5	83.6	83.8	+0.2
Expected years of schooling	16.2	16.2	16.2	16.3	+0.1
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	58,138	57,301	59,375	69,394	+10,019

STRUCTURES

Ρ	RIC	RIT	Y AF	REAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES

LEGEND:

Score

MIN

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	

CITY MEAN Health & Safety Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services

CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

LEGEND: GROUP MEAN CITY

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

			Sc	ore			
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas					\bigcirc		73.3
Recycling services are satisfactory					\bigcirc		77.5
Public safety is not a problem)		69.9
Air pollution is not a problem		- I		\bigcirc			53.9
Medical services provision is satisfactory							81.9
Finding housing with rent equal to 30% or less of a monthly salary is not	a problem		\bigcirc				32.9
Mobility							
Traffic congestion is not a problem			\bigcirc				33.1
Public transport is satisfactory			1				69.0
Activities							
Green spaces are satisfactory					\bigcirc		82.5
Cultural activities (shows, bars, and museums) are satisfactory							86.8
Opportunities (Work & School)							
Employment finding services are readily available					\bigcirc		80.7
Most children have access to a good school							84.3
Lifelong learning opportunities are provided by local institutions					\bigcirc		75.0
Businesses are creating new jobs				\bigcirc			64.2
Minorities feel welcome				\bigcirc			65.1
Governance							
Information on local government decisions are easily accessible							71.0
Corruption of city officials is not an issue of concern							68.1
							59.3
Residents contribute to decision making of local government							59.5

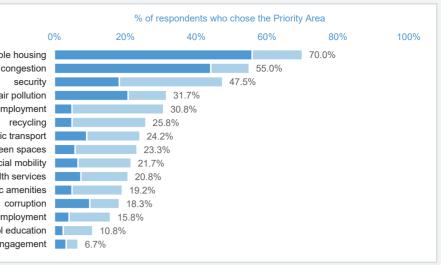
FACTOR
RATINGS

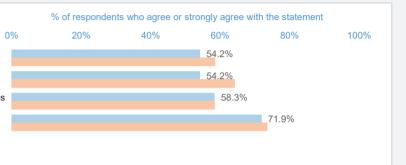
ΔΔΔ STRUCTURES

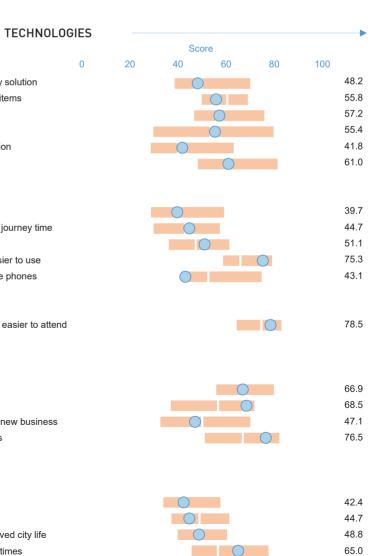
TECHNOLOGIES

GROUP

1







Leeds

SMART CITY RANKING

24

Out of 118

BACKGROUND INFORMATION

City Population 790 000

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

(Eurostat)

N/A

not in 2020

SMART CITY RATING BBB not in 2020

FACTOR RATINGS

BBB STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D



Score

60

40

20

Country	2016	2017	2018	2019	1 yr change
HDI	0.918	0.919	0.920	0.932	+0.012
Life expectancy at Birth	81.1	81.2	81.2	81.3	+0.1
Expected years of schooling	17.4	17.4	17.4	17.5	+0.1
Mean years of schooling	12.9	12.9	13.0	13.2	+0.2
GNI per capita (PPP \$)	38,421	39,216	39,507	46,071	+6,564

STRUCTURES

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing unemployment road congestion health services air pollution security recycling public transport green spaces fulfilling employment school education citizen engagement 12.0%

0%

0%

ATTITUDES

0.	10
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: 80 100 Health & Safety 59.6 Online reporting of city maintenance problems provides a speedy solution 62.7 A website or App allows residents to easily give away unwanted items 40.3 Free public wifi has improved access to city services 29.7 CCTV cameras has made residents feel safer 63.6 A website or App allows residents to effectively monitor air pollution 35.9 Arranging medical appointments online has improved access

Mobility

26.5

54.1

64.8

69.5

67.7

65.7

62.5

63.1

62.3

62.0

52.7

48.0

56.1

LEGEND: GROUP MEAN CITY

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

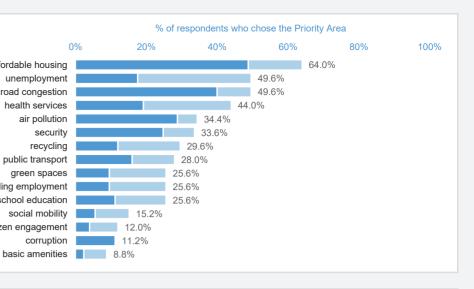
Activities

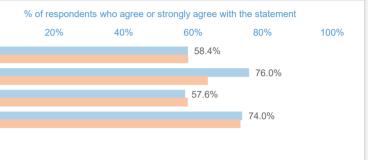
Online purchasing of tickets to shows and museums has made it easier to attend

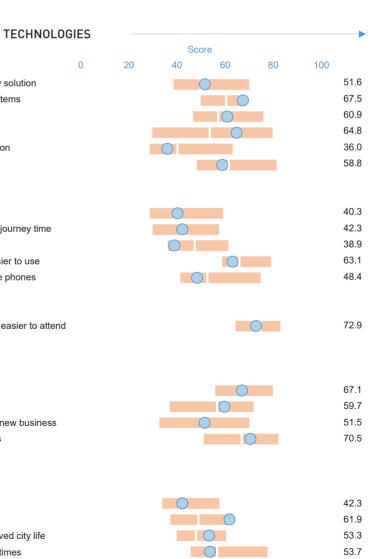
Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corrupt	ion
Online voting has increased participation	
An online platform where residents can propose ideas ha	s improved ci
Processing Identification Documents online has reduced	waiting times







Lille



<u>L</u>L

Out of 118

BACKGROUND INFORMATION

City Population 910,000

(Eurostat)

Country

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

N/A

not in 2020

SMART CITY RATING BB

not in 2020

FACTOR RATINGS

B STRUCTURES

BB

TECHNOLOGIES

GROUP

2

All ratings range from AAA to D

1 yr change	2019	2018	2017	2016	
+0.010	0.901	0.891	0.890	0.887	

HDI	0.887	0.890	0.891	0.901	+0.010
Life expectancy at Birth	82.3	82.4	82.5	82.7	+0.2
Expected years of schooling	15.5	15.5	15.5	15.6	+0.1
Mean years of schooling	11.4	11.4	11.4	11.5	+0.1
GNI per capita (PPP \$)	38,926	39,935	40,511	47,173	+6,662

PRIORITY AREAS

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0% affordable housing unemployment air pollution security road congestion recycling public transport fulfilling employment corruption school education 17.1% basic amenities 16.3% citizen engagement 13.0%

0%

ATTITUDES

24.0

62.5

72.1

76.3

62.7

63.7

61.8

49.3

48.4

52.7

40.8

44.9

46.7

	0 /0					
You are willing to concede personal data in order to improve traffic congestion						
You are comfortable with face recognition technologies to lower crime						
You feel the availability of online information has increased your trust in authorities						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)						
LEGEND: GROUP MEAN CITY						

CITY MEAN GROUP MAX Health & Safety 53.3 Online reporting of city maintenance problems provides a speedy solution 65.2 A website or App allows residents to easily give away unwanted items 49.5 Free public wifi has improved access to city services 22.9 CCTV cameras has made residents feel safer 68.3 A website or App allows residents to effectively monitor air pollution 25.3 Arranging medical appointments online has improved access Mobility

> Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

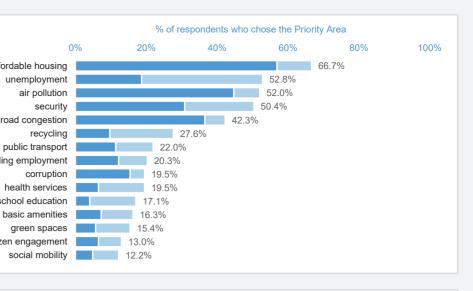
Opportunities (Work & School)

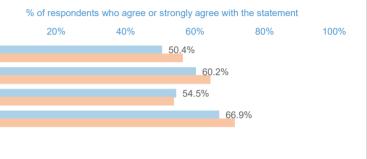
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

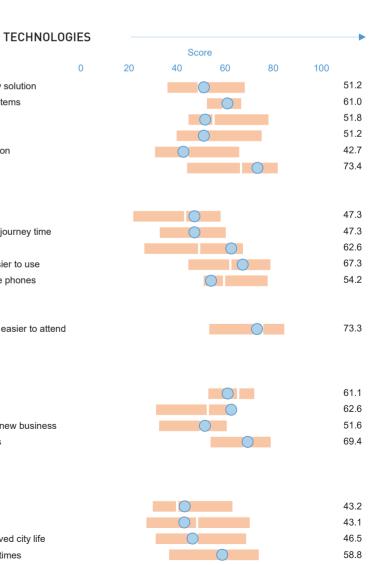
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

					LEGE	ND: MIN
•	STRUCTURES					
			Sc	ore		
Health & Safety	0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas				\bigcirc		
Recycling services are satisfactory				\bigcirc		
Public safety is not a problem						
Air pollution is not a problem				-		
Medical services provision is satisfactory						
Finding housing with rent equal to 30% or less of a monthly	salary is not a problem	\bigcirc				
Mobility						
Traffic congestion is not a problem						
Public transport is satisfactory				\bigcirc		

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	







Lisbon



95

BACKGROUND INFORMATION

Businesses are creating new jobs

Minorities feel welcome

Governance

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

City Population 510,000

(Eurostat)

Out of 118



75 in 2020

SMART CITY RATING CC CCC in 2020

FACTOR RATINGS

CC STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



Couptry	2016	2017	2018	2019	1 vr change
Country					1 yr change
HDI	0.846	0.848	0.850	0.864	+0.014
Life expectancy at Birth	81.4	81.7	81.9	82.1	+0.2
Expected years of schooling	16.3	16.3	16.3	16.5	+0.2
Mean years of schooling	9.2	9.2	9.2	9.3	+0.1
GNI per capita (PPP \$)	26,559	27.404	27.935	33.967	+6.032

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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affordable housing road congestion corruption public transport unemployment health services air pollution fulfilling employment security citizen engagement 15.1% green spaces 12.8% school education 11.1%

Α	TT	IT	UD	ES

ATTIODES	0%				
You are willing to concede personal data in order to improve traffic congestion					
You are comfortable with face recognition technologies to lower crime					
You feel the availability of online information has increased your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)					
LEGEND: GROUP MEAN CITY					

				LEGEND	D: MIN	\bigcirc	CITY MEAN GROUP MAX	
STRUCTURES				2202.11				TECH
STROOTORES		Sc	ore			-		12011
Health & Safety 0	20	40	60	80	100		Health & Safety	
Basic sanitation meets the needs of the poorest areas			\bigcirc		6	64.9	Online reporting of city maintenance problems provides a speed	ly solutior
Recycling services are satisfactory			Õ		6	63.7	A website or App allows residents to easily give away unwanted	items
Public safety is not a problem					Ę	56.5	Free public wifi has improved access to city services	
Air pollution is not a problem		0			3	34.0	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory			\bigcirc		Ę	59.2	A website or App allows residents to effectively monitor air pollu	tion
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	\bigcirc				1	16.5	Arranging medical appointments online has improved access	
Mobility							Mobility	
Traffic congestion is not a problem					1	8.8	Car-sharing Apps have reduced congestion	
Public transport is satisfactory		\bigcirc			3	39.7	Apps that direct you to an available parking space have reduced	d journey
							Bicycle hiring has reduced congestion	
							Online scheduling and ticket sales has made public transport ea	asier to us
							The city provides information on traffic congestion through mobi	le phones
Activities							Activities	
Green spaces are satisfactory					6	67.2	Online purchasing of tickets to shows and museums has made i	it easier t
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	7	78.9		
Opportunities (Work & School)							Opportunities (Work & School)	
Employment finding services are readily available		\bigcirc			4	46.4	Online access to job listings has made it easier to find work	
Most children have access to a good school					Ę	58.9	IT skills are taught well in schools	

Opportunities (Work & School)
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

53.6

44.1

56.0

50.9

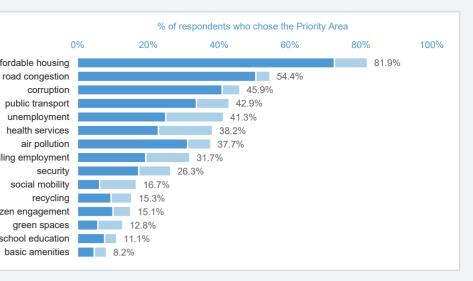
21.8

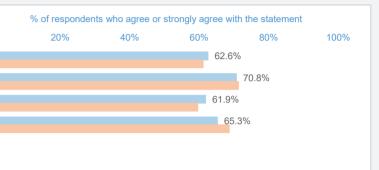
34.9

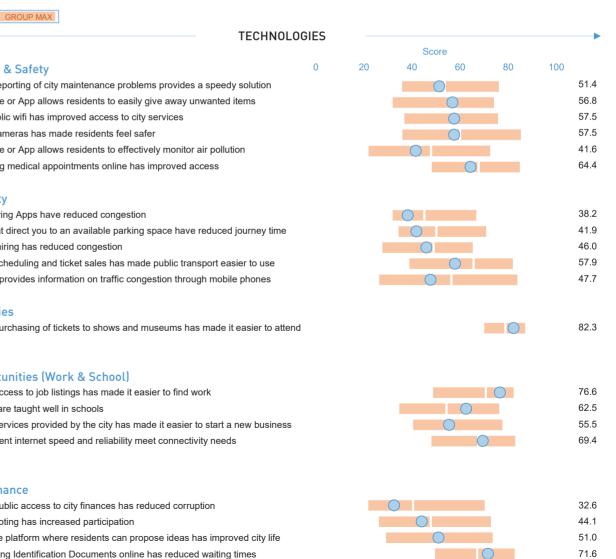
36.9

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

0%







London

SMART CITY RANKING

22

BACKGROUND INFORMATION

City Population 8,870,000

(Eurostat)

Out of 118

15 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

BBB STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Country	2016	2017	2018	2019	1 yr change
HDI	0.918	0.919	0.920	0.932	+0.012
Life expectancy at Birth	81.1	81.2	81.2	81.3	+0.1
Expected years of schooling	17.4	17.4	17.4	17.5	+0.
Mean years of schooling	12.9	12.9	13.0	13.2	+0.2
GNI per capita (PPP \$)	38,421	39,216	39,507	46,071	+6,564

Interfaces	total ete
Dublin . United Kingdom Ireland Voord	Netherlands +Amsterian -Amsterian Germany Pola
Edited Cleaned Brighth Chennel	Paris Paris Paris Munich Vienna
Day of Shony	France

	You are willing to concede personal data in order to improve traffic congestion
yr change	You are comfortable with face recognition technologies to lower crime
+0.012 +0.1	You feel the availability of online information has increased your trust in authorities
+0.1 +0.2	The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
+6,564	LEGEND: GROUP MEAN CITY

ATTITUDES

				LEGEND:				MEAN	GROUP MAX
STRUCTURES				LEGEND:	MIN		CITY	MEAN	GROUP MAX
SIRUCTURES		Sco	re						
Health & Safety 0	20	40	60	80	100			Healt	h & Safety
Basic sanitation meets the needs of the poorest areas						66.1		Online	reporting of city
Recycling services are satisfactory			Õ			65.9		A webs	ite or App allows
Public safety is not a problem		0				38.3		Free pu	ublic wifi has imp
Air pollution is not a problem		- I				28.1		CCTV	cameras has ma
Medical services provision is satisfactory			\bigcirc			60.7		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem						28.6		Arrang	ng medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem						26.0		Car-sh	aring Apps have
Public transport is satisfactory			\bigcirc			64.3		Apps th	nat direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t
								The cit	y provides inforn
Activities								Activi	ties
Green spaces are satisfactory						72.0		Online	purchasing of tio
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc		78.8			
Opportunities (Work & School)								Орро	rtunities (Wo
Employment finding services are readily available						64.5		Online	access to job lis
Most children have access to a good school						66.1		IT skills	are taught well
Lifelong learning opportunities are provided by local institutions						64.2		Online	services provide
Businesses are creating new jobs			\bigcirc			60.5		The cu	rrent internet spe
Minorities feel welcome			\bigcirc			60.5			
Governance								Gover	nance
Information on local government decisions are easily accessible						64.0		Online	public access to
Corruption of city officials is not an issue of concern		C)			49.1		Online	voting has incre
Residents contribute to decision making of local government						48.4		An onli	ne platform whe
						40.4		AITUIII	ne plationn whe

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

> citizen engagement 8.9% 0%

0%

affordable housing

health services

road congestion

fulfilling employment

unemployment

public transport

air pollution

security

recvclina

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

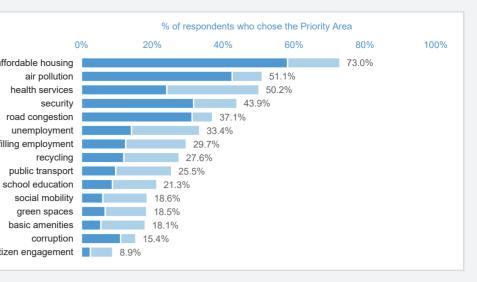
Activities

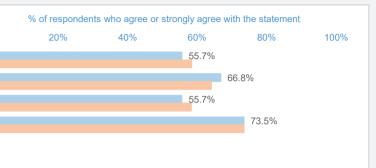
Online purchasing of tickets to shows and museums has made it easier to attend

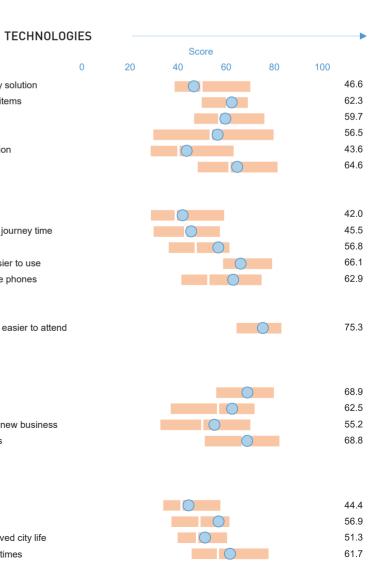
Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Los Angeles

SMART CITY RANKING

31

BACKGROUND INFORMATION City Population 12.450.000

(UN World Urbanization Prospects)

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Most children have access to a good school

Out of 118

26 in 2020

SMART CITY RATING

BB BBB in 2020

FACTOR RATINGS

BB

STRUCTURES

BBB

TECHNOLOGIES

GROUP

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.919	0.919	0.920	0.926	+0.006
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.0
Expected years of schooling	16.3	16.3	16.3	16.3	+0.0
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,686

PRIORITY AREAS		PR	IOR	'TI	ΥA	RE/	٩S
----------------	--	----	-----	-----	----	-----	----

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing road congestion security health services air pollution unemployment fulfilling employment school education public transport corruption basic amenities social mobility 12.8%

AT	τιτι	JDES

			0,	%			
You are willing to concede personal data in order to improve traffic congestion							
You are comfortable with face recognition technologies to lower crime							
You feel the availability of online information has increased your trust in authorities							
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)							
LEGEND:	GROUP MEAN	CITY					

LEGEND: STRUCTURES Score 40 80 100 0 20 60 Health & Safety Health & Safety 57.9 Basic sanitation meets the needs of the poorest areas Online reporting of city maintenance problems provides a speedy solution \bigcirc 65.6 Recycling services are satisfactory A website or App allows residents to easily give away unwanted items 39.2 Public safety is not a problem Free public wifi has improved access to city services 33.8 Air pollution is not a problem CCTV cameras has made residents feel safer \bigcirc 59.9 Medical services provision is satisfactory A website or App allows residents to effectively monitor air pollution Finding housing with rent equal to 30% or less of a monthly salary is not a problem 36.7 Arranging medical appointments online has improved access Mobility Mobility 27.6 Traffic congestion is not a problem Car-sharing Apps have reduced congestion Public transport is satisfactory 51.5 Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones Activities Activities 62.0 Green spaces are satisfactory Online purchasing of tickets to shows and museums has made it easier to attend Cultural activities (shows, bars, and museums) are satisfactory 73.9

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

Governance

66.7

54.2

62.0

67.8

63.6

70.4

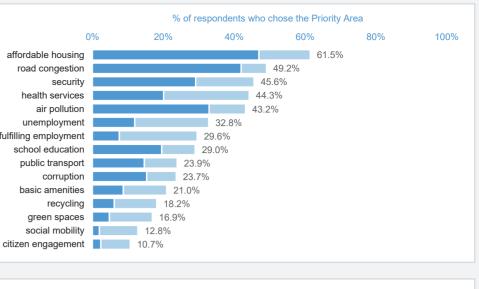
41.8

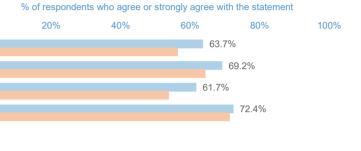
58.0

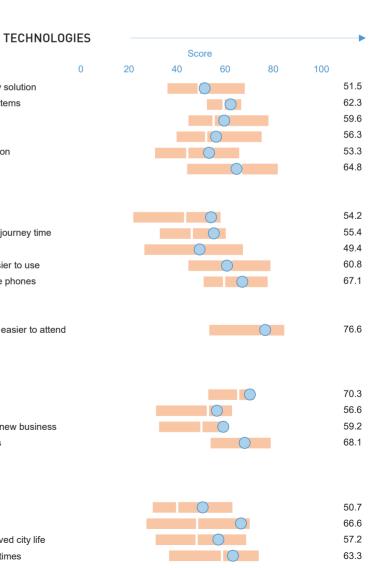
62.3

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

0%









SMART CITY RANKING

39

Out of 118

BACKGROUND INFORMATION

City Population 1.080.000

(Eurostat)

GNI per capita (PPP \$)

51 in 2020

SMART CITY RATING BB

FACTOR RATINGS

BB in 2020

BB

STRUCTURES

BB

TECHNOLOGIES

GROUP

-

L

All ratings range from AAA to D

		Map tiles by Stamen Design CC BY 3.0 Map Data © OpenStreetM						
Country	2016	2017	2018	2019	1 yr change			
HDI	0.887	0.890	0.891	0.901	+0.010			
Life expectancy at Birth	82.3	82.4	82.5	82.7	+0.2			
Expected years of schooling	15.5	15.5	15.5	15.6	+0.1			
Mean years of schooling	11.4	11.4	11.4	11.5	+0.1			

39.935

40.511

47,173

+6,662

38,926

PRIORITY AREAS

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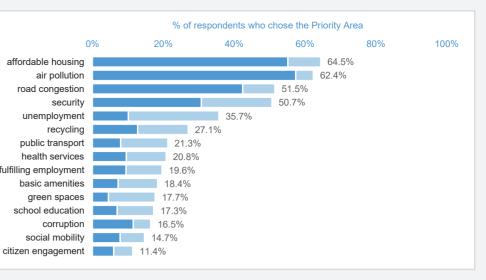
0% affordable housing air pollution road congestion security unemployment recycling public transport health services fulfilling employment school education 17.3% social mobility 14.7%

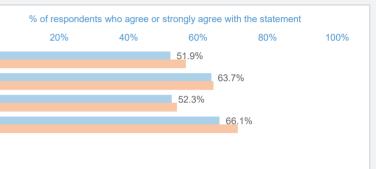
ATTITUDES

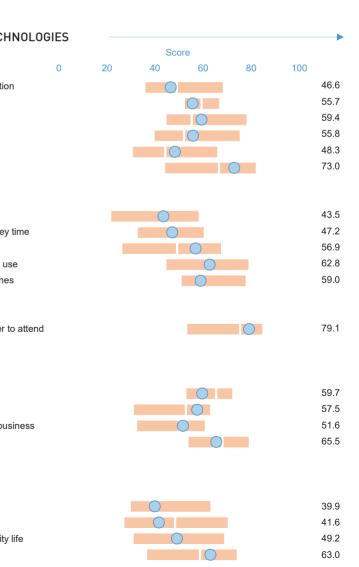
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

	LEG	END: MIN CI	MEAN GROUP MAX	
STRUCTURES			TECHNOLOGIES	
	Score			
Health & Safety 0	20 40 60 80	100	Health & Safety 0	2
Basic sanitation meets the needs of the poorest areas		58.9	Online reporting of city maintenance problems provides a speedy solution	
Recycling services are satisfactory		63.0	A website or App allows residents to easily give away unwanted items	
Public safety is not a problem		45.2	Free public wifi has improved access to city services	
Air pollution is not a problem		18.9	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory		63.6	A website or App allows residents to effectively monitor air pollution	
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		22.7	Arranging medical appointments online has improved access	
Mobility			Mobility	
Traffic congestion is not a problem		24.3	Car-sharing Apps have reduced congestion	
Public transport is satisfactory		67.4	Apps that direct you to an available parking space have reduced journey time	
			Bicycle hiring has reduced congestion	
			Online scheduling and ticket sales has made public transport easier to use	
			The city provides information on traffic congestion through mobile phones	
Activities			Activities	
Green spaces are satisfactory		78.1	Online purchasing of tickets to shows and museums has made it easier to attend	
Cultural activities (shows, bars, and museums) are satisfactory		83.3		
Opportunities (Work & School)			Opportunities (Work & School)	
Employment finding services are readily available		67.4	Online access to job listings has made it easier to find work	
Most children have access to a good school		67.0	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions		61.4	Online services provided by the city has made it easier to start a new business	
Businesses are creating new jobs		56.5	The current internet speed and reliability meet connectivity needs	
Minorities feel welcome		52.9		
Governance			Governance	
Information on local government decisions are easily accessible		58.4	Online public access to city finances has reduced corruption	
Corruption of city officials is not an issue of concern		47.0	Online voting has increased participation	
Residents contribute to decision making of local government		44.7	An online platform where residents can propose ideas has improved city life	
Residents provide feedback on local government projects		51.6	Processing Identification Documents online has reduced waiting times	







Madrid



34

BACKGROUND INFORMATION

City Population 3,270,000

(Eurostat)

Out of 118



45 in 2020

SMART CITY RATING BB

BB in 2020

FACTOR RATINGS

B STRUCTURES

BBB

TECHNOLOGIES

GROUP

2

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.888	0.891	0.893	0.904	+0.011
Life expectancy at Birth	83.1	83.3	83.4	83.6	+0.2
Expected years of schooling	17.8	17.9	17.9	17.6	-0.3
Mean years of schooling	9.8	9.8	9.8	10.3	+0.5
GNI per capita (PPP \$)	33,379	34,226	35,041	40,975	+5,934

PRIORITY AREAS

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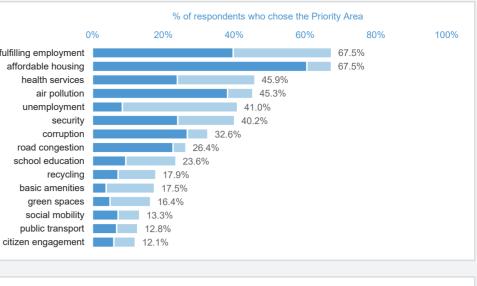
0% fulfilling employment affordable housing health services air pollution unemployment security corruption road congestion school education basic amenities 17.5% green spaces 16.4% social mobility 13.3% public transport 12.8%

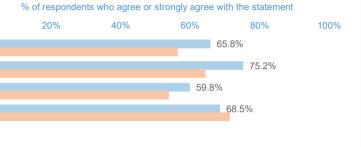
ATTITUDES

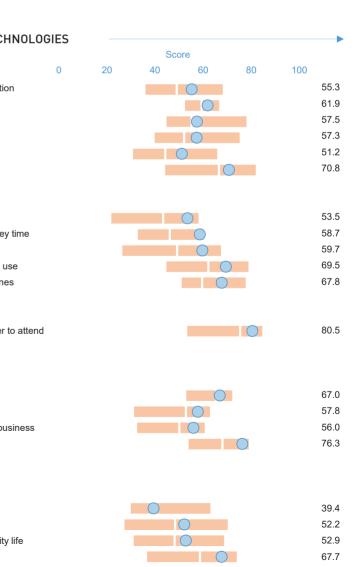
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

		LEGEND: MIN CITY	MEAN GROUP MAX
STRUCTURES			TECHNOLOGIES
	Score		
Health & Safety 0	20 40 60	80 100	Health & Safety 0
Basic sanitation meets the needs of the poorest areas		68.6	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		61.6	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		55.3	Free public wifi has improved access to city services
Air pollution is not a problem		25.4	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		58.2	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		20.3	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		22.7	Car-sharing Apps have reduced congestion
Public transport is satisfactory		61.5	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		71.3	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		80.6	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		72.9	Online access to job listings has made it easier to find work
Most children have access to a good school		61.8	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		67.4	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		46.0	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		50.3	
Governance			Governance
Information on local government decisions are easily accessible		56.5	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		30.4	Online voting has increased participation
Residents contribute to decision making of local government		38.5	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		43.7	Processing Identification Documents online has reduced waiting times







Makassar

SMART CITY RANKING 100

BACKGROUND INFORMATION

City Population 1 580 000

Governance

(UN World Urbanization Prospects)



96 in 2020

Out of 118

SMART CITY RATING

C in 2020

FACTOR RATINGS

CC

STRUCTURES

TECHNOLOGIES

GROUP

All ratings range from AAA to D

2016	2017	2018	2019	1 yr change
0.700	0.704	0.707	0.718	+0.011
71.0	71.3	71.5	71.7	+0.2
12.9	12.9	12.9	13.6	+0.7
8.0	8.0	8.0	8.2	+0.2
10,419	10,811	11,256	11,459	+203
	0.700 71.0 12.9 8.0	0.700 0.704 71.0 71.3 12.9 12.9 8.0 8.0	0.700 0.704 0.707 71.0 71.3 71.5 12.9 12.9 12.9 8.0 8.0 8.0	0.700 0.704 0.707 0.718 71.0 71.3 71.5 71.7 12.9 12.9 12.9 13.6 8.0 8.0 8.0 8.2

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

unemployment road congestion security corruption basic amenities health services air pollution green spaces public transport recycling affordable housing 18.5% citizen engagement 13.3%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

					LEGEND	: MIN	Ocr	TY MEAN	GROUP MAX
•	STRUCTURES								
			S	core					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc		54.3		Online	reporting of city
Recycling services are satisfactory						52.4		A webs	ite or App allows
Public safety is not a problem			\bigcirc			43.7		Free pu	ublic wifi has imp
Air pollution is not a problem						35.5		CCTV	cameras has ma
Medical services provision is satisfactory				\bigcirc		66.8		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly sala	ry is not a problem					53.1		Arrang	ing medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem			\bigcirc			32.0		Car-sh	aring Apps have
Public transport is satisfactory				\bigcirc		56.7		Apps th	nat direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t
								The eit	v providoo inform

Activities	
Green spaces are satisfactory	62.3
Cultural activities (shows, bars, and museums) are satisfactory	62.7

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	



rting of city maintenance problems provides a speedy solution r App allows residents to easily give away unwanted items wifi has improved access to city services eras has made residents feel safer r App allows residents to effectively monitor air pollution nedical appointments online has improved access

Apps have reduced condestion irect you to an available parking space have reduced journey time ng has reduced congestion eduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

61.0

66.3

61.7

79.7

72.8

Online purchasing of tickets to shows and museums has made it easier to attend

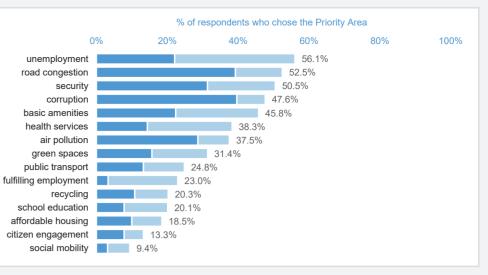
Opportunities (Work & School)

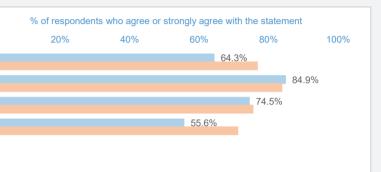
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

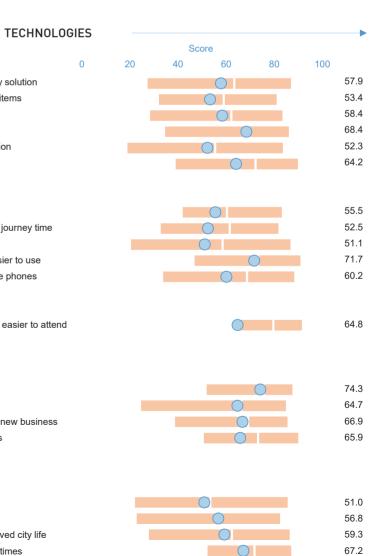
Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

0%







Manchester

SMART CITY RANKING

26

Out of 118

BACKGROUND INFORMATION

City Population 550.000

Activities

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

(Eurostat)

17 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

BBB STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Country	2016	2017	2018	2019	1 yr change
HDI	0.918	0.919	0.920	0.932	+0.012
Life expectancy at Birth	81.1	81.2	81.2	81.3	+0.
Expected years of schooling	17.4	17.4	17.4	17.5	+0.
Mean years of schooling	12.9	12.9	13.0	13.2	+0.
GNI per capita (PPP \$)	38,421	39,216	39,507	46,071	+6,56

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing unemployment road congestion health services security air pollution public transport fulfilling employment green spaces recycling school education basic amenities 13.3% social mobility 12.9%

Δ	T	TI.	τIJ	D	ES

ATTIOD	ED		()%			
You are willing to concede personal data in order to improve traffic congestion							
You are con	nfortable with face reco	ognition technologies	to lower crime				
You feel the	availability of online in	formation has increas	sed your trust in authorities				
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)							
LEGEND:	GROUP MEAN	CITY					

				LEGEN	D: MIN	CITY MEAN GROUP MAX
STRUCTURES					•	TECH
		Sc	ore			
Health & Safety 0	20	40	60	80	100	Health & Safety
Basic sanitation meets the needs of the poorest areas					69.5	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory					68.3	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		\bigcirc			42.3	Free public wifi has improved access to city services
Air pollution is not a problem					36.9	CCTV cameras has made residents feel safer
Medical services provision is satisfactory			\bigcirc		65.1	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			38.1	Arranging medical appointments online has improved access
Mobility						Mobility
Traffic congestion is not a problem	(28.1	Car-sharing Apps have reduced congestion
Public transport is satisfactory		1			56.5	Apps that direct you to an available parking space have reduced journey

 \bigcirc

59.3

76.8

68.4

67.5

60.5

58.3

63.6

63.3

52.8

53.0

58.2

	Mobility
3.1	Car-sharing Apps have reduced congestion
6.5	Apps that direct you to an available parking space ha
	Bicycle hiring has reduced congestion
	Online scheduling and ticket sales has made public tr
	The city provides information on traffic congestion thr

Α.	- 1		4.5	
	СТ	IVI	T	es
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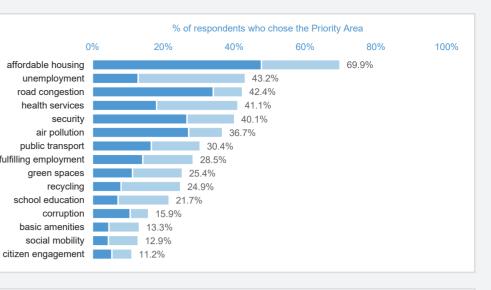
Online purchasing of tickets to shows and museums has made it easier to attend

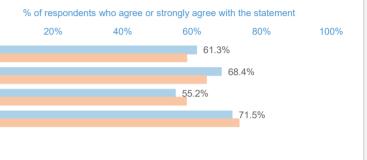
Opportunities (Work & School)

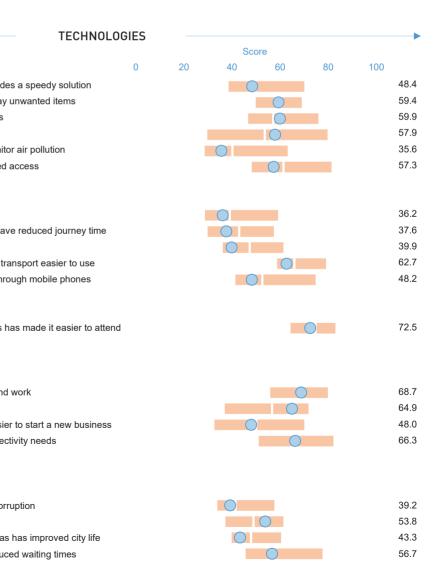
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Manila



104 in 2020

SMART

CITY

RATING

D in 2020

FACTOR

RATINGS

STRUCTURES

BACKGROUND INFORMATION

City Population 13,920,000

(UN World Urbanization Prospects)



2016 2017 Country 2018 2019 1 yr change 0.704 0.709 0.712 0.718 +0.006 HDI Life expectancy at Birth 70.8 71.0 71.1 71.2 +0.1 12.7 Expected years of schooling 12.7 12.7 13.1 +0.4 9.3 9.4 9.4 9.4 +0.0 Mean years of schooling GNI per capita (PPP \$) 8,701 9,133 9,540 9,778 +238

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% health services corruption unemployment road condestion security basic amenities air pollution affordable housing public transport fulfilling employment school education recycling citizen engagement 7.0%

ATTITUDES

ATTIODES	0%						
You are willing to concede personal data in order to improve traffic congestion							
You are comfortable with face recognition technologies to lower crime							
You feel the availability of online information has increased your trust in authoritie	s						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)							
LEGEND: GROUP MEAN CITY							

				LEGEND	MIN	
STRUCTURES						
		Sc	ore			
0	20	40	60	80	100	Hea
		(49.5	Onli
			\bigcirc		54.0	Awe
		\bigcirc			38.7	Free
	\bigcirc				22.2	CCT
			\bigcirc		51.9	Awe
not a problem		\bigcirc			40.1	Arra
						Мо
	\bigcirc				15.3	Car-
		\bigcirc			34.5	App
						Bicy
						Onli
						The
						Act
	0	0 20		Score 0 20 40 60	STRUCTURES 0 20 40 60 80	STRUCTURES 0 20 40 60 80 100 49.5 54.0 38.7 22.2 51.9 40.1 15.3

TECHNOLOGIES

GROUP

All ratings range from AAA to D

Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	



ealth	& Safety	

GROUP MAX

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

55.5

64.5

60.9

48.1

54.4

70.6

56.6

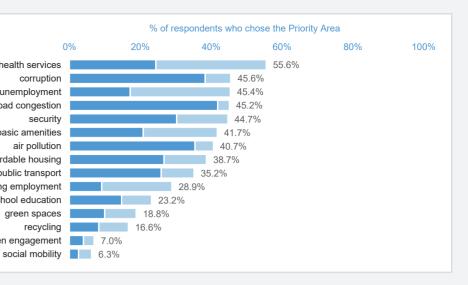
Online purchasing of tickets to shows and museums has made it easier to attend

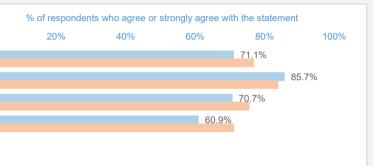
Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







Marseille

SMART CITY RANKING

83

Out of 118

BACKGROUND INFORMATION

City Population 900,000

(Eurostat)

78 in 2020

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CCC STRUCTURES

B

TECHNOLOGIES

GROUP

-

Z

All ratings range from AAA to D

2016 2017 2018 2019 1 vr change

Country	20	2017	2010	2017	i yi change	
HDI	0	.887 0.890	0.891	0.901	+0.010	
Life expectancy at Birth		82.3 82.4	4 82.5	82.7	+0.2	
Expected years of school	ing	15.5 15.5	5 15.5	15.6	+0.1	
Mean years of schooling		11.4 11.4	11.4	11.5	+0.1	
GNI per capita (PPP \$)	38	,926 39,935	5 40,511	47,173	+6,662	

STRUCTURES

0

PRIORITY /	AREAS
------------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

security affordable housing air pollution road congestion unemployment recycling public transport corruption basic amenities dreen spaces health services school education citizen engagement 9.8%

	- 1 - 1	
AI	III	JDES

	0%
You are willing to concede personal data in order	to improve traffic congestion
You are comfortable with face recognition techno	logies to lower crime
You feel the availability of online information has	increased your trust in authorities
The proportion of your day-to-day payment transa (% of transactions)	actions that are non-cash
LEGEND: GROUP MEAN CITY	

		LEGEND:	MIN	CITY	MEAN	GROUP MAX	
					•		TECHN
Sco	re						
40	60	80	100		Health	n & Safety	
			46.8		Online r	eporting of city	maintenance problems provides a speedy solution
0			40.4		A websi	te or App allow	s residents to easily give away unwanted items
			35.2		Free pu	blic wifi has im	proved access to city services
			23.0		CCTV c	ameras has ma	ade residents feel safer
			66.1		A websi	te or App allow	s residents to effectively monitor air pollution
			29.5		Arrangir	ng medical app	pintments online has improved access
					Mobili	ty	
			22.3		Car-sha	ring Apps have	reduced congestion
(53.8		Apps the	at direct you to	an available parking space have reduced journey tim
					Bicycle	hiring has redu	ced congestion
					Online s	cheduling and	ticket sales has made public transport easier to use

Activities	
Green spaces are satisfactory	58.9
Cultural activities (shows, bars, and museums) are satisfactory	70.3
Opportunities (Work & School)	
Employment finding services are readily available	51.8
Most children have access to a good school	56.2
Lifelong learning opportunities are provided by local institutions	52.7
Businesses are creating new jobs	46.4
Minorities feel welcome	47.9
Governance	
Information on local government decisions are easily accessible	51.2

34.6 33.3 37.2

Online scheduling and ticket sales has made public transport easier to use

The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

20

Country

Health & Safety

Mobility

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Medical services provision is satisfactory

Public safety is not a problem

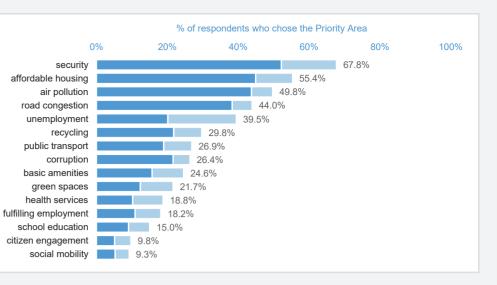
Air pollution is not a problem

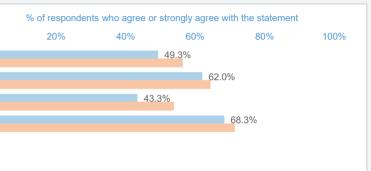
Basic sanitation meets the needs of the poorest areas

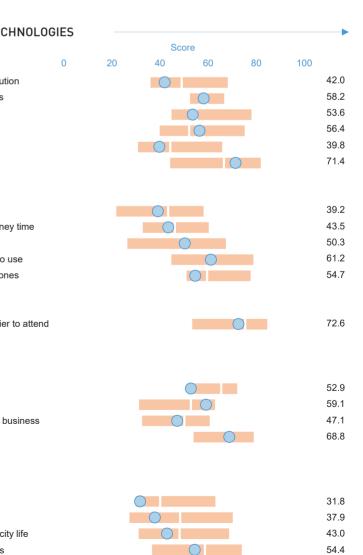
Corruption of city officials is not an issue of concern

Residents contribute to decision making of local government

Residents provide feedback on local government projects







Medan

SMART CITY RANKING

99

Out of 118

BACKGROUND INFORMATION

City Population 2.340.000

(UN World Urbanization Prospects)

Governance

97 in 2020

SMART CITY RATING

C in 2020

FACTOR RATINGS

STRUCTURES

CC

TECHNOLOGIES

GROUP

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.700	0.704	0.707	0.718	+0.011
life expectancy at Birth	71.0	71.3	71.5	71.7	+0.2
Expected years of schooling	12.9	12.9	12.9	13.6	+0.7
Mean years of schooling	8.0	8.0	8.0	8.2	+0.2
GNI per capita (PPP \$)	10,419	10,811	11,256	11,459	+203

PR	IOF	RIT	ΥA	RE	AS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

LEGEND: GROUP MEAN CITY

0% corruption security unemployment air pollution road congestion basic amenities health services fulfilling employment green spaces public transport school education affordable housing 15.0% citizen engagement 10.7%

ATTITUDES

ATTITODES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	;
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: CITY MEAN -Health & Safety 56.9 Online reporting of city maintenance problems provides a speedy solution 53.2 A website or App allows residents to easily give away unwanted items 49.0 Free public wifi has improved access to city services 34.5 CCTV cameras has made residents feel safer 61.2 A website or App allows residents to effectively monitor air pollution 59.0 Arranging medical appointments online has improved access Mobility 1.9

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

57.9

64.4

56.8

64.8

54.4

76.0

68.3

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

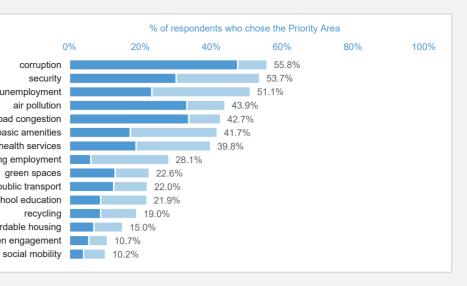
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

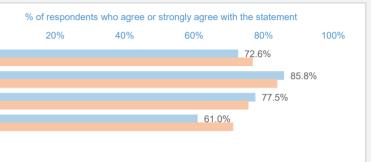
					LEGEN	D. IVIII V	
•	STRUCTURES						
			Sco	ore			
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas							56.9
Recycling services are satisfactory				\bigcirc			53.2
Public safety is not a problem			C)			49.0
Air pollution is not a problem							34.5
Medical services provision is satisfactory							61.2
Finding housing with rent equal to 30% or less of a monthly	salary is not a problem			\bigcirc			59.0
Mobility							
Traffic congestion is not a problem			\bigcirc				31.9
Public transport is satisfactory				\bigcirc			53.7

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	









Medellin

SMART CITY RANKING 101

Out of 118

72 in 2020

SMART

CITY

RATING

CCC in 2020

FACTOR

RATINGS

BACKGROUND INFORMATION

City Population 4,000,000

Cardiological State (UN World Urbanization Prospects) *..

2016 0.759 76.7	2017 0.760 76.9	2018 0.761	2019 0.767	1 yr chang +0.00
76.7	76.0	77.4		
	10.5	77.1	77.3	+0
14.6	14.6	14.6	14.4	-0
8.3	8.3	8.3	8.5	+0
13,087	12,963	12,896	14,257	+1,36

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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security health services air pollution fulfilling employment affordable housing corruption unemployment basic amenities road congestion school education citizen engagement 12.9%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	CITY	MEAN	GROUP MAX
STRUCTURES		Sc	ore		•			
Health & Safety 0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas			\bigcirc		53.1		Online	reporting of city
Recycling services are satisfactory)	68.7		A webs	ite or App allows
Public safety is not a problem		\bigcirc			34.2		Free pu	ublic wifi has imp
Air pollution is not a problem		Õ			31.3		CCTV	cameras has ma
Medical services provision is satisfactory					54.1		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			34.8		Arrangi	ng medical appo
Mobility							Mobil	ity
Traffic congestion is not a problem		\bigcirc			32.4		Car-sha	aring Apps have
Public transport is satisfactory					67.7		Apps th	nat direct you to a
							Bicycle	hiring has reduc
							Online	scheduling and
							The eit	(provideo inform

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	59.4
Most children have access to a good school	56.3
Lifelong learning opportunities are provided by local institutions	59.9
Businesses are creating new jobs	53.1
Minorities feel welcome	44.9

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

TECH
Health & Safety
Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to u

Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

75.7

79.2

57.4

26.2

37.3

45.8

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

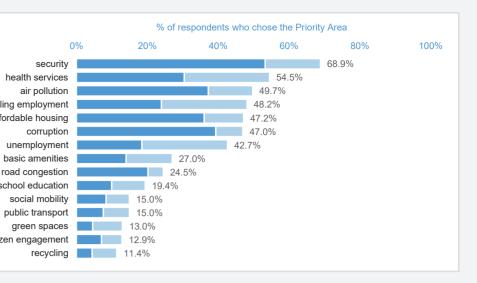
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

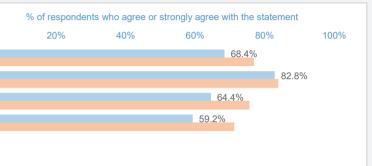
STRUCTURES

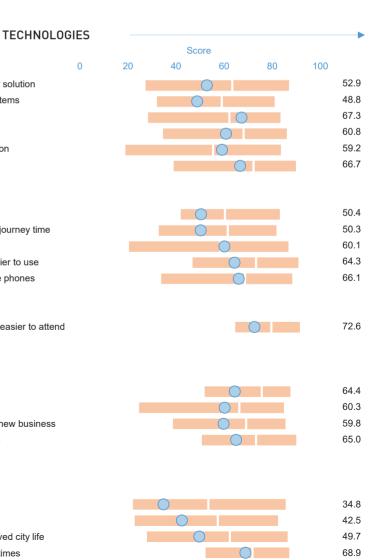
TECHNOLOGIES

GROUP

Governance







Medina

SMART CITY RANKING

73

Out of 118

N/A

not in 2020

BACKGROUND INFORMATION

City Population 1,490,000

(UN World Urbanization Prospects)

Cultural activities (shows, bars, and museums) are satisfactory

Governance



Country	2016	2017	2018	2019	1 yr change
HDI	0.857	0.856	0.857	0.854	-0.003
Life expectancy at Birth	74.8	74.9	75.0	75.1	+0.1
Expected years of schooling	17.0	17.0	17.0	16.1	-0.9
Vean years of schooling	9.7	9.7	9.7	10.2	+0.5
GNI per capita (PPP \$)	51,099	49,371	49,338	47,495	-1,843

PRIORITY	AREAS
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The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

LEGEND: GROUP MEAN CITY

0% unemployment affordable housing green spaces road congestion basic amenities public transport recycling health services fulfilling employment corruption school education air pollution security citizen engagement 14.2%

ATTITUDES

ATTIODES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	5
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

					LEGEND): MIN		MEAN	GROUP MAX
•	STRUCTURES						•		
			Sc	ore					
Health & Safety	0	20	40	60	80	100		Healt	th & Safety
Basic sanitation meets the needs of the poorest areas					\bigcirc	72.	8	Online	reporting of city
Recycling services are satisfactory						64.	9	A webs	site or App allow
Public safety is not a problem			\bigcirc			42.	4	Free p	ublic wifi has imp
Air pollution is not a problem		\bigcirc				26.	5	CCTV	cameras has ma
Medical services provision is satisfactory)	68.	8	A webs	site or App allow
Finding housing with rent equal to 30% or less of a monthly salary	is not a problem					50.	0	Arrang	ing medical app
Mobility								Mobi	lity
Traffic congestion is not a problem			\bigcirc			36.	4	Car-sh	aring Apps have
Public transport is satisfactory				\bigcirc		55.	0	Apps th	hat direct you to
								Bicycle	e hiring has redu
								Online	scheduling and
								The cit	y provides inform
Activities								Activ	ities
Green spaces are satisfactory			(\bigcirc		51.	4	Online	purchasing of tio

	Activities
51.4	Online purcha
61.9	

Opportunities (Work & School)	
Employment finding services are readily available	38.1
Most children have access to a good school	72.9
Lifelong learning opportunities are provided by local institutions	65.8
Businesses are creating new jobs	52.4
Minorities feel welcome	62.4



•	TEC
Health & Safety	
Online reporting of city maintenance problems provides a s	peedy soluti
A website or App allows residents to easily give away unwa	anted items
Free public wifi has improved access to city services	
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively monitor air	pollution
Arranging medical appointments online has improved acce	SS
Mobility	

ar-sharing Apps have reduced congestion pps that direct you to an available parking space have reduced journey time icycle hiring has reduced congestion nline scheduling and ticket sales has made public transport easier to use he city provides information on traffic congestion through mobile phones

asing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC not in 2020

FACTOR RATINGS

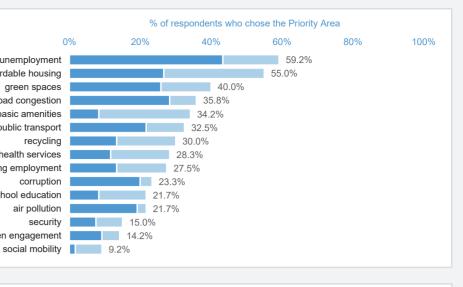
CCC STRUCTURES

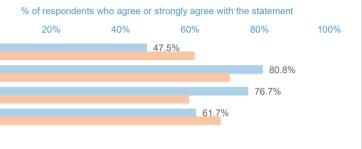
CCC

TECHNOLOGIES

GROUP

3







Melbourne

SMART CITY RANKING

19

Out of 118

BACKGROUND INFORMATION

City Population 4 970 000

(UN World Urbanization Prospects)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem



20 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

BBB STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D



les hy Stomen Design CC BV 3.0 Man Data © Onen

Score

60

 \bigcirc

 \bigcirc

 \bigcirc

40

 \bigcirc

20

80

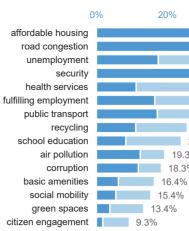
Country	2016	2017	2018	2019	1 yr change
HDI	0.935	0.937	0.938	0.944	+0.006
Life expectancy at Birth	83.0	83.1	83.3	83.4	+0.1
Expected years of schooling	22.9	22.1	22.1	22.0	-0.1
Mean years of schooling	12.6	12.7	12.7	12.7	+0.0
GNI per capita (PPP \$)	43,653	43,756	44,097	48,085	+3,988

STRUCTURES

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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n%

	070							
You are willing to concede personal data in order to improve traffic conge	estion							
You are comfortable with face recognition technologies to lower crime								
You feel the availability of online information has increased your trust in authorities								
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	h							
LEGEND: GROUP MEAN CITY								

LEGEND: MIN CITY 100 Health & Safety 66.9 Online reporting of city maintenance problems provides a speedy solution 637 A website or App allows residents to easily give away unwanted items 41.8 Free public wifi has improved access to city services 47.4 CCTV cameras has made residents feel safer 70.4 A website or App allows residents to effectively monitor air pollution 31.4 Arranging medical appointments online has improved access

Mobility

24.9

53.5

73.1

77.7

68.0

72.8

69.3

58.6

62.5

62.4

43.6

49.1

60.3

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

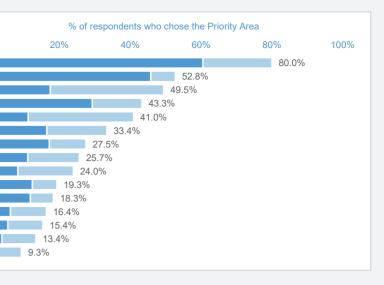
Online purchasing of tickets to shows and museums has made it easier to attend

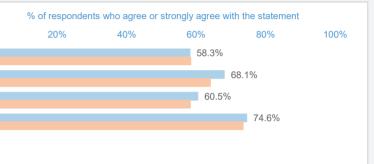
Opportunities (Work & School)

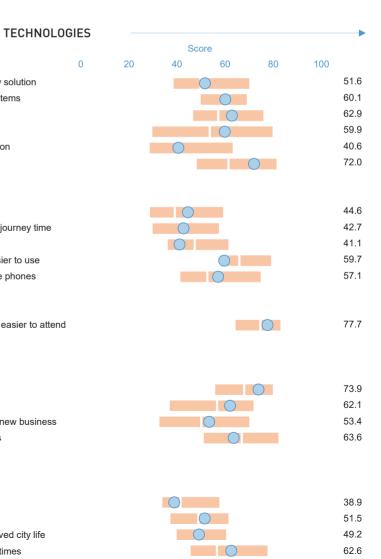
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Mexico City

SMART CITY RANKING 108

Out of 118

90 in 2020

SMART

CITY

RATING

All ratings range

from AAA to D

BACKGROUND INFORMATION

City Population 21,780,000

(UN World Urbanization Prospects)



2017 0.765	2018	2019	1 yr change
0 765			
0.705	0.767	0.779	+0.012
74.9	75.0	75.1	+0.1
14.1	14.3	14.8	+0.5
8.6	8.6	8.8	+0.2
17,533	17,628	19,160	+1,532
	17,533	17,533 17,628	17,533 17,628 19,160



From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% security health services corruption basic amenities unemployment fulfilling employment air pollution public transport school education road congestion affordable housing citizen engagement 7.5%

ATTITUDES
You are willing to concede personal data in order to improve traffic congestion
You are comfortable with face recognition technologies to lower crime

You feel the availability of online information has increased your trust in authorities

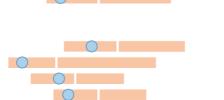
The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

					LEGEN	D: MIN		MEAN GROUP MAX
CC in 2020	STRUCTURES						•	•
			Sc	ore				
	Health & Safety 0	20	40	60	80	100		Health & Safety
	Basic sanitation meets the needs of the poorest areas		\bigcirc			35.	.4	Online reporting of city maintenance pro
	Recycling services are satisfactory		\bigcirc			38.	.4	A website or App allows residents to eas
FACTOR	Public safety is not a problem	\bigcirc				17.	.9	Free public wifi has improved access to
RATINGS	Air pollution is not a problem	\bigcirc				19.	.3	CCTV cameras has made residents fee
10,111,000	Medical services provision is satisfactory		\bigcirc			35.	.4	A website or App allows residents to effe
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem					26.	.9	Arranging medical appointments online
C	Mobility							Mobility
	Traffic congestion is not a problem					19.	.7	Car-sharing Apps have reduced conges
STRUCTURES	Public transport is satisfactory					27.	.5	Apps that direct you to an available park
								Bicycle hiring has reduced congestion
								Online scheduling and ticket sales has r
CC								The city provides information on traffic of
	Activities							Activities
TECHNOLOGIES	Green spaces are satisfactory			\bigcirc		55.	.6	Online purchasing of tickets to shows ar
	Cultural activities (shows, bars, and museums) are satisfactory			\bigcirc		67.	.4	
	Opportunities (Work & School)							Opportunities (Work & School)
	Employment finding services are readily available		(50.	.0	Online access to job listings has made it
GROUP	Most children have access to a good school		\bigcirc			32.	.0	IT skills are taught well in schools
	Lifelong learning opportunities are provided by local institutions		\bigcirc			36.	.8	Online services provided by the city has
0	Businesses are creating new jobs		0			42.	.8	The current internet speed and reliability
5	Minorities feel welcome		0			33.	.7	

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects



Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access

aestion arking space have reduced journey time as made public transport easier to use fic congestion through mobile phones

and museums has made it easier to attend

ol)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

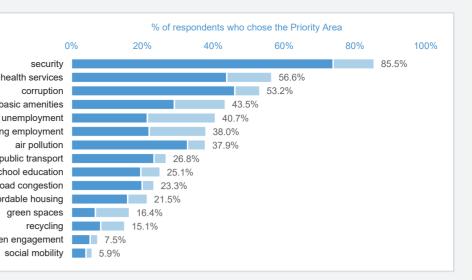
46.7

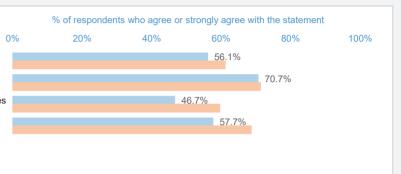
17.7

33.1

36.9

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







64.2

Milan

SMART CITY RANKING

81

BACKGROUND INFORMATION

City Population 1,410,000

Out of 118

74 in 2020

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

(Eurostat)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem



2016	2017	2018	2019	1 yr change
0.878	0.881	0.883	0.892	+0.009
83.0	83.2	83.4	83.5	+0.1
16.2	16.2	16.2	16.1	-0.1
10.2	10.2	10.2	10.4	+0.2
34,818	35,573	36,141	42,776	+6,635
	0.878 83.0 16.2 10.2	0.878 0.881 83.0 83.2 16.2 16.2 10.2 10.2	0.878 0.881 0.883 83.0 83.2 83.4 16.2 16.2 16.2 10.2 10.2 10.2	0.878 0.881 0.883 0.892 83.0 83.2 83.4 83.5 16.2 16.2 16.2 16.1 10.2 10.2 10.2 10.4

STRUCTURES

0

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% air pollution security unemployment road congestion affordable housing fulfilling employment corruption public transport green spaces school education 15.6% social mobility 15.4% basic amenities 12.7% citizen engagement 11.9%

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities

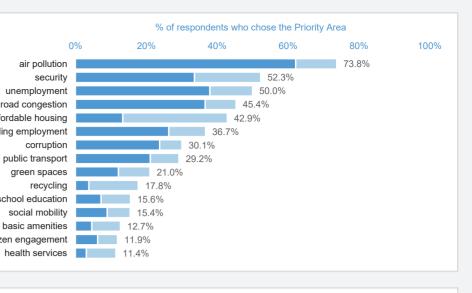
The proportion of your day-to-day payment transactions that are non-cash (% of transaction

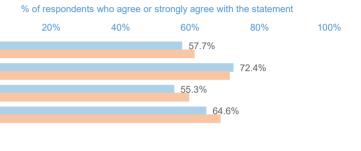
LEGEND: GROUP MEAN CITY

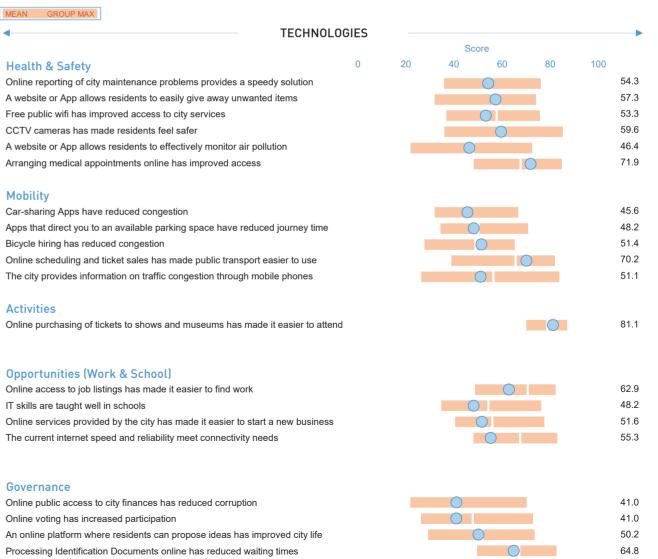
			LEGEND	MIN	CITY	MEAN	GROUP MAX		
						-			TECHNOLOG
	Scor	re							
0	40	60	80	100		Healt	h & Safety		
		\bigcirc		66.6		Online	reporting of city main	tenance problems provide	es a speedy solution
			\bigcirc	81.3		A webs	ite or App allows resi	idents to easily give away	unwanted items
	\bigcirc			45.3		Free pu	blic wifi has improve	d access to city services	
\bigcirc				23.5		CCTV o	ameras has made re	esidents feel safer	
				65.7		A webs	ite or App allows resi	idents to effectively monite	or air pollution
		0		65.5		Arrangi	ng medical appointme	ents online has improved	access
						Mobil	ity		
\bigcirc				24.9		Car-sha	aring Apps have redu	iced congestion	
		\bigcirc		54.8		Apps th	at direct you to an av	vailable parking space hav	ve reduced journey time
						Bicycle	hiring has reduced c	congestion	
						Online	scheduling and ticket	t sales has made public tr	ansport easier to use
						The city	r provides informatior	n on traffic congestion thre	ough mobile phones
						Activi	ties		
		\bigcirc		60.2		Online	purchasing of tickets	to shows and museums h	nas made it easier to attend
			\bigcirc	79.8					
						Оррог	-tunities (Work 8	& School)	
	\bigcirc			38.9		Online	access to job listings	has made it easier to find	l work
		\bigcirc		63.8		IT skills	are taught well in scl	hools	
		\bigcirc		57.3		Online	services provided by	the city has made it easier	er to start a new business
	\bigcirc			43.5		The cur	rrent internet speed a	and reliability meet connec	ctivity needs
				45.0					
						Gover	nance		
		\bigcirc		56.3		Online	public access to city f	finances has reduced cor	ruption
(\bigcirc			35.1		Online	voting has increased	participation	
(34.3		An onlir	ne platform where res	sidents can propose ideas	s has improved city life



44.4







Montreal

SMART CITY RANKING BACKGROUND INFORMATION

City Population 4.220.000

(UN World Urbanization Prospects)



38

21 in 2020

SMART CITY RATING

BB

A in 2020

FACTOR RATINGS

BBB STRUCTURES

BB

TECHNOLOGIES

GROUP

9

Ζ

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.920	0.921	0.922	0.929	+0.007
Life expectancy at Birth	82.1	82.2	82.3	82.4	+0.1
Expected years of schooling	16.1	16.1	16.1	16.2	+0.1
Mean years of schooling	13.3	13.3	13.3	13.4	+0.1
GNI per capita (PPP \$)	42,691	43,496	43,602	48,527	+4,925

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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affordable housing road congestion health services public transport air pollution security corruption school education unemployment recycling basic amenities 18.2% citizen engagement 15.0%

ATTITUDES

				//0				
You are wil	lling to concede persor	nal data in order to imp	rove traffic congestion					
You are comfortable with face recognition technologies to lower crime								
You feel the	You feel the availability of online information has increased your trust in authorities							
The propor	tion of your day-to-day	payment transactions	that are non-cash					
(% of trans	, , ,	payment transactions	that are non-cash					
(70 01 114113	actions							
LEGEND:	GROUP MEAN	CITY						

		LEGEND	: MIN (CITY MEAN GROUP MAX	
STRUCTURES				4	TEC
	Score				
Health & Safety 0	20 40	60 80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas		\bigcirc	66.7	Online reporting of city maintenance problems provides a s	speedy solu
Recycling services are satisfactory		\bigcirc	72.2	A website or App allows residents to easily give away unw	anted items
Public safety is not a problem		\bigcirc	64.8	Free public wifi has improved access to city services	
Air pollution is not a problem			44.1	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory	C		55.8	A website or App allows residents to effectively monitor air	pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			28.3	Arranging medical appointments online has improved acce	ess
Mobility				Mobility	
Traffic congestion is not a problem			19.6	Car-sharing Apps have reduced congestion	
Public transport is satisfactory			59.4	Apps that direct you to an available parking space have re-	duced journ
				Bicycle hiring has reduced congestion	
				Online scheduling and ticket sales has made public transp	ort easier to
				The city provides information on traffic congestion through	mobile pho
Activities				Activities	

Green spaces are satisfactory		71.8
Cultural activities (shows, bars, and museums) are satisfactory		80.4
Opportunities (Work & School)		
Employment finding services are readily available		71.4
Most children have access to a good school		71.3
Lifelong learning opportunities are provided by local institutions		69.7
Businesses are creating new jobs		67.7
Minorities feel welcome		63.2
Governance		
Information on local government decisions are easily accessible		62.3
Corruption of city officials is not an issue of concern		40.0
Residents contribute to decision making of local government		46.7
Residents provide feedback on local government projects	\bigcirc	54.2

The current internet speed and reliability meet connectivity nee	eds

IT skills are taught well in schools

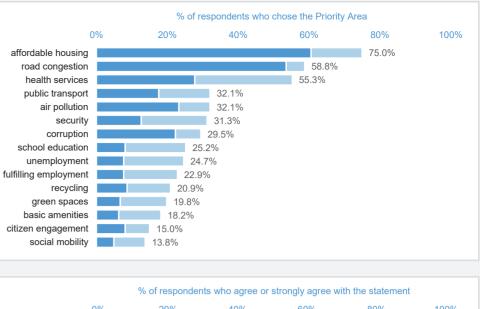
Opportunities (Work & School)

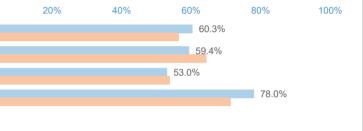
Governance Online public access to city finances has reduced corruption Online voting has increased participation An online platform where residents can propose ideas has improved city life Processing Identification Documents online has reduced waiting times

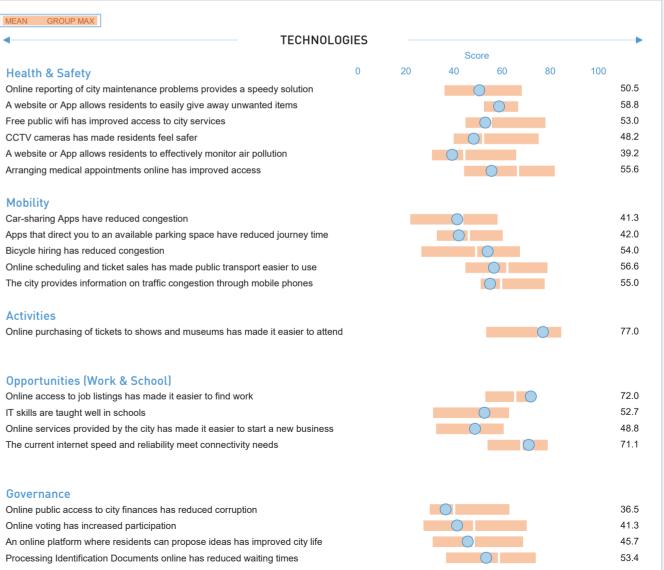
Online access to job listings has made it easier to find work

0%

0%







Moscow

SMART CITY RANKING

54

Out of 118

BACKGROUND INFORMATION

City Population 12,540,000



Country	2016	2017	2018	2019	1 yr change
HDI	0.817	0.822	0.824	0.824	+0.000
Life expectancy at Birth	71.8	72.1	72.4	72.6	+0.2
Expected years of schooling	15.5	15.5	15.5	15.0	-0.5
Mean years of schooling	11.8	12.0	12.0	12.2	+0.2
GNI per capita (PPP \$)	24,096	24,472	25,036	26,157	+1,121

F	PRI	0R	IT	γA	RE.	۵S
	1.1	011				

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing road congestion corruption air pollution health services security fulfilling employment recvclina basic amenities school education 14.2% green spaces 12.9% citizen engagement 11.6%

ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	;
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
STRU	CTURES								
			Sco	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc		67.5		Online I	reporting of city
Recycling services are satisfactory				0		58.1		A webs	ite or App allows
Public safety is not a problem						62.2		Free pu	blic wifi has imp
Air pollution is not a problem						36.8		CCTV o	ameras has ma
Medical services provision is satisfactory						61.3		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a	problem					44.7		Arrangi	ng medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem						27.3		Car-sha	aring Apps have
Public transport is satisfactory				\bigcirc		70.4		Apps th	at direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t
								The city	v provides inform
Activities								Activi	ties
Green spaces are satisfactory		- I)	71.7		Online p	purchasing of tic
Cultural activities (shows, bars, and museums) are satisfactory					\bigcirc	80.0			
Opportunities (Work & School)								Oppor	tunities (Wo
Employment finding services are readily available				\bigcirc		69.9		Online a	access to job list
Most children have access to a good school				\bigcirc		65.7		IT skills	are taught well
Lifelong learning opportunities are provided by local institutions						65.9		Online	services provide
Businesses are creating new jobs						60.2		The cur	rent internet spe
Minorities feel welcome)		49.5			
C								0	

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern \bigcirc Residents contribute to decision making of local government Residents provide feedback on local government projects

TE	С
ealth & Safety	
line reporting of city maintenance problems provides a speedy solu	ut
website or App allows residents to easily give away unwanted items	s
ee public wifi has improved access to city services	
CTV cameras has made residents feel safer	
website or App allows residents to effectively monitor air pollution	
ranging medical appointments online has improved access	
obility	

ve reduced congestion to an available parking space have reduced journey time duced congestion

nd ticket sales has made public transport easier to use ormation on traffic congestion through mobile phones

tickets to shows and museums has made it easier to attend

Vork & School)

listings has made it easier to find work ell in schools ided by the city has made it easier to start a new business speed and reliability meet connectivity needs

Governance

63.9

36.8

48.0

61.8

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

56 in 2020

SMART CITY RATING

B

B in 2020

FACTOR RATINGS

B

STRUCTURES

B

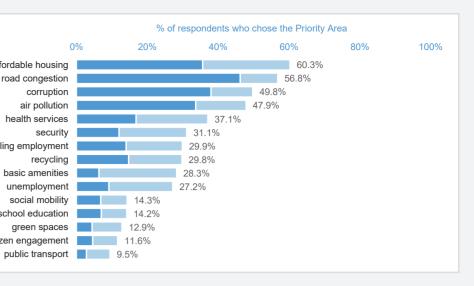
TECHNOLOGIES

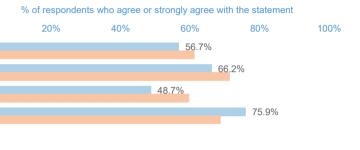
GROUP

3

All ratings range from AAA to D

Governance







Mumbai



90

Out of 118

BACKGROUND INFORMATION

City Population 20.410.000

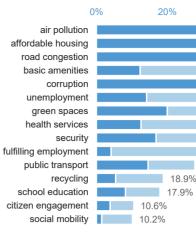
(UN World Urbanization Prospects)

2016	2017	2018	2019	1 yr change
0.637	0.643	0.647	0.645	-0.002
68.9	69.2	69.4	69.7	+0.3
12.3	12.3	12.3	12.2	-0.1
6.4	6.5	6.5	6.5	+0.0
6,075	6,446	6,829	6,681	-148
	0.637 68.9 12.3 6.4	0.637 0.643 68.9 69.2 12.3 12.3 6.4 6.5	0.637 0.643 0.647 68.9 69.2 69.4 12.3 12.3 12.3 6.4 6.5 6.5	0.637 0.643 0.647 0.645 68.9 69.2 69.4 69.7 12.3 12.3 12.3 12.2 6.4 6.5 6.5 6.5

PRIORITY AREAS

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ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

				LEGE	ND: MIN	C	ITY MEAN	GROUP MAX
STRUCTURES						•	•	
		So	ore					
Health & Safety 0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas			\bigcirc		65	.0	Online	reporting of city r
Recycling services are satisfactory			\bigcirc		66	.0	A webs	ite or App allows
Public safety is not a problem		\bigcirc			46	.7	Free pu	ublic wifi has imp
Air pollution is not a problem					28	.7	CCTV	cameras has ma
Medical services provision is satisfactory)	68	.5	A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			44	.7	Arrangi	ng medical appo
Mobility							Mobil	ity
Traffic congestion is not a problem	\bigcirc				24	.7	Car-sha	aring Apps have

MODILITY	
Traffic congestion is not a pro	blem
Public transport is satisfactory	/

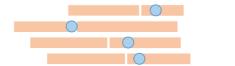
68.5 44.7
44.7
24.7
62.5

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

(Work & School)	
ig services are readily available	67.8
e access to a good school	66.9
pportunities are provided by local institutions	63.2
eating new jobs	75.4
come	71.0

Governance

Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects



Health	& Safety	

ing of city maintenance problems provides a speedy solution App allows residents to easily give away unwanted items vifi has improved access to city services as has made residents feel safer App allows residents to effectively monitor air pollution dical appointments online has improved access

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

55.9

74.0

70.4

35.4

58.9

63.6

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online public access to city infances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

93 in 2020 SMART RATING

CC C in 2020

CITY

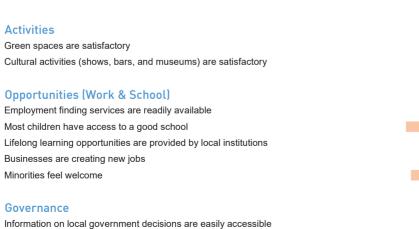
FACTOR RATINGS

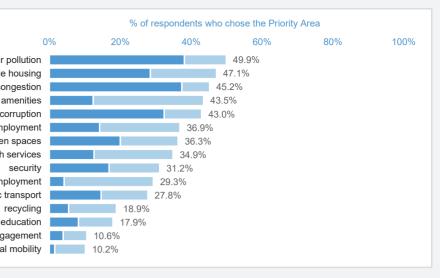
CC STRUCTURES

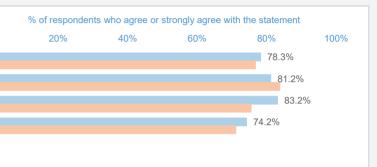
CC

TECHNOLOGIES

GROUP









Munich

SMART CITY RANKING

14

Out of 118

BACKGROUND INFORMATION

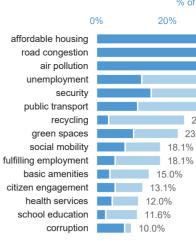
City Population 1,540,000 United Kingdom Netherlands - Minsk Belarus - Berlin Belarus - Briasses - Brasses - Praster - Prast

Country	2016	2017	2018	2019	1 yr change
HDI	0.936	0.938	0.939	0.947	+0.008
Life expectancy at Birth	80.9	81.0	81.2	81.3	+0.1
Expected years of schooling	17.1	17.1	17.1	17.0	-0.1
Mean years of schooling	14.1	14.1	14.1	14.2	+0.1
GNI per capita (PPP \$)	45,577	46,438	46,946	55,314	+8,368

PRIORITY AREAS

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ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

LEGEND: MIN STRUCTURES Score 80 20 40 60 100 Health & Safety Basic sanitation meets the needs of the poorest areas Recycling services are satisfactory Public safety is not a problem Air pollution is not a problem Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem Mobility Traffic congestion is not a problem Public transport is satisfactory \bigcirc Activities Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory

Opportunities (Work & School) Employment finding services are readily available Most children have access to a good school Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs Minorities feel welcome Governance 63.9 Information on local government decisions are easily accessible 63.0 Corruption of city officials is not an issue of concern 55.9 Residents contribute to decision making of local government 60.7 Residents provide feedback on local government projects

CITY MEAN GROUP MAX	CITY		N
• • TE		•	
lleelth & Cefety			
Health & Safety		77.0	
		79.3	
		68.4	
		00.4 44.5	
		81.3	
.9 Arranging medical appointments online has improved access		20.9	
Mobility			
		31.8	
our onuming rippe have reduced congestion		65.8	
Bicycle hiring has reduced congestion		00.0	
Online scheduling and ticket sales has made public transport easier to			
The city provides information on traffic congestion through mobile pho			
The day provides information on tranic congestion allough mobile pro			
Activities			
.7 Online purchasing of tickets to shows and museums has made it easi		74.7	
.9		81.9	
Opportunities (Work & School)			
.6 Online access to job listings has made it easier to find work		63.6	
.0 IT skills are taught well in schools		75.0	
.1 Online services provided by the city has made it easier to start a new		66.1	
.0 The current internet speed and reliability meet connectivity needs		71.0	
.9		59.9	

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

11 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

AA STRUCTURES

BBB

TECHNOLOGIES

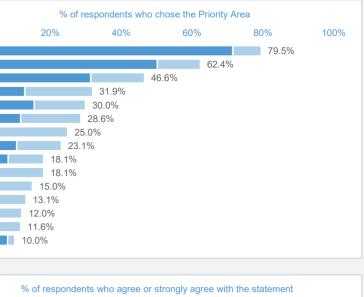
GROUP

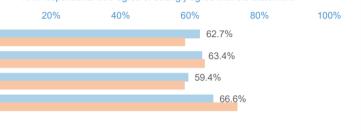
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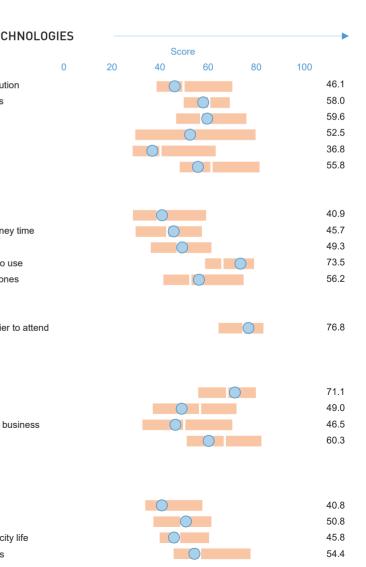
All ratings range from AAA to D

1,540,000 (UN World Urbanization Prospects)

0.1







Nairobi



BACKGROUND INFORMATION

(UN World Urbanization Prospects)

City Population 4 730 000

Businesses are creating new jobs

Minorities feel welcome

Governance

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

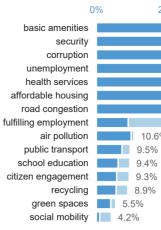
Tanzania

2018 2019	1 yr change
0.579 0.601	+0.022
66.3 66.7	+0.4
11.1 11.3	+0.
6.6 6.6	+0.
3,052 4,244	+1,192
6	3,052 4,244

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

LEGEND: STRUCTURES -Score 0 20 40 60 80 100 Healt Health & Safety 34.5 Basic sanitation meets the needs of the poorest areas Online Recycling services are satisfactory 37 1 \bigcirc 27.4 Public safety is not a problem Air pollution is not a problem 17.8 39.2 Medical services provision is sa 33.1 Finding housing with rent equa Mobility 12.3 Traffic congestion is not a prob Public transport is satisfactory 37.5

Activities Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

62.9

48.4

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

108 in 2020

SMART CITY RATING

D in 2020

FACTOR RATINGS

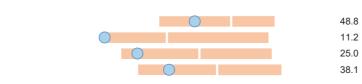
STRUCTURES

TECHNOLOGIES

GROUP

All ratings range from AAA to D

Air pollution is not a problem	17.8
Medical services provision is satisfactory	39.2
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	33.1
Mobility	
Traffic congestion is not a problem	12.3
Public transport is satisfactory	37.5
Activities	
Green spaces are satisfactory	45.1
Cultural activities (shows, bars, and museums) are satisfactory	72.4
Opportunities (Work & School)	
Employment finding services are readily available	30.2
Most children have access to a good school	36.5
Lifelong learning opportunities are provided by local institutions	43.9



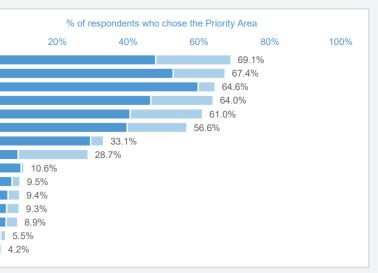
th & Safety
e reporting of city maintenance problems

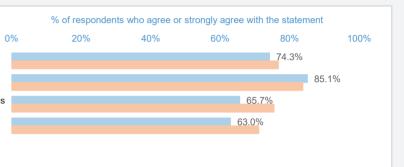
provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion

Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones







Nanjing



64

Out of 118

66 in 2020

BACKGROUND INFORMATION

City Population 8,850,000

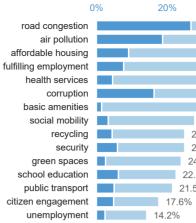


Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	0.	10
You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash	You are willing to concede personal data in order to improve traffic congestion	
The proportion of your day-to-day payment transactions that are non-cash	You are comfortable with face recognition technologies to lower crime	
	You feel the availability of online information has increased your trust in authorities	
	The proportion of your day-to-day payment transactions that are non-cash	
LEGEND: GROUP MEAN CITY	LEGEND: GROUP MEAN CITY	

					LEGEND	: MIN	
<	STRUCTURES						-
			So	ore			
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas					\bigcirc	86	5.3
Recycling services are satisfactory					\bigcirc	77	7.9
Public safety is not a problem					\bigcirc	78	3.0
Air pollution is not a problem				\bigcirc		63	3.9
Medical services provision is satisfactory					\bigcirc	81	1.6
Finding housing with rent equal to 30% or less of a monthly sa	lary is not a problem				\bigcirc	72	2.4
Mobility							
Traffic congestion is not a problem				\bigcirc		59	9.1
Public transport is satisfactory					\bigcirc	77	7.2

Health & Safety
Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journed
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to
The city provides information on traffic congestion through mobile phor

.

83.9

82.0

CITY MEAN GROUP MAX

A	ctivities	
0	nline purchasing of tickets to shows and museums has made it easier to attend	88.1
0	pportunities (Work & School)	
0	nline access to job listings has made it easier to find work	86.4
IT	skills are taught well in schools	85.4
0	nline services provided by the city has made it easier to start a new business	80.3
Tł	ne current internet speed and reliability meet connectivity needs	87.9
G	overnance	
0	nline public access to city finances has reduced corruption	76.6
0	nline voting has increased participation	76.9
A	n online platform where residents can propose ideas has improved city life	82.2

Activities	
Online purchasing of tickets to shows and museums has made it easier to attend	8
Opportunities (Work & School)	
Online access to job listings has made it easier to find work	ł
IT skills are taught well in schools	
Online services provided by the city has made it easier to start a new business	
The current internet speed and reliability meet connectivity needs	;
Governance	
Online public access to city finances has reduced corruption	
Online voting has increased participation	
An online platform where residents can propose ideas has improved city life	
Processing Identification Documents online has reduced waiting times	

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

Activities

Governance

GROUP

4

All ratings range from AAA to D

s not a problem		
satisfactory		

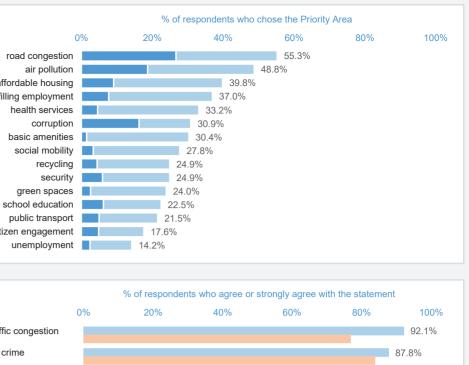
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

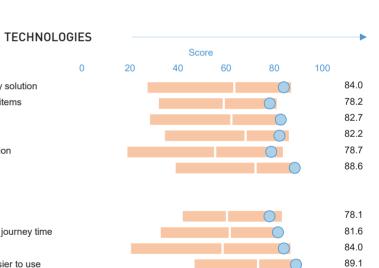
Opportunities (Work & School)	
Employment finding services are readily available	83
Most children have access to a good school	78
Lifelong learning opportunities are provided by local institutions	76
Businesses are creating new jobs	78
Minorities feel welcome	8

Information on local government decisions are easily accessible		80.4
Corruption of city officials is not an issue of concern	\bigcirc	63.5
Residents contribute to decision making of local government		68.1
Residents provide feedback on local government projects		75.8

Sc	ore				
40	60	80	100		
		\bigcirc		86.3	
		\bigcirc		77.9	
		\bigcirc		78.0	
	\bigcirc			63.9	
		\bigcirc		81.6	
		\bigcirc		72.4	

\bigcirc		59.1
	\bigcirc	77.2







87.6

90.4%

83.7%

New Delhi

SMART CITY RANKING

89

Out of 118

86 in 2020

BACKGROUND INFORMATION

City Population 30.290.000

Public transport is satisfactory

Minorities feel welcome

(UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.637	0.643	0.647	0.645	-0.00
Life expectancy at Birth	68.9	69.2	69.4	69.7	+0.
Expected years of schooling	12.3	12.3	12.3	12.2	-0.
Mean years of schooling	6.4	6.5	6.5	6.5	+0.
GNI per capita (PPP \$)	6,075	6,446	6,829	6,681	-14

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

air pollution security basic amenities health services unemployment fulfilling employment corruption road condestion green spaces affordable housing recycling school education

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

			Sc	ore		
Health & Safety	0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas				\bigcirc		
Recycling services are satisfactory				\bigcirc		
Public safety is not a problem			\bigcirc			
Air pollution is not a problem		\bigcirc				
Medical services provision is satisfactory				\bigcirc)	
Finding housing with rent equal to 30% or less of a monthly s	alary is not a problem			\bigcirc		

em	\bigcirc	30.3
		65.9

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School) Employment finding services are readily available \bigcirc Most children have access to a good school \bigcirc Lifelong learning opportunities are provided by local institutions \bigcirc Businesses are creating new jobs \bigcirc



Health	& Safety	

GROUP MAX

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

CITY MEAN

4

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

64.8

71.5

65.0

64.6

63.1

70.3

67.2

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CC CC in 2020

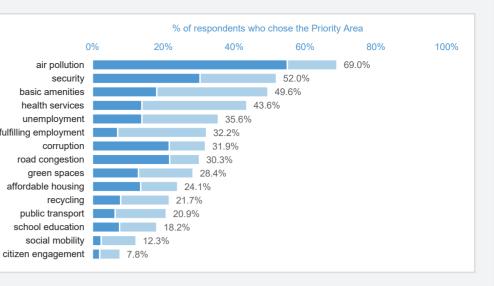
FACTOR RATINGS

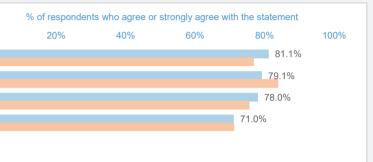
CC STRUCTURES

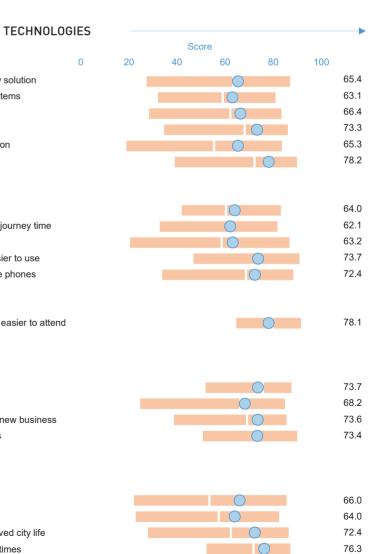
CC

TECHNOLOGIES

GROUP







New York

SMART CITY RANKING

Out of 118

10 in 2020

BACKGROUND INFORMATION

City Population 18.800.000

(UN World Urbanization Prospects)



2017 0.919	2018 0.920	2019 0.926	1 yr change +0.006
0.919	0.920	0 926	+0.006
		0.020	+0.000
78.9	78.9	78.9	+0.0
16.3	16.3	16.3	+0.0
13.4	13.4	13.4	+0.0
55,351	56,140	63,826	+7,686
	16.3 13.4	16.316.313.413.4	16.316.316.313.413.413.4

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% affordable housing security health services road congestion unemployment air pollution corruption public transport fulfilling employment school education basic amenities social mobility 15.5% citizen engagement 11.6%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

LEGEND: STRUCTURES Score 0 20 40 60 80 100 Health & Safety Basic sanitation meets the needs of the poorest areas 61.0 Recycling services are satisfactory 66.0 39.9 Public safety is not a problem 33.0 Air pollution is not a problem 66.3 Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem 39.3 Mobility 30.5 Traffic congestion is not a problem Public transport is satisfactory 53.3 Activities Green spaces are satisfactory 66.6 Cultural activities (shows, bars, and museums) are satisfactory 77.3 Opportunities (Work & School) 68.6 Employment finding services are readily available

63.1 Most children have access to a good school \bigcirc 62.8 Lifelong learning opportunities are provided by local institutions 66.3 Businesses are creating new jobs 62.8 Minorities feel welcome Governance 65.4 Information on local government decisions are easily accessible 36.8 Corruption of city officials is not an issue of concern Residents contribute to decision making of local government 54.9 60.4 Residents provide feedback on local government projects

IT MEAN GROUP MAX
TEC
Health & Safety
Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journe
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to
The city provides information on traffic congestion through mobile phor

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING BBB A in 2020

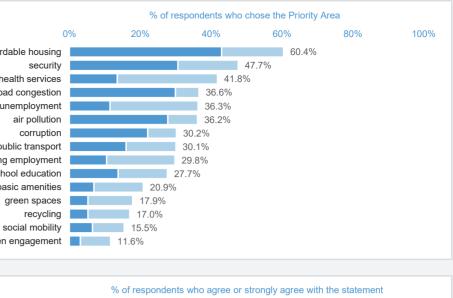
FACTOR RATINGS

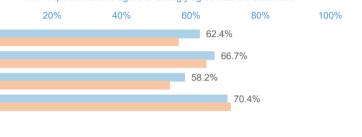
BB STRUCTURES

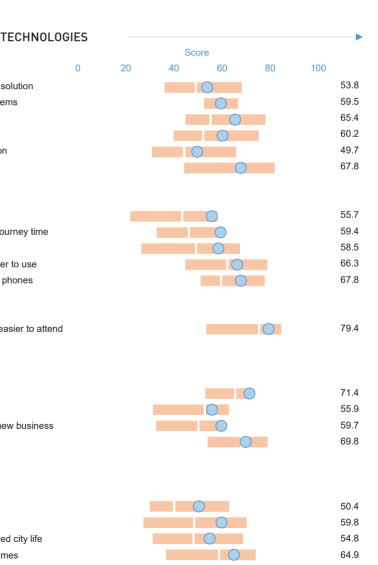
BBB

TECHNOLOGIES

GROUP







Newcastle

SMART CITY RANKING

21

Out of 118

BACKGROUND INFORMATION

City Population 300 000

(Eurostat)

23 in 2020

SMART CITY RATING BBB A in 2020

FACTOR

RATINGS

Δ

STRUCTURES

BBB

TECHNOLOGIES

2016	2017	2018	2019	1 vr change
0.918	0.919	0.920	0.932	+0.012
81.1	81.2	81.2	81.3	+0.1
17.4	17.4	17.4	17.5	+0.1
12.9	12.9	13.0	13.2	+0.2
38,421	39,216	39,507	46,071	+6,564
	81.1 17.4 12.9	0.9180.91981.181.217.417.412.912.9	0.9180.9190.92081.181.281.217.417.417.412.912.913.0	0.9180.9190.9200.93281.181.281.281.317.417.417.417.512.912.913.013.2

PRIORITY	AREAS
----------	-------

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affordable housing unemployment fulfilling employment health services road congestion security recycling air pollution public transport social mobility 17.4% citizen engagement 13.9%

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: STRUCTURES Score 80 20 40 60 100 Health & Safety Health & Safety 67.6 Basic sanitation meets the needs of the poorest areas Online reporting of city maintenance problems provides a speedy solution Recycling services are satisfactory 73.5 A website or App allows residents to easily give away unwanted items \bigcirc 51.3 Public safety is not a problem Free public wifi has improved access to city services 41.9 Air pollution is not a problem CCTV cameras has made residents feel safer 75.9 Medical services provision is satisfactory A website or App allows residents to effectively monitor air pollution Finding housing with rent equal to 30% or less of a monthly salary is not a problem 46.3 Arranging medical appointments online has improved access Mobility Mobility 34.7 Traffic congestion is not a problem Car-sharing Apps have reduced congestion 66.9 Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones Activities 68.4 Online purchasing of tickets to shows and museums has made it easier to attend 81.8 Opportunities (Work & School) 64.7

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

73.2

66.2

63.3

66.3

59.6

56.2

51.2

57.2

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

GROUP

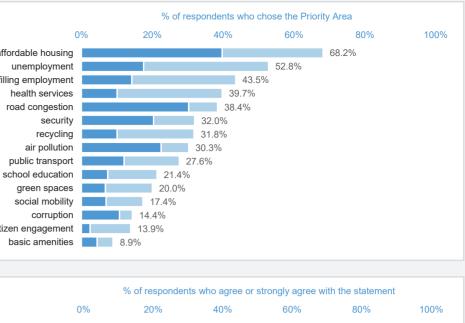
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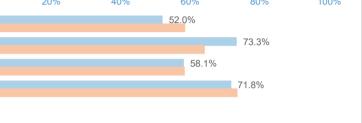
All ratings range from AAA to D

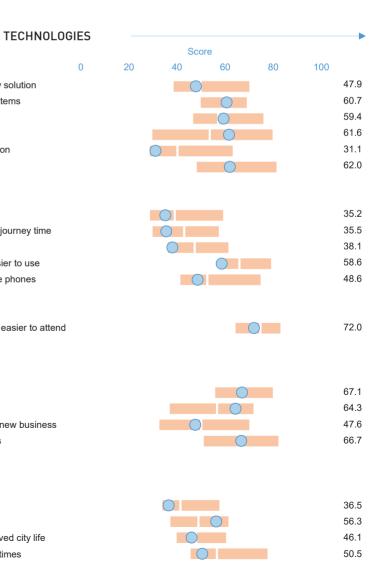
Public transport is satisfactory	
Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

LEGEND: GROUP MEAN CITY

0%







Osaka

SMART CITY RANKING

86

Out of 118

80 in 2020

BACKGROUND INFORMATION

City Population 19,170,000

(UN World Urbanization Prospects)



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 \bigcirc

2016	2017	2018	2019	1 yr change
0.910	0.913	0.915	0.919	+0.004
84.1	84.3	84.5	84.6	+0.1
15.2	15.2	15.2	15.2	+0.0
12.7	12.8	12.8	12.9	+0.1
39,407	40,343	40,799	42,932	+2,133
	0.910 84.1 15.2 12.7	0.9100.91384.184.315.215.212.712.8	0.910 0.913 0.915 84.1 84.3 84.5 15.2 15.2 15.2 12.7 12.8 12.8	0.910 0.913 0.915 0.919 84.1 84.3 84.5 84.6 15.2 15.2 15.2 15.2 12.7 12.8 12.8 12.9

PRIORITY AREAS

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health services basic amenities security affordable housing fulfilling employment school education road congestion unemployment public transport air pollution green spaces citizen engagement corruption social mobility 14.9%

0%

ATTITUDES

	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
•	STRUCTURES							•	
			Sc	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc		65.8		Online	reporting of city r
Recycling services are satisfactory				\bigcirc		61.5		A webs	ite or App allows
Public safety is not a problem				\bigcirc		54.1		Free pu	ıblic wifi has imp
Air pollution is not a problem			\bigcirc			46.3		CCTV o	cameras has ma
Medical services provision is satisfactory						68.1		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary i	s not a problem			\bigcirc		54.5		Arrangi	ng medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem			\bigcirc			34.8		Car-sha	aring Apps have
Public transport is satisfactory				\bigcirc		69.3		Apps th	at direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t

Activities		
Green spaces are satisfactory		
Cultural activities (shows, bars, and museums) are satisfactory	\bigcirc	
Opportunities (Work & School)		
Employment finding services are readily available		
Most children have access to a good school		
Lifelong learning opportunities are provided by local institutions		
Businesses are creating new jobs		
Minorities feel welcome		
Governance		
Information on local government decisions are easily accessible	\bigcirc	
Corruption of city officials is not an issue of concern		

Residents contribute to decision making of local government

Residents provide feedback on local government projects

	IE
Health & Safety	
Online reporting of city maintenance problems provides	s a speedy solu
A website or App allows residents to easily give away u	unwanted item
Free public wifi has improved access to city services	
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively monitor	air pollution
Arranging medical appointments online has improved a	ICCESS
Mobility	

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time

Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

45.4

42.0

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

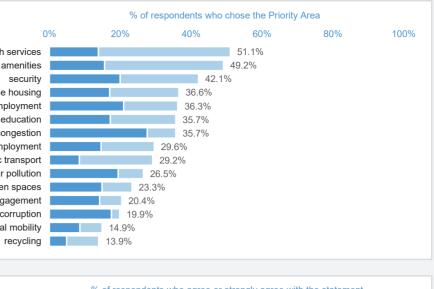
B STRUCTURES

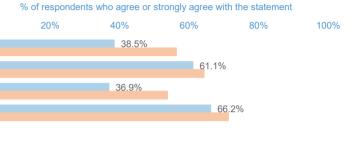
CCC

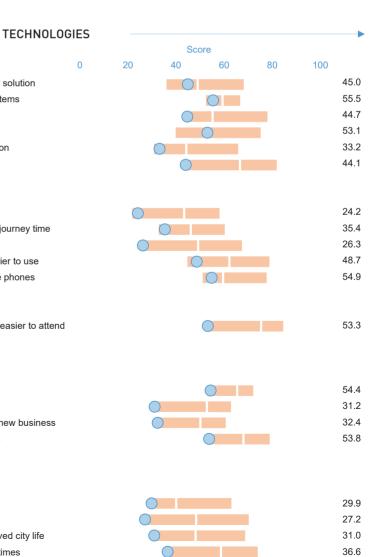
TECHNOLOGIES

GROUP

2







Oslo



3

Out of 118

BACKGROUND INFORMATION

City Population 1 040 000

(UN World Urbanization Prospects)

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Most children have access to a good school

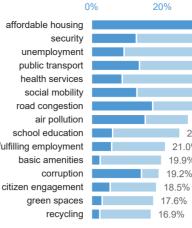


Country	2016	2017	2018	2019	1 yr change
HDI	0.951	0.953	0.954	0.957	+0.003
Life expectancy at Birth	82.0	82.1	82.3	82.4	+0.1
Expected years of schooling	18.0	18.1	18.1	18.1	+0.0
Mean years of schooling	12.6	12.6	12.6	12.9	+0.3
GNI per capita (PPP \$)	66,746	67,529	68,059	66,494	-1,565

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

GROUP MAX

ES						4	TECH
0							IEUF
0		Sco	ore				
0	20	40	60	80	100	Health & Safety	
					78.0	Online reporting of city maintenance problems provides a speedy	y solutio
					79.8	A website or App allows residents to easily give away unwanted	items
				\bigcirc	73.5	Free public wifi has improved access to city services	
			\bigcirc		62.9	CCTV cameras has made residents feel safer	
					78.8	A website or App allows residents to effectively monitor air pollution	ion
1					33.7	Arranging medical appointments online has improved access	
						Mobility	
			\bigcirc		53.3	Car-sharing Apps have reduced congestion	
				\bigcirc	69.9	Apps that direct you to an available parking space have reduced	journey
						Bicycle hiring has reduced congestion	
						Online scheduling and ticket sales has made public transport eas	sier to u
						The city provides information on traffic congestion through mobile	e phone
						Activities	
					80.6	Online purchasing of tickets to shows and museums has made it	t easier '
					79.4		
	n	1				n 79.8 73.5 62.9 78.8 33.7 53.3 69.9 80.6	79.8 A website or App allows residents to easily give away unwanted 73.5 Free public wifi has improved access to city services 62.9 CCTV cameras has made residents feel safer 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.8 A website or App allows residents to effectively monitor air pollut 78.9 Arranging medical appointments online has improved access Mobility S3.3 Car-sharing Apps have reduced congestion Online scheduling and ticket sales has made public transport eas Th

scheduling and ticket sales has made public transport easier to use provides information on traffic congestion through mobile phones ties purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

73.4

82.1

72.6

69.6

64.3

66.2

59.9

61.4

66.6

 \bigcirc

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING

5 in 2020

ΔΔ

AA in 2020

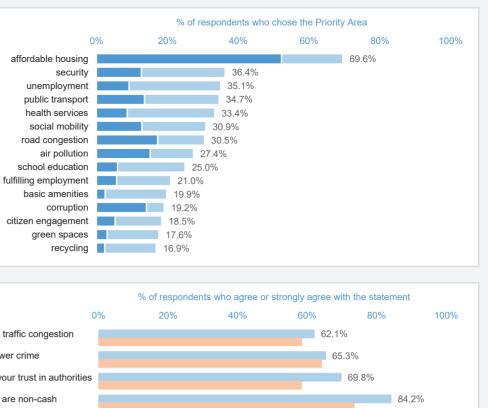
FACTOR RATINGS

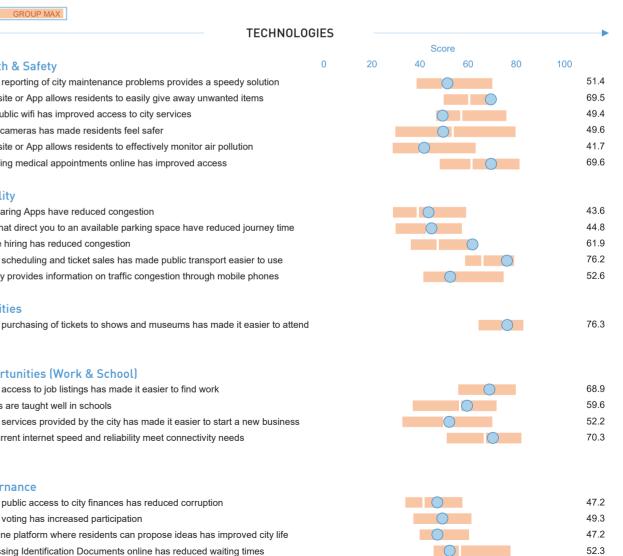
ΔΔΔ STRUCTURES

TECHNOLOGIES

GROUP

1





Paris

SMART CITY RANKING

61

BACKGROUND INFORMATION

City Population 9,850,000

(Eurostat)

Out of 118

61 in 2020

SMART CITY RATING

B

B in 2020

FACTOR RATINGS

CCC

STRUCTURES

BB

TECHNOLOGIES

GROUP

9

L

All ratings range from AAA to D

Country	2016	2017	2018	2019	1 yr change
HDI	0.887	0.890	0.891	0.901	+0.010
Life expectancy at Birth	82.3	82.4	82.5	82.7	+0.2
Expected years of schooling	15.5	15.5	15.5	15.6	+0.1
Mean years of schooling	11.4	11.4	11.4	11.5	+0.1
GNI per capita (PPP \$)	38,926	39,935	40,511	47,173	+6,662

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	5 5 h	3	Germany	1	Poland .W
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	Lan	·Drussels	6	20020	N.S.
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		Paris my	2	Czech Repub	
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	1	France Swit	zerland	Ausura	Hungary /
	5	· Geneva	225	Slovenia	" and
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		5		11	> Serb

CC BY 3.	u wap Data © OpenStreetwap	
		You are willing to concede personal data in order t
9	1 yr change	You are comfortable with face recognition technology
01	+0.010	You feel the availability of online information has in
2.7	+0.2	
5.6	+0.1	The proportion of your day-to-day payment transac (% of transactions)
.5	+0.1	
73	+6,662	LEGEND: GROUP MEAN CITY

ATTITUDES

				LEGEND): MIN	\bigcirc	CITY MEAN	GROUP MAX
STRUCTURES	S –					•	-	
		\$	Score					
Health & Safety	0 20	40	60	80	100		Healt	th & Safety
Basic sanitation meets the needs of the poorest areas			\bigcirc		4	7.8	Online	reporting of city r
Recycling services are satisfactory					52	2.3	A webs	site or App allows
Public safety is not a problem		\bigcirc			3	8.4	Free p	ublic wifi has impi
Air pollution is not a problem					2	0.4	CCTV	cameras has mad
Medical services provision is satisfactory					6	1.0	A webs	site or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem					2	2.1	Arrang	ing medical appoi
Mobility							Mobi	lity
Traffic congestion is not a problem		\bigcirc			2	5.1	Car-sh	aring Apps have
Public transport is satisfactory					54	4.5	Apps th	hat direct you to a
							Bicycle	hiring has reduc
							Online	scheduling and ti
							The cit	y provides inform
Activities							Activ	ities
Green spaces are satisfactory			\bigcirc		6	8.7	Online	purchasing of ticl
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	73	8.6		
Opportunities (Work & School)							Орро	rtunities (Woi
Employment finding services are readily available					5	7.6	Online	access to job listi
Most children have access to a good school					5	7.2	IT skills	s are taught well i
Lifelong learning opportunities are provided by local institutions					5	9.0	Online	services provided
Businesses are creating new jobs		(4	7.0	The cu	rrent internet spe
Minorities feel welcome					4	0.3		
Governance							Gove	rnance
Information on local government decisions are easily accessible					5	6.9	Online	public access to
Corruption of city officials is not an issue of concern					4	0.8	Online	voting has increa
Residents contribute to decision making of local government					4	1.0	An onli	ine platform where
Residents provide feedback on local government projects					4	5.2	Proces	sing Identification

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

air pollution security road congestion unemployment public transport health services recvclina green spaces corruption citizen engagement 11.4%

affordable housing

0% to improve traffic congestion

logies to lower crime

increased your trust in authorities

actions that are non-cash

TEC
alth & Safety
line reporting of city maintenance problems provides a speedy soluti
vebsite or App allows residents to easily give away unwanted items
e public wifi has improved access to city services
TV cameras has made residents feel safer
rebsite or App allows residents to effectively monitor air pollution
anging medical appointments online has improved access

bility

-sharing Apps have reduced congestion os that direct you to an available parking space have reduced journey time ycle hiring has reduced congestion ine scheduling and ticket sales has made public transport easier to use e city provides information on traffic congestion through mobile phones

tivities

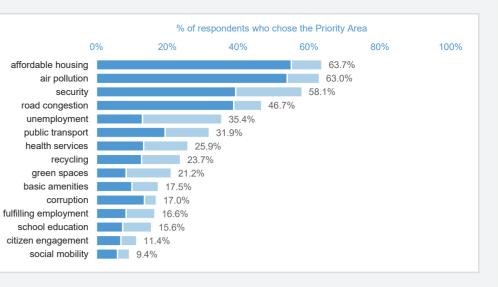
ine purchasing of tickets to shows and museums has made it easier to attend

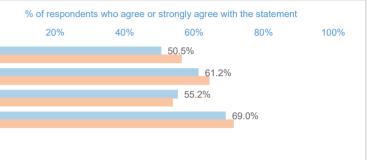
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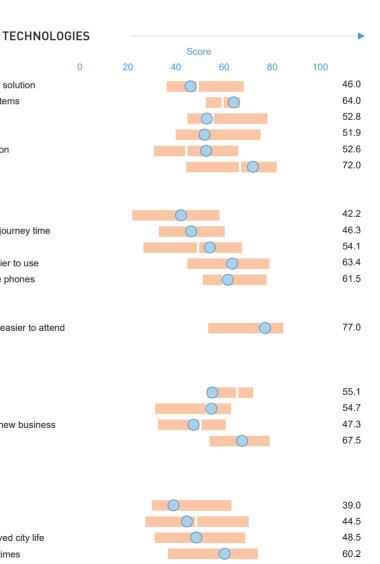
ine access to job listings has made it easier to find work kills are taught well in schools ine services provided by the city has made it easier to start a new business e current internet speed and reliability meet connectivity needs

vernance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Philadelphia

SMART CITY RANKING

85

Out of 118

52 in 2020

SMART

CITY

RATING

BACKGROUND INFORMATION

City Population 5,720,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.919	0.919	0.920	0.926	+0.006
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.0
Expected years of schooling	16.3	16.3	16.3	16.3	+0.0
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,686

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing security school education unemployment health services road congestion corruption air pollution fulfilling employment basic amenities recycling green spaces social mobility 10.4% citizen engagement 9.6%

ATTITUDES	0%				
You are willing to concede personal data in order to improve traffic congestion					
You are comfortable with face recognition technologies to lower crime					
You feel the availability of online information has increased your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)					
LEGEND: GROUP MEAN CITY					

		LEGENI	D: MIN	CITY MEAN GROUP MAX	
STRUCTURES	Sco			•	TEC
Health & Safety 0	20 40	60 80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas			44.4	Online reporting of city maintenance problems provides a	a speedy solu
Recycling services are satisfactory			51.6	A website or App allows residents to easily give away un	
Public safety is not a problem			23.3	Free public wifi has improved access to city services	
Air pollution is not a problem			29.3	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory			59.3	A website or App allows residents to effectively monitor a	ir pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			34.1	Arranging medical appointments online has improved acc	
Mobility				Mobility	
Traffic congestion is not a problem			20.2	Car-sharing Apps have reduced congestion	
Public transport is satisfactory			50.1	Apps that direct you to an available parking space have r	educed journ
				Bicycle hiring has reduced congestion	
				Online scheduling and ticket sales has made public trans	port easier to
				The city provides information on traffic congestion throug	h mobile pho
Activities				Activities	
Green spaces are satisfactory		\bigcirc	53.6	Online purchasing of tickets to shows and museums has	made it easie
Cultural activities (shows, bars, and museums) are satisfactory			74.8		
Opportunities (Work & School)				Opportunities (Work & School)	
Employment finding services are readily available			59.0	Online access to job listings has made it easier to find wo	ork
Most children have access to a good school			38.0	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions			50.6	Online services provided by the city has made it easier to	start a new l
Businesses are creating new jobs			54.5	The current internet speed and reliability meet connectivity	ty needs
Minorities feel welcome	(52.2		

-			
Go	verr	nn	CO
00	1134	lall	CE.

55.9

34.5

42.6

49.1

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved of
Processing Identification Documents online has reduced waiting times

CCC BB in 2020 FACTOR

RATINGS

CCC STRUCTURES

B

TECHNOLOGIES

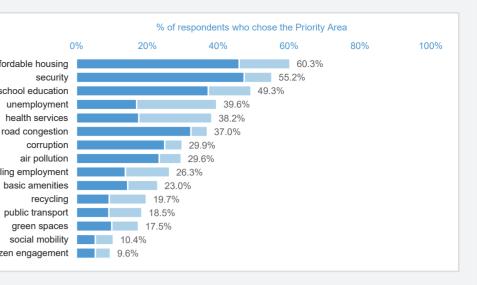
GROUP

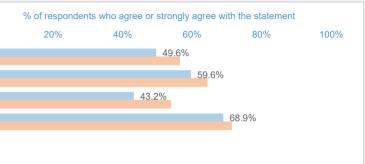
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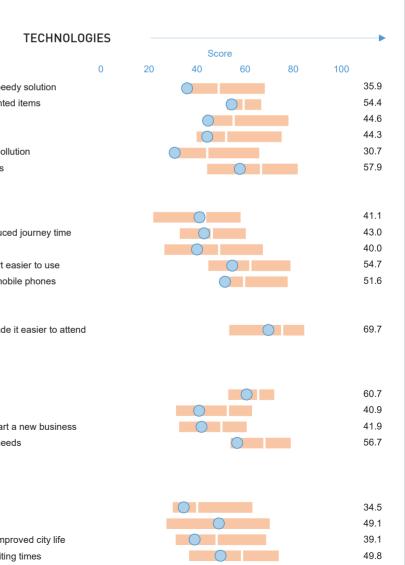
All ratings range from AAA to D

Governance

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects







Phoenix

SMART CITY RANKING

62

Out of 118

39 in 2020

SMART

CITY

RATING

B

BBB in 2020

BACKGROUND INFORMATION

City Population 4,510,000

Satiaka NV LIT co KS M OK os Angeles NM • Dallas

Country	2016	2017	2018	2019	1 yr change
HDI	0.919	0.919	0.920	0.926	+0.006
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.0
Expected years of schooling	16.3	16.3	16.3	16.3	+0.
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,686

PRIORITY A	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing air pollution road congestion school education health services unemployment security fulfilling employment public transport corruption citizen engagement 13.7%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

		LEGEND: MIN		MEAN GROUP MAX	
STRUCTURES	Score			•	TECHNOLOGI
Health & Safety 0	20 40 60	80 100		Health & Safety	
Basic sanitation meets the needs of the poorest areas			55.9	Online reporting of city maintenance prob	lems provides a speedy solution
Recycling services are satisfactory			64.4	A website or App allows residents to easil	ly give away unwanted items
Public safety is not a problem			42.9	Free public wifi has improved access to c	ity services
Air pollution is not a problem			30.3	CCTV cameras has made residents feel s	safer
Medical services provision is satisfactory			65.5	A website or App allows residents to effect	ctively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			33.4	Arranging medical appointments online ha	as improved access
Mobility				Mobility	
Traffic congestion is not a problem			25.4	Car-sharing Apps have reduced congestion	on
Public transport is satisfactory			47.2	Apps that direct you to an available parkir	ng space have reduced journey time
				Bicycle hiring has reduced congestion	
				Online scheduling and ticket sales has ma	ade public transport easier to use
				The city provides information on traffic co	ngestion through mobile phones
Activities				Activities	
Green spaces are satisfactory			53.6	Online purchasing of tickets to shows and	museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		\bigcirc	73.2		
Opportunities (Work & School)				Opportunities (Work & School)	
Employment finding services are readily available			71.7	Online access to job listings has made it e	easier to find work
Most children have access to a good school			59.5	IT skills are taught well in schools	
Lifelong learning opportunities are provided by local institutions			63.2	Online services provided by the city has n	nade it easier to start a new business
Businesses are creating new jobs		1	68.2	The current internet speed and reliability r	meet connectivity needs
Minorities feel welcome			56.9		
Governance				Governance	
Information on local government decisions are easily accessible			64.2	Online public access to city finances has	reduced corruption
Corruption of city officials is not an issue of concern			41.0	Online voting has increased participation	
Residents contribute to decision making of local government			48.0	An online platform where residents can pr	ropose ideas has improved city life
Residents provide feedback on local government projects			58.7	Processing Identification Documents onlir	ne has reduced waiting times

FACTOR RATINGS

BB STRUCTURES

B

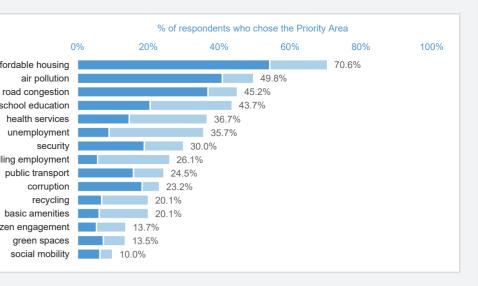
TECHNOLOGIES

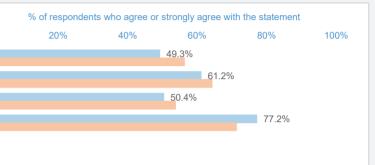
GROUP

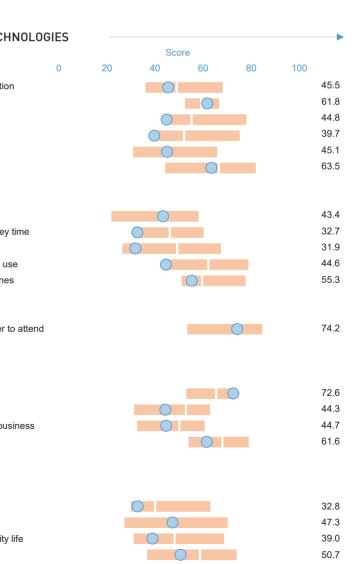
2

All ratings range from AAA to D

(UN World Urbanization Prospects)







Prague

SMART CITY RANKING

BACKGROUND INFORMATION

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Businesses are creating new jobs

Minorities feel welcome

Governance

City Population 1 320 000

(Eurostat)

Out of 118

78

44 in 2020

SMART CITY RATING CCC BB in 2020

FACTOR RATINGS

B STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.885	0.888	0.891	0.900	+0.009
	78.9	79.1	79.2	79.4	
Life expectancy at Birth					+0.2
Expected years of schooling	16.8	16.8	16.8	16.8	+0.0
Mean years of schooling	12.7	12.7	12.7	12.7	+0.0
GNI per capita (PPP \$)	29,211	30,530	31,597	38,109	+6,512

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing road congestion corruption air pollution green spaces security citizen engagement social mobility fulfilling employment public transport 16.1% unemployment 14.1% health services 12.7% school education 8.3%

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: GROUP MEAN CITY

				LEGEND	D: MIN	(CITY MEAN GROUP MAX	
STRUCTURES						-	•	TECH
		Scor	e					
Health & Safety 0	20	40	60	80	100		Health & Safety	
Basic sanitation meets the needs of the poorest areas					ī	70.8	Online reporting of city maintenance problem	ns provides a speedy solution
Recycling services are satisfactory					6	68.3	A website or App allows residents to easily g	give away unwanted items
Public safety is not a problem			\bigcirc		6	62.8	Free public wifi has improved access to city	services
Air pollution is not a problem					4	42.4	CCTV cameras has made residents feel safe	er
Medical services provision is satisfactory)	ī	75.3	A website or App allows residents to effectiv	ely monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem					2	26.0	Arranging medical appointments online has	improved access
Mobility							Mobility	
Traffic congestion is not a problem						18.7	Car-sharing Apps have reduced congestion	
Public transport is satisfactory			\bigcirc		6	68.5	Apps that direct you to an available parking	space have reduced journey
							Bicycle hiring has reduced congestion	
							Online scheduling and ticket sales has made	e public transport easier to us
							The city provides information on traffic cong	estion through mobile phone
Activities							Activities	
Green spaces are satisfactory		\bigcirc			4	49.1	Online purchasing of tickets to shows and m	useums has made it easier t
Cultural activities (shows, bars, and museums) are satisfactory		I		\bigcirc	٤	82.5		
Opportunities (Work & School)							Opportunities (Work & School)	
Employment finding services are readily available			(\mathbf{D}	7	77.8	Online access to job listings has made it eas	sier to find work
Most children have access to a good school				-	7	73.9	IT skills are taught well in schools	

Opportunities (Work & School)
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

72.5

70.8

52.0

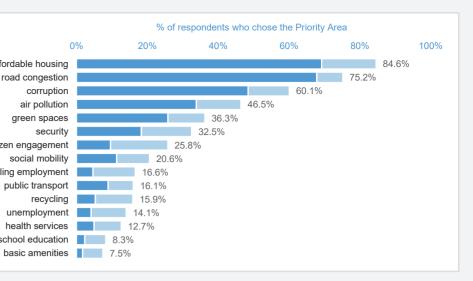
62.5

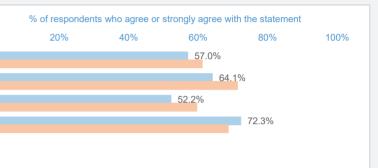
33.5

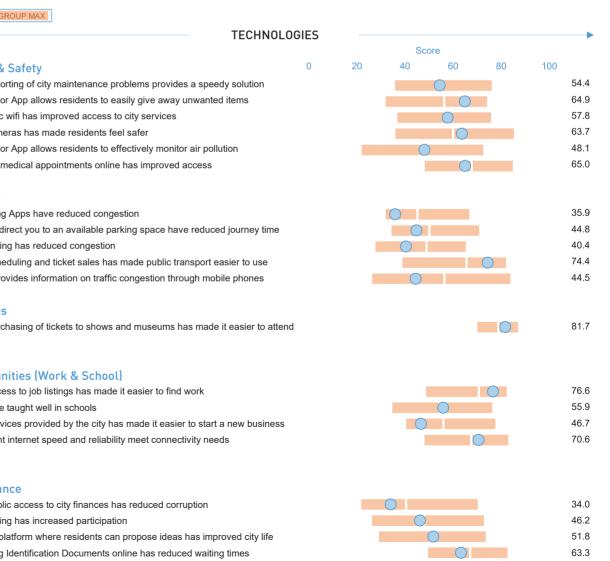
45.5

57.5

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times











BACKGROUND INFORMATION

City Population 1.880.000

Activities

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

(UN World Urbanization Prospects)



Out of 118

105 in 2020

SMART CITY RATING

D in 2020

FACTOR RATINGS

STRUCTURES

TECHNOLOGIES

GROUP

All ratings range from AAA to D

Algeri

Country	2016	2017	2018	2019	1 yr change
HDI	0.669	0.675	0.676	0.686	+0.010
ife expectancy at Birth	76.0	76.2	76.5	76.7	+0.2
Expected years of schooling	12.9	13.1	13.1	13.7	+0.6
Mean years of schooling	5.4	5.5	5.5	5.6	+0.1
GNI per capita (PPP \$)	7,169	7,342	7,480	7,368	-112

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% unemployment affordable housing health services corruption school education security fulfilling employment road congestion public transport air pollution basic amenities citizen engagement 16.1%

ATTITUDES

09	70									
You are willing to concede personal data in order to improve traffic congestion										
You are comfortable with face recognition technologies to lower crime										
You feel the availability of online information has increased your trust in authorities										
The second sector is the second sector is the second										
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)										
LEGEND: GROUP MEAN CITY										

				LEGEN	D: MIN	CITY	MEAN GROUP MAX
STRUCTURES					•		•
		Sc	ore				
Health & Safety 0	20	40	60	80	100		Health & Safety
Basic sanitation meets the needs of the poorest areas		C)		47.4		Online reporting of city
Recycling services are satisfactory		\bigcirc			46.1		A website or App allow
Public safety is not a problem		\bigcirc			45.2		Free public wifi has imp
Air pollution is not a problem		\bigcirc			35.0		CCTV cameras has ma
Medical services provision is satisfactory		\bigcirc			46.5		A website or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			40.2		Arranging medical appo
Mobility							Mobility
Traffic congestion is not a problem		\bigcirc			32.6		Car-sharing Apps have
Public transport is satisfactory		(50.8		Apps that direct you to

Health & Safety Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution

Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

68.3

71.0

40.6

46.2

49.9

44.0

59.3

55.4

26.9

34.4

46.0

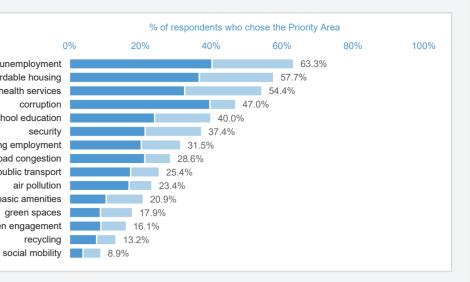
Online purchasing of tickets to shows and museums has made it easier to attend

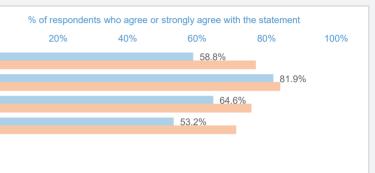
Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Rio de Janeiro

SMART CITY RANKING Out of 118

BACKGROUND INFORMATION

City Population 13,460,000

(UN World Urbanization Prospects)

Businesses are creating new jobs

Minorities feel welcome

Governance

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern



CC BV 3.0 Man Data @ One

Country	2016	2017	2018	2019	1 yr change
HDI	0.757	0.760	0.761	0.765	+0.004
Life expectancy at Birth	75.2	75.5	75.7	75.9	+0.2
Expected years of schooling	15.4	15.4	15.4	15.4	+0.0
Mean years of schooling	7.7	7.8	7.8	8.0	+0.2
GNI per capita (PPP \$)	13,907	13,975	14,068	14,263	+195

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% security health services unemployment school education public transport corruption basic amenities affordable housing fulfilling employment road congestion 12.3% social mobility 11.4% green spaces 6.2% citizen engagement 5.0%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

MAX

LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	CITY	MEAN	GROUP N
STRUCTURES								
		Sc	ore					
Health & Safety 0	20	40	60	80	100		Healt	h & Safe
Basic sanitation meets the needs of the poorest areas	\bigcirc				25.5		Online	reporting of
Recycling services are satisfactory		\bigcirc			35.8		A webs	ite or App a
Public safety is not a problem	\bigcirc				15.4		Free pu	ublic wifi ha
Air pollution is not a problem					26.4		CCTV	cameras ha
Medical services provision is satisfactory					25.9		A webs	ite or App a
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	\bigcirc				23.3		Arrangi	ing medical
Mobility							Mobil	ity
Traffic congestion is not a problem					16.1		Car-sha	aring Apps
Public transport is satisfactory	\bigcirc				19.7		Apps th	nat direct yo
							Bicycle	hiring has
							Online	scheduling
							The city	y provides i
Activities							Activi	ties
Green spaces are satisfactory			\bigcirc		55.1		Online	purchasing

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

61.1

40.0

20.4

32.6

31.5

22.4

ooverhance
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART

102 in 2020

CITY RATING

C in 2020

FACTOR RATINGS

Г

STRUCTURES

D **TECHNOLOGIES**

GROUP

All ratings range from AAA to D

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	

 \bigcirc \bigcirc \bigcirc



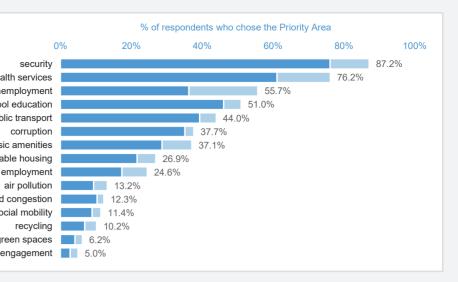
Health & Safety
Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility

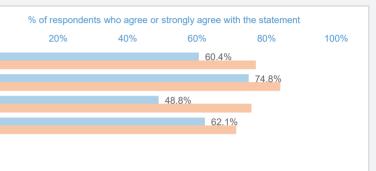
ps have reduced condestion

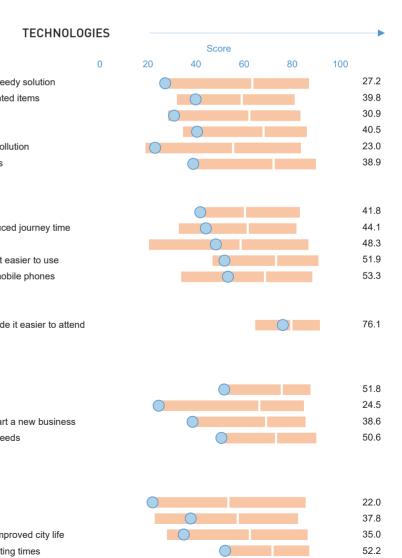
t you to an available parking space have reduced journey time as reduced congestion

ng and ticket sales has made public transport easier to use es information on traffic congestion through mobile phones

ing of tickets to shows and museums has made it easier to attend







Riyadh



30

Out of 118

BACKGROUND INFORMATION

Governance

City Population 7,230,000

Afghar . Esfaha (UN World Urbanization Prospects) Eritre

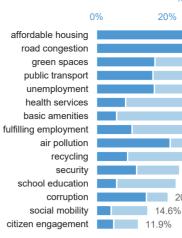
p tiles by Stamen Desigi	т СС ВҮ 3.0 Мар	Data © OpenStreetMap
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Country	2016	2017	2018	2019	1 yr change
HDI	0.857	0.856	0.857	0.854	-0.003
Life expectancy at Birth	74.8	74.9	75.0	75.1	+0.1
Expected years of schooling	17.0	17.0	17.0	16.1	-0.9
Mean years of schooling	9.7	9.7	9.7	10.2	+0.5
GNI per capita (PPP \$)	51,099	49,371	49,338	47,495	-1,843

PRI	ORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



ATTITUD	DES		0	%		
You are will	ing to concede perso	onal data in order to imp	prove traffic congestion			
You are cor	You are comfortable with face recognition technologies to lower crime					
You feel the	e availability of online	information has increas	sed your trust in authorities			
The proport	, ,	y payment transactions	that are non-cash			
LEGEND:	GROUP MEAN	CITY				

STRUCTURES						-		
51100101125		So	ore					
Health & Safety 0	20	40	60	80	100		Healt	th & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc	;	84.7	Online	reporting of city
Recycling services are satisfactory				\bigcirc		73.9	A web	site or App allows
Public safety is not a problem					:	50.1	Free p	ublic wifi has imp
Air pollution is not a problem					;	37.4	CCTV	cameras has ma
Medical services provision is satisfactory				\bigcirc	;	81.8	A web	site or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem			\bigcirc		:	57.5	Arrang	ing medical appo
Mobility							Mobi	lity
Traffic congestion is not a problem		\bigcirc			;	31.8	Car-sh	aring Apps have
Public transport is satisfactory			\bigcirc			61.5	Apps t	hat direct you to a
							Bicycle	e hiring has reduc
							Online	scheduling and t
							The cit	ty provides inform

Activities	
Green spaces are satisfactory	65.5
Cultural activities (shows, bars, and museums) are satisfactory	71.3

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	



Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

59.2

78.1

71.2

68.7

66.0

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART

53 in 2020

CITY RATING BB

B in 2020

FACTOR RATINGS

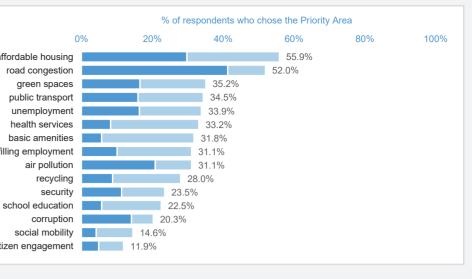
B STRUCTURES

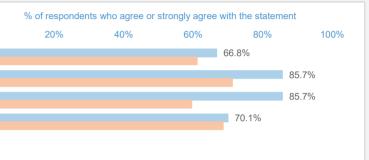
BB

TECHNOLOGIES

GROUP

3







Rome

SMART CITY RANKING

BACKGROUND INFORMATION

City Population 2,810,000

(Eurostat)

Out of 118

101 in 2020

SMART CITY RATING

C in 2020

FACTOR RATINGS

STRUCTURES

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

lap tile:	s by	Stamen	Design	СС	ΒY	3.0	Мар	Data	C	Open	StreetA	/ap
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Country	2016	2017	2018	2019	1 yr change
HDI	0.878	0.881	0.883	0.892	+0.009
Life expectancy at Birth	83.0	83.2	83.4	83.5	+0.1
Expected years of schooling	16.2	16.2	16.2	16.1	-0.1
Mean years of schooling	10.2	10.2	10.2	10.4	+0.2
GNI per capita (PPP \$)	34,818	35,573	36,141	42,776	+6,635

PRIORITY AREAS

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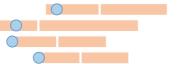
0% recycling public transport road congestion air pollution basic amenities security unemployment corruption fulfilling employment affordable housing social mobility school education health services 7.7%

ATTITUDES

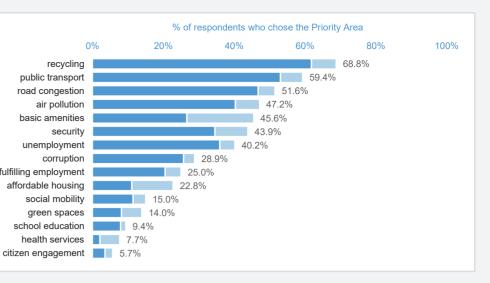
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

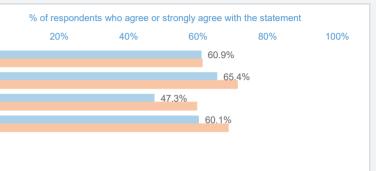
LEGEND: GROUP MEAN CITY

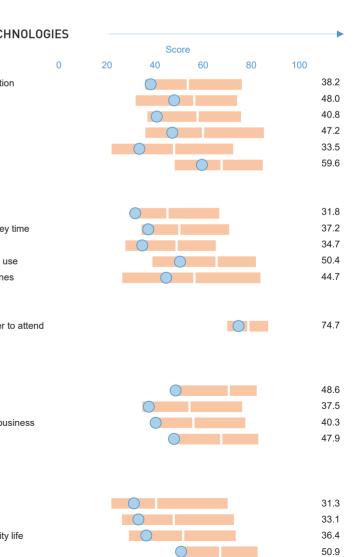
		LEGEND: MIN CIT	Y MEAN GROUP MAX
CTDUCTI			TECHNOLOGIES
STRUCTU	JRES Score		TECHNOLOGIES
Health & Safety	0 20 40 60	80 100	Health & Safety 0
Basic sanitation meets the needs of the poorest areas		43.0	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		22.8	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		34.0	Free public wifi has improved access to city services
Air pollution is not a problem		21.9	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		46.1	A website or App allows residents to effectively monitor air pollution
		46.7	
Finding housing with rent equal to 30% or less of a monthly salary is not a prob		40.7	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		14.5	Car-sharing Apps have reduced congestion
Public transport is satisfactory		19.9	Apps that direct you to an available parking space have reduced journey time
Public transport is satisfactory		13.3	Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
			The city provides information on tranic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		53.3	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		67.3	
		0110	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		19.4	Online access to job listings has made it easier to find work
Most children have access to a good school		46.0	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		37.8	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		25.6	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		29.8	
	~		
Governance			Governance
Information on local government decisions are easily accessible		39.6	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		22.7	Online voting has increased participation
Residents contribute to decision making of local government		21.1	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		32.2	Processing Identification Documents online has reduced waiting times
- · ·	-		·



Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







Rotterdam

SMART CITY RANKING

27

Out of 118

BACKGROUND INFORMATION

City Population 620 000

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

(Eurostat)

29 in 2020

SMART CITY RATING BBB BBB in 2020

FACTOR RATINGS

BBB STRUCTURES

BBB **TECHNOLOGIES**

GROUP

1

All ratings range from AAA to D

map	ules	IJУ	Stamen	Design	00	DI	3.0	map	Data	\odot	Opensu	eeuwa

Score

60

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 \bigcirc

40

20

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Country	2016	2017	2018	2019	1 yr change
HDI	0.929	0.932	0.934	0.944	+0.010
Life expectancy at Birth	81.9	82.0	82.1	82.3	+0.2
Expected years of schooling	18.0	18.0	18.0	18.5	+0.5
Mean years of schooling	12.2	12.2	12.2	12.4	+0.2
GNI per capita (PPP \$)	47,008	48,994	50,013	57,707	+7,694

STRUCTURES

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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affordable housing security unemployment air pollution road congestion health services green spaces recycling basic amenities public transport social mobility 13.7%

0%

0%

ATTITUDES

•	
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

	LEG	IND: MIN		CITY	MEAN	GROUP MAX				
					•					TEC
	80	100			Health	& Safety				
			61.7		Online re	porting of city	maintena	nce proble	ms provide	s a speedy soluti
			64.6		A website	e or App allow	s residen	ts to easily	give away u	unwanted items
			49.8		Free publ	lic wifi has im	proved ac	cess to city	y services	
			35.7		CCTV ca	meras has ma	ade reside	ents feel sa	ıfer	
(74.6		A website	e or App allow	s residen	ts to effecti	vely monito	r air pollution
			31.2		Arranging	g medical app	ointments	online has	s improved a	access

Mobility

30.3

73.6

54.7

75.0

64.6

69.3

60.5

58.2

57.2

58.4

50.7

51.0

55.1

LEGEND: GROUP MEAN CITY

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

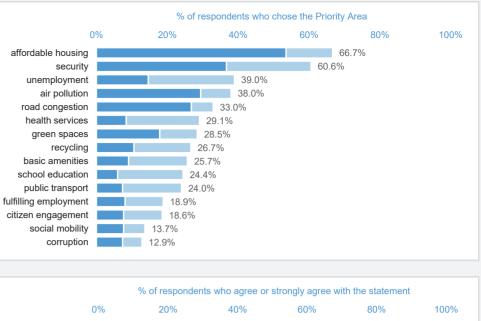
Online purchasing of tickets to shows and museums has made it easier to attend

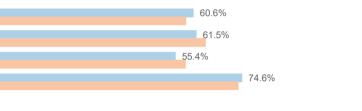
Opportunities (Work & School)

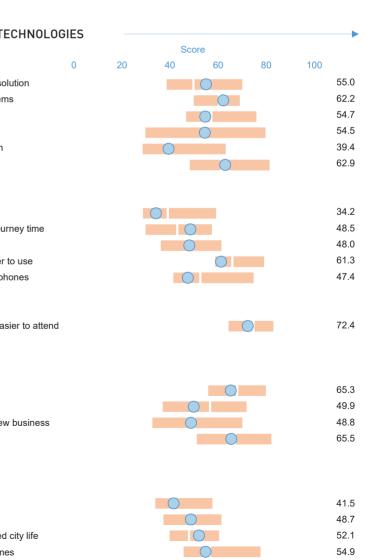
Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times







San Francisco

SMART CITY RANKING 60

BACKGROUND INFORMATION

Population 3,310,000

City

(UN World Urbanization Prospects)

Out of 118

27 in 2020

SMART CITY RATING

B

BBB in 2020

FACTOR RATINGS

B

STRUCTURES

B

TECHNOLOGIES

GROUP

-

L

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.919	0.919	0.920	0.926	+0.006
Life expectancy at Birth	78.9	78.9	78.9	78.9	+0.0
Expected years of schooling	16.3	16.3	16.3	16.3	+0.0
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	54,443	55,351	56,140	63,826	+7,686

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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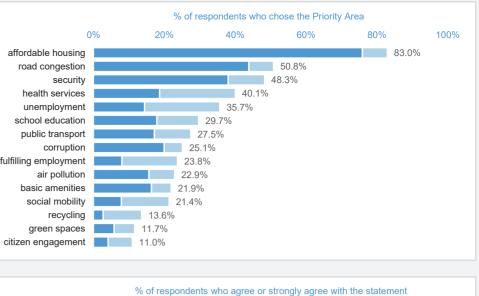
0% affordable housing road congestion security health services unemployment school education public transport corruption fulfilling employment air pollution basic amenities green spaces 11.7%

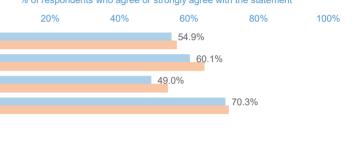
ATTITUDES

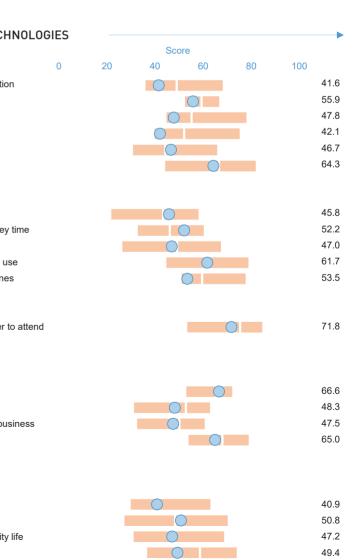
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

			MEAN GROUP MAX
STRUCTURES	5		TECHNOLOGI
	Score		
Health & Safety	0 20 40 60	80 100	Health & Safety
Basic sanitation meets the needs of the poorest areas		39.4	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory		65.3	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		30.0	Free public wifi has improved access to city services
Air pollution is not a problem		43.6	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		58.4	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		18.4	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		22.3	Car-sharing Apps have reduced congestion
Public transport is satisfactory		47.9	Apps that direct you to an available parking space have reduced journey time
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to use
			The city provides information on traffic congestion through mobile phones
Activities			Activities
Green spaces are satisfactory		64.7	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory		78.0	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		61.2	Online access to job listings has made it easier to find work
Most children have access to a good school		51.7	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		61.6	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs		66.5	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		62.6	
Governance			Governance
Information on local government decisions are easily accessible		62.7	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		42.1	Online voting has increased participation
Residents contribute to decision making of local government		54.4	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects		62.7	Processing Identification Documents online has reduced waiting times







San José

SMART CITY RANKING 109 Out of 118

N/A

not in 2020

SMART

CITY

RATING

not in 2020

FACTOR

RATINGS

STRUCTURES

TECHNOLOGIES

GROUP

3

All ratings range

from AAA to D

BACKGROUND INFORMATION

City Population 1,400,000

(UN World Urbanization Prospects)

Santo BELIZE JAMAICA Domingo HONDURAS Tegucigalpa Guatemala NICARAGUA City EL SALVADOR Barranguill COSTA RICA PANAMA Medellin Bogota COLOMBIA

Country	2016	2017	2018	2019	1 yr change
HDI	0.789	0.792	0.794	0.810	+0.01
Life expectancy at Birth	79.7	79.9	80.1	80.3	+0.
Expected years of schooling	15.4	15.4	15.7	15.7	+0.
Mean years of schooling	8.6	8.7	8.7	8.7	+0.
GNI per capita (PPP \$)	17,783	18,161	18,371	18,486	+11

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

corruption security unemployment road condestion affordable housing fulfilling employment basic amenities public transport citizen engagement recvclina air pollution social mobility school education 12.5% green spaces 7.5%

ATTITUDES 0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	
ICTURES						-
		Sc	ore			
0	20	40	60	80	100	Hea
			\bigcirc		52.9	Onlii
					49.9	Awe
					29.3	Free
		\bigcirc			36.8	CCT
)	69.9	Awe
problem					30.1	Arra
						Mo
	\bigcirc				13.2	Car-
		\bigcirc			34.2	Apps
						Bicy
						Onlii
						The
						Act
			\bigcirc		63.3	Onlii
			\bigcirc		59.6	
						Opp
			\bigcirc		54.4	Onli
			\bigcirc		52.4	IT sk
					49.2	Onlii
		\bigcirc			38.3	The
		\bigcirc			37.1	
						Gov
	0	0 20		Score 0 20 40 60	DCTURES	VICTURES 0 20 40 60 80 100 9 20 40 60 80 100 9 29.3 36.8 69.9 30.1 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.2 13.2 34.3 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2 13.2

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

 \bigcirc

•	TEC
Health & Safety	
Online reporting of city maintenance problems pro	vides a speedy solu
A website or App allows residents to easily give a	way unwanted items
Free public wifi has improved access to city servic	es
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively m	onitor air pollution
Arranging medical appointments online has impro	ved access

lobility

AN GROUP MAX

ar-sharing Apps have reduced congestion pps that direct you to an available parking space have reduced journey time icycle hiring has reduced congestion nline scheduling and ticket sales has made public transport easier to use he city provides information on traffic congestion through mobile phones

ctivities

nline purchasing of tickets to shows and museums has made it easier to attend

pportunities (Work & School)

nline access to job listings has made it easier to find work skills are taught well in schools nline services provided by the city has made it easier to start a new business he current internet speed and reliability meet connectivity needs

overnance

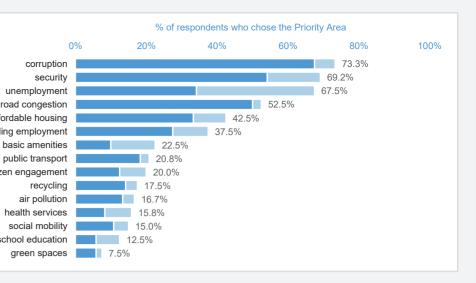
42.8

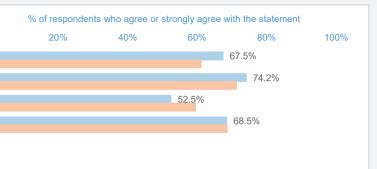
11.8

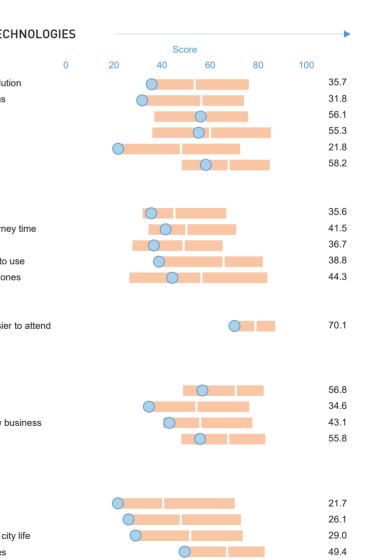
22.1

30.6

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Santiago

SMART CITY RANKING 10

BACKGROUND INFORMATION

City Population 6,770,000

(UN World Urbanization Prospects)

Residents provide feedback on local government projects



Out of 118

91 in 2020

SMART CITY RATING

CC in 2020

FACTOR RATINGS

STRUCTURES

CC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



2016	2017	2018	2019	1 yr change
0.843	0.845	0.847	0.851	+0.004
79.8	79.9	80.0	80.2	+0.2
16.4	16.5	16.5	16.4	-0.1
10.3	10.4	10.4	10.6	+0.2
21,776	21,415	21,972	23,261	+1,289
	0.843 79.8 16.4 10.3	0.843 0.845 79.8 79.9 16.4 16.5 10.3 10.4	0.8430.8450.84779.879.980.016.416.516.510.310.410.4	0.8430.8450.8470.85179.879.980.080.216.416.516.516.410.310.410.410.6

PRIORITY AREAS

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security health services affordable housing air pollution corruption unemployment fulfilling employment school education public transport basic amenities recycling road congestion social mobility

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

				LEGEND	: MIN	(Осіту	MEAN	GROUP MAX
STRUCTURES						-		•	
		Sco	ore			-		-	
Health & Safety 0	20	40	60	80	100			Health	n & Safety
Basic sanitation meets the needs of the poorest areas		\bigcirc				37.4		Online r	eporting of city maintenance pro
Recycling services are satisfactory						41.1		A websi	te or App allows residents to eas
Public safety is not a problem	\bigcirc					21.5		Free pu	blic wifi has improved access to
Air pollution is not a problem						10.9		CCTV c	ameras has made residents feel
Medical services provision is satisfactory						36.3		A websi	te or App allows residents to effe
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	\bigcirc					18.5		Arrangir	ng medical appointments online l
Mobility								Mobili	ity
Traffic congestion is not a problem						17.1		Car-sha	iring Apps have reduced conges
Public transport is satisfactory		\bigcirc				33.6		Apps the	at direct you to an available park
								Bicycle	hiring has reduced congestion
								Online s	scheduling and ticket sales has n
								The city	provides information on traffic c
Activities								Activit	ties
Green spaces are satisfactory		(51.6		Online p	ourchasing of tickets to shows an
Cultural activities (shows, bars, and museums) are satisfactory			\bigcirc			59.1			
Opportunities (Work & School)								Oppor	tunities (Work & School)
Employment finding services are readily available			\bigcirc			57.8		Online a	access to job listings has made it
Most children have access to a good school		\bigcirc				31.7		IT skills	are taught well in schools
Lifelong learning opportunities are provided by local institutions		\bigcirc				37.1		Online s	services provided by the city has
Businesses are creating new jobs		\bigcirc				38.5		The cur	rent internet speed and reliability
Minorities feel welcome		\bigcirc				29.6			
Governance								Gover	nance
Information on local government decisions are easily accessible		\bigcirc				44.5		Online p	public access to city finances has
Corruption of city officials is not an issue of concern						22.2		Online v	voting has increased participation
Residents contribute to decision making of local government	\bigcirc					23.2		An onlin	e platform where residents can

34.8

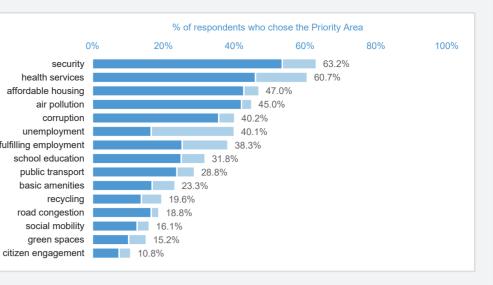
sily give away unwanted items city services l safer ectively monitor air pollution has improved access

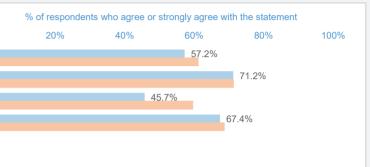
stion king space have reduced journey time nade public transport easier to use congestion through mobile phones

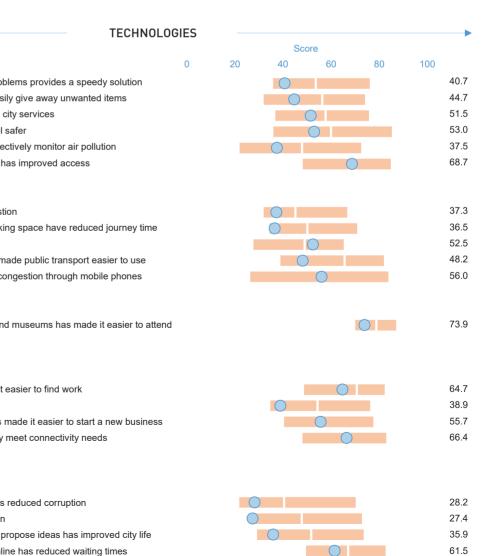
nd museums has made it easier to attend

t easier to find work made it easier to start a new business meet connectivity needs

Opling public access to git finances has reduced corruption	
Online public access to city finances has reduced corruption	
Online voting has increased participation	
An online platform where residents can propose ideas has impro	ved cit
Processing Identification Documents online has reduced waiting	times







Sao Paulo

SMART CITY RANKING

Out of 118

100 in 2020

SMART

CITY

RATING

BACKGROUND INFORMATION

City Population 22,040,000

(UN World Urbanization Prospects)

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Most children have access to a good school

Corruption of city officials is not an issue of concern

Residents contribute to decision making of local government

Residents provide feedback on local government projects



2016	2017	2018	2019	1 yr chang
0.757	0.760	0.761	0.765	+0.00
75.2	75.5	75.7	75.9	+0
15.4	15.4	15.4	15.4	+0
7.7	7.8	7.8	8.0	+0
13,907	13,975	14,068	14,263	+19
	0.757 75.2 15.4 7.7	0.7570.76075.275.515.415.47.77.8	0.757 0.760 0.761 75.2 75.5 75.7 15.4 15.4 15.4 7.7 7.8 7.8	0.7570.7600.7610.76575.275.575.775.915.415.415.415.47.77.87.88.0

PRIORITY AREAS

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The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

security health services unemployment school education public transport corruption air pollution basic amenities affordable housing fulfilling employment road congestion social mobility

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

						LEGEND:	MIN	MEAN	GROUP MAX
C in 2020	STRI	CTURES							
0 11 2020	5110	OTORES		Sc	ore				
	Health & Safety	0	20	40	60	80	100	Healt	h & Safety
	Basic sanitation meets the needs of the poorest areas			\bigcirc			39.2		eporting of city m
	Recycling services are satisfactory			Õ			42.0	A webs	ite or App allows
FACTOR	Public safety is not a problem		\bigcirc				17.8	Free pu	blic wifi has impr
RATINGS	Air pollution is not a problem		Õ				17.8	CCTV o	ameras has mad
INATINO S	Medical services provision is satisfactory		(\bigcirc			32.8	A webs	ite or App allows
	Finding housing with rent equal to 30% or less of a monthly salary is not a	problem	\bigcirc				20.8	Arrangi	ng medical appoi
D									
	Mobility							Mobil	ity
	Traffic congestion is not a problem		\bigcirc				13.3	Car-sha	aring Apps have r
STRUCTURES	Public transport is satisfactory		\bigcirc				22.6	Apps th	at direct you to a
								Bicycle	hiring has reduce
								Online	scheduling and tio
D								The city	provides information
	Activities							Activi	ties
TECHNOLOGIES	Green spaces are satisfactory			\bigcirc			46.0	Online	ourchasing of tick
	Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc		62.7		

GROUP

All ratings range from AAA to D





Health & Safety
Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access

reduced congestion an available parking space have reduced journey time uced congestion ticket sales has made public transport easier to use mation on traffic congestion through mobile phones

ickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

44.8

24.8

37.5

39.0

24.4

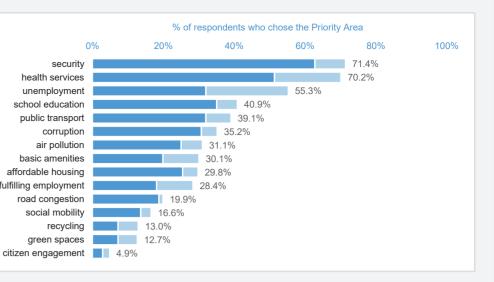
39.3

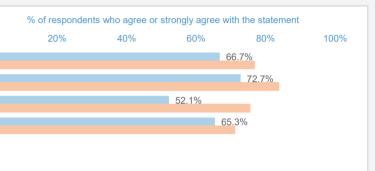
16.5

24.7

29.8

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Seattle

SMART CITY RANKING

43

Out of 118

BACKGROUND INFORMATION

City Population 3,430,000

(UN World Urbanization Prospects)

Most children have access to a good school

Businesses are creating new jobs

Minorities feel welcome

Governance

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern



37 in 2020

SMART CITY RATING

BB

BBB in 2020

FACTOR RATINGS

BB STRUCTURES

BB

TECHNOLOGIES

GROUP

-

Ζ

All ratings range from AAA to D

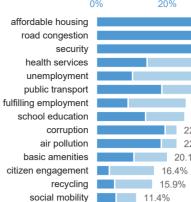
AB SK . Calgary Canada MT

2016	2017	2018	2019	1 yr change
0.919	0.919	0.920	0.926	+0.006
78.9	78.9	78.9	78.9	+0.0
16.3	16.3	16.3	16.3	+0.0
13.4	13.4	13.4	13.4	+0.0
54,443	55,351	56,140	63,826	+7,686
	0.919 78.9 16.3 13.4	0.919 0.919 78.9 78.9 16.3 16.3 13.4 13.4	0.9190.9190.92078.978.978.916.316.316.313.413.413.4	0.919 0.919 0.920 0.926 78.9 78.9 78.9 78.9 16.3 16.3 16.3 16.3 13.4 13.4 13.4 13.4

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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AT	TI	τu	DI	ES

	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	s
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

				LEGEN	D: MIN	CITY MEAN GROUP MAX	
STRUCTURES	; —					•	TEC
		Sc	ore				
Health & Safety 0	20	40	60	80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas		C)		47.8	Online reporting of city maintenance problems provides a spec	edy solu
Recycling services are satisfactory				\bigcirc	73.9	A website or App allows residents to easily give away unwanted	ed items
Public safety is not a problem		\bigcirc			32.4	Free public wifi has improved access to city services	
Air pollution is not a problem		\bigcirc			40.8	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory					68.0	A website or App allows residents to effectively monitor air pol	llution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	C)			24.4	Arranging medical appointments online has improved access	
Mobility						Mobility	
Traffic congestion is not a problem	\bigcirc				16.9	Car-sharing Apps have reduced congestion	
Public transport is satisfactory			\bigcirc		52.1	Apps that direct you to an available parking space have reduc	ed journ:
						Bicycle hiring has reduced congestion	
						Online scheduling and ticket sales has made public transport e	easier to
						The city provides information on traffic congestion through mo	bile pho
Activities						Activities	
Green spaces are satisfactory					67.1	Online purchasing of tickets to shows and museums has made	e it easie
Cultural activities (shows, bars, and museums) are satisfactory					80.5		
Opportunities (Work & School)						Opportunities (Work & School)	
Employment finding services are readily available				\bigcirc	70.3	Online access to job listings has made it easier to find work	
			_				

Орро	rtunities (Work & School)
Online	access to job listings has made it easier to find work
IT skills	s are taught well in schools
Online	services provided by the city has made it easier to start a new b
The cu	rrent internet speed and reliability meet connectivity needs

Governance

64.3

66.4

67.9

62.1

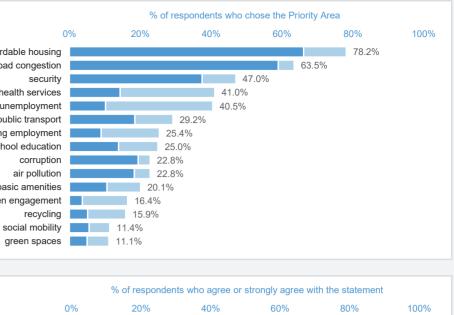
60.8

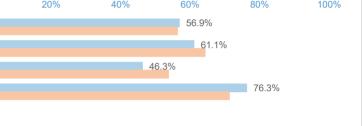
41.6

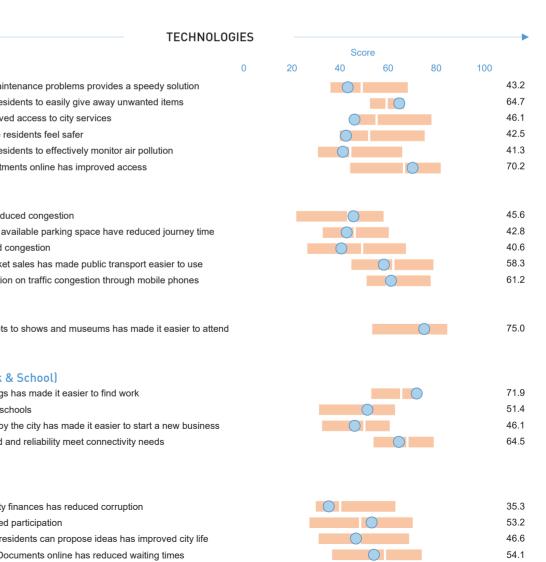
53.4

64.5

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times









SMART CITY RANKING

13

Out of 118

47 in 2020

SMART

BACKGROUND INFORMATION

City Population 9,960,000

(UN World Urbanization Prospects)



CC BV 3.0 Man Data © Onen

Country	2016	2017	2018	2019	1 yr change
HDI	0.901	0.904	0.906	0.916	+0.010
Life expectancy at Birth	82.4	82.6	82.8	83.0	+0.2
Expected years of schooling	16.4	16.4	16.4	16.5	+0.1
Mean years of schooling	12.2	12.2	12.2	12.2	+0.0
GNI per capita (PPP \$)	35,122	35,945	36,757	43,044	+6,287

PRIORITY	AREAS
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0% air pollution affordable housing fulfilling employment unemplovment corruption road congestion security basic amenities recycling school education 12.1% social mobility 11.7% health services 10.4% citizen engagement 8.5%

0%

ATTITUDES	

LEGEND: GROUP MEAN CITY

					LEGEND:	MIN	(CITY	MEAN	GROUP M	AX
STRUCTU	RES						-		•		
Health & Safety	0	20	Sco 40	ore 60	80	100			Hoalt	h & Safet	
Basic sanitation meets the needs of the poorest areas	Ŭ	20					2.1			reporting of	·
Recycling services are satisfactory							1.0			ite or App a	
Public safety is not a problem			_				3.3			ublic wifi has	
Air pollution is not a problem							3.1			cameras ha	
Medical services provision is satisfactory				_			7.0			ite or App a	
		_		_			7.0 5.9				
Finding housing with rent equal to 30% or less of a monthly salary is not a proble	em					3	5.9		Arrangi	ng medical	app
Mobility									Mobil	ity	
Traffic congestion is not a problem						2	3.3		Car-sha	aring Apps I	nave
Public transport is satisfactory				(7	2.0		Apps th	nat direct yo	u to
									Bicycle	hiring has r	edu
									Online	scheduling	and
									The city	y provides in	nfor
Activities									Activi	ties	
Green spaces are satisfactory						5	5.2			purchasing	of ti
Cultural activities (shows, bars, and museums) are satisfactory						6	9.9				
Opportunities (Work & School)									Оррог	rtunities	(W)
Employment finding services are readily available						5	8.8		Online	access to jo	b lis
Most children have access to a good school				\bigcirc		5	8.3		IT skills	are taught	wel
Lifelong learning opportunities are provided by local institutions				\bigcirc		6	3.3		Online	services pro	ovid
Businesses are creating new jobs			\bigcirc	l de la companya de l		4	7.4		The cur	rrent interne	et sp
Minorities feel welcome		(\bigcirc			3	1.8				
Governance									Gover	nance	
Information on local government decisions are easily accessible						6	0.4		Online	public acce	ss tr
Corruption of city officials is not an issue of concern		\bigcirc				2	6.4		Online	voting has i	ncre
Residents contribute to decision making of local government			(5	1.5			ne platform	

city maintenance problems provides a speedy solution lows residents to easily give away unwanted items improved access to city services s made residents feel safer lows residents to effectively monitor air pollution

appointments online has improved access

ave reduced congestion u to an available parking space have reduced journey time educed congestion and ticket sales has made public transport easier to use formation on traffic congestion through mobile phones

of tickets to shows and museums has made it easier to attend

Work & School)

well in schools t speed and reliability meet connectivity needs

An online platform where residents can propose ideas has improved c	Online public access to city finances has reduced corruption
	Online voting has increased participation
Processing Identification Documents online has reduced waiting times	An online platform where residents can propose ideas has improved cit
	Processing Identification Documents online has reduced waiting times

CITY RATING BBB

FACTOR RATINGS

B

GROUP

-

L

All ratings rand from AAA to D

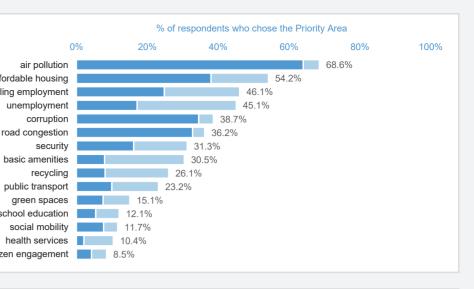
BB in 2020

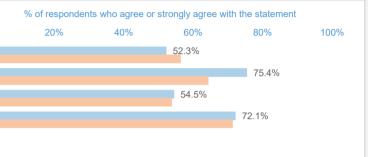
STRUCTURES

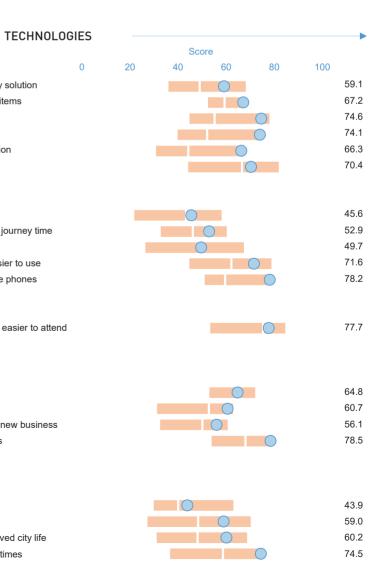
TECHNOLOGIE

AX.

listings has made it easier to find work vided by the city has made it easier to start a new business







Shanghai



71

Out of 118

81 in 2020

BACKGROUND INFORMATION

City Population 27,060,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% road congestion affordable housing air pollution health services social mobility fulfilling employment public transport basic amenities corruption citizen engagement 18.4% unemployment 18.3%

0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

			LEGEN	ID: MIN (CITY MEAN GROUP MAX	
STRUCTURES					•	TECH
Health & Safety 0	20	Score 40 60	80	100		
Treatting Safety	20	40 00	00		Health & Safety	
Basic sanitation meets the needs of the poorest areas				82.8	Online reporting of city maintenance problems provides a speedy	
Recycling services are satisfactory			\bigcirc	78.5	A website or App allows residents to easily give away unwanted i	tems
Public safety is not a problem			\bigcirc	71.5	Free public wifi has improved access to city services	
Air pollution is not a problem				47.5	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory			\bigcirc	79.3	A website or App allows residents to effectively monitor air pollution	on
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc		50.4	Arranging medical appointments online has improved access	
Mobility					Mobility	
Traffic congestion is not a problem		\bigcirc		31.4	Car-sharing Apps have reduced congestion	
Public transport is satisfactory)	63.8	Apps that direct you to an available parking space have reduced	journey
					Bicycle hiring has reduced congestion	
					Online scheduling and ticket sales has made public transport eas	sier to u
					The city provides information on traffic congestion through mobile	e phone
Activities					Activities	
Green spaces are satisfactory				76.9	Online purchasing of tickets to shows and museums has made it	easier t
Cultural activities (shows, bars, and museums) are satisfactory				84.3		

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

79.7

77.0

70.2

78.6

74.1

77.4

54.9

62.4

69.6

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved c
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CC in 2020

FACTOR RATINGS

CC STRUCTURES

CCC

TECHNOLOGIES

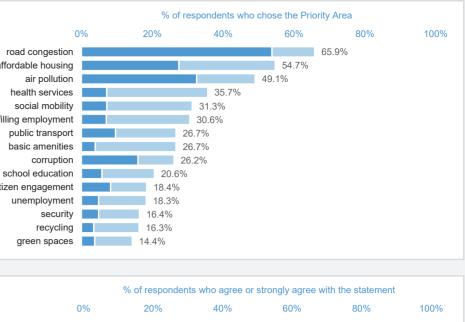
GROUP

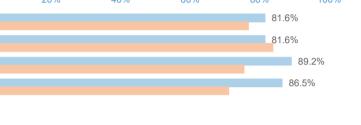
All ratings range from AAA to D

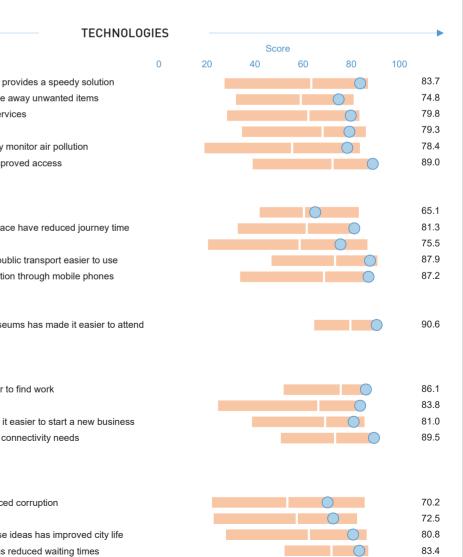
Residents contribute to decision making of local government

Residents provide feedback on local government projects

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	







Shenzhen



65

Out of 118

67 in 2020

BACKGROUND INFORMATION

City Population 12.360.000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% fulfilling employment affordable housing road congestion social mobility corruption air pollution citizen engagement unemployment health services basic amenities school education green spaces 12.3%

0%

ATTITUDES	
You are willing to concede personal data in or	C

rder to improve traffic congestion You are comfortable with face recognition technologies to lower crime

You feel the availability of online information has increased your trust in authorities

The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

					LEGEN	D: MIN	CITY MEAN GROUP MAX	TEOL
•	STRUCTURES		80	ore		•	•	TECH
Health & Safety	0	20	40	60	80	100	Health & Safety	
Basic sanitation meets the needs of the poorest areas						82.4	Online reporting of city maintenance problems provides a spe	edy solutio
Recycling services are satisfactory					Õ	79.8	A website or App allows residents to easily give away unwan	ted items
Public safety is not a problem					$\overline{\mathbf{O}}$	77.9	Free public wifi has improved access to city services	
Air pollution is not a problem						70.2	CCTV cameras has made residents feel safer	
Medical services provision is satisfactory						81.2	A website or App allows residents to effectively monitor air po	ollution
Finding housing with rent equal to 30% or less of a monthly salary is	not a problem			\bigcirc		61.4	Arranging medical appointments online has improved access	
Mobility							Mobility	
Traffic congestion is not a problem				\bigcirc		53.1	Car-sharing Apps have reduced congestion	
Public transport is satisfactory					\bigcirc	72.4	Apps that direct you to an available parking space have redu	ced journey
							Bicycle hiring has reduced congestion	
							Online scheduling and ticket sales has made public transport	easier to u
							The city provides information on traffic congestion through m	obile phone
Activities							Activities	
Green spaces are satisfactory					\bigcirc	80.5	Online purchasing of tickets to shows and museums has made	de it easier

Online purchasing of tickets to shows and museums has made it easier to attend					
Opportunities (Work & School)					

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

75.0

63.2

68.7

71.8

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

GROUP

All ratings range from AAA to D

g with rent equal to 30% or less of a monthly salary is not a problem		
on is not a problem		
t is satisfactory		
are satisfactory		1
es (shows, bars, and museums) are satisfactory		

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Minorities feel welcome	

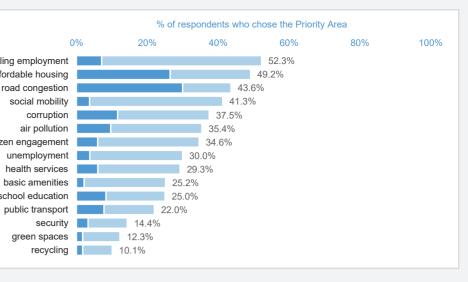
Governance

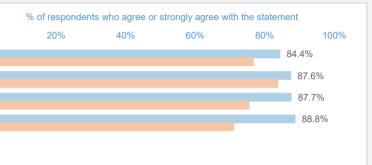
Cultural activities

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects

	\bigcirc	80.5
		82.8

		82.7
		76.0
		69.8
	\bigcirc	80.4
	\bigcirc	78.7







Singapore

SMART CITY RANKING

Out of 118

1 in 2020

BACKGROUND INFORMATION

City Population 5,940,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr chango
HDI	0.933	0.934	0.935	0.938	+0.00
Life expectancy at Birth	83.1	83.3	83.5	83.6	+0.
Expected years of schooling	16.3	16.3	16.3	16.4	+0.
Mean years of schooling	11.5	11.5	11.5	11.6	+0.
GNI per capita (PPP \$)	78,759	81,500	83,793	88,155	+4,36

PRIORITY AREAS

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affordable housing fulfilling employment unemployment health services recycling citizen engagement public transport social mobility road congestion

ATTITUDES	

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	CITY MEAN GROUP MAX
STRUCTURES						TECHNOLO
Health & Safety 0	20	Scor 40	ге 60	80	100	Health & Safety
Basic sanitation meets the needs of the poorest areas					83.9	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory					66.4	A website or App allows residents to easily give away unwanted items
Public safety is not a problem				0	74.9	Free public wifi has improved access to city services
Air pollution is not a problem			0		60.7	CCTV cameras has made residents feel safer
Medical services provision is satisfactory					84.9	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			48.7	Arranging medical appointments online has improved access
Mobility						Mobility
Traffic congestion is not a problem					47.9	Car-sharing Apps have reduced congestion
Public transport is satisfactory				\bigcirc	77.6	Apps that direct you to an available parking space have reduced journey time
						Bicycle hiring has reduced congestion
						Online scheduling and ticket sales has made public transport easier to use
						The city provides information on traffic congestion through mobile phones
Activities						Activities
Green spaces are satisfactory				\bigcirc	78.3	Online purchasing of tickets to shows and museums has made it easier to attend
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	76.0	
Opportunities (Work & School)						Opportunities (Work & School)
Employment finding services are readily available				\bigcirc	74.1	Online access to job listings has made it easier to find work
Most children have access to a good school				\bigcirc	82.0	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions				\bigcirc	81.7	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs			\bigcirc		67.6	The current internet speed and reliability meet connectivity needs
Minorities feel welcome)	69.1	
Governance						Governance
Information on local government decisions are easily accessible				\bigcirc	77.1	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern			\bigcirc		68.8	Online voting has increased participation
Residents contribute to decision making of local government			\bigcirc		59.9	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects					68.5	Processing Identification Documents online has reduced waiting times

CITY RATING

SMART

AAA AAA in 2020

FACTOR RATINGS

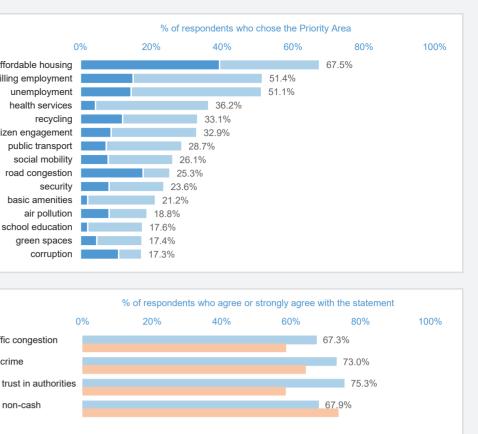
AAA STRUCTURES

AAA

TECHNOLOGIES

GROUP

1



LOGIES Score 20 100 0 40 60 80 70.5 65.3 76.4 80.2 63.6 \bigcirc 81.9 59.6 \bigcirc 57.9 51.9 62.9 75.2 \bigcirc 83.5 end 80.3 72.3 70.5 \bigcirc ss 82.6 58.1 49.3 60.9 78.1



SMART CITY RANKING 107

BACKGROUND INFORMATION

City Population 1,240,000

(Eurostat)

Health & Safety

Mobility

Activities

Recycling services are satisfactory

Traffic congestion is not a problem

Public transport is satisfactory

Green spaces are satisfactory

Opportunities (Work & School)

Businesses are creating new jobs

Minorities feel welcome

Governance

Employment finding services are readily available

Most children have access to a good school

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Cultural activities (shows, bars, and museums) are satisfactory

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Finding housing with rent equal to 30% or less of a monthly salary is not a problem

Out of 118

89 in 2020

SMART CITY RATING

CC in 2020

FACTOR RATINGS

STRUCTURES

CC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D



STRUCTURES

0

 \bigcirc

 \bigcirc

Country	2016	2017	2018	2019	1 yr change
HDI	0.812	0.813	0.816	0.816	+0.000
Life expectancy at Birth	74.7	74.8	74.9	75.1	+0.2
Expected years of schooling	15.1	14.8	14.8	14.4	-0.4
Mean years of schooling	11.8	11.8	11.8	11.4	-0.4
GNI per capita (PPP \$)	17,757	18,874	19,646	23,325	+3,679

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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air pollution corruption road congestion securitv health services areen spaces affordable housing unemployment recycling school education public transport 15.5% citizen engagement 14.4% fulfilling employment 14.4% social mobility 7.2%

ATTITUDES

ATTIODES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	•
The proportion of your day-to-day payment transactions that are non-cash	
(% of transactions)	

LEGEND: GROUP MEAN CITY

			LEGEND:	MIN	CITY	MEAN	GROUP M	IAX					
												TECHNOL	OGIES
	Sco	ore											-00120
20	40	60	80	100		Healt	h & Safet	tv					0
				49.0				·	enance prob	olems provide	s a speedy	solution	
				37.3						ily give away			
				32.7		Free pu	blic wifi has	s improved	access to o	city services			
				17.4		CCTV	ameras ha	is made res	sidents feel	safer			
				43.2		A webs	ite or App a	allows resid	lents to effe	ctively monito	or air pollutio	n	
				25.1		Arrangi	ng medical	appointme	ents online h	as improved	access		
						Mobil	ity						
\bigcirc				14.6		Car-sh	aring Apps I	have reduc	ed congest	ion			
	C			48.9		Apps th	at direct yo	ou to an ava	ailable parki	ng space hav	e reduced j	ourney time	
						Bicycle	hiring has r	reduced co	ngestion				
						Online	scheduling	and ticket s	sales has m	ade public tra	ansport easi	er to use	
						The cit	v provides ir	nformation	on traffic co	ongestion thro	ough mobile	phones	
						Activi	ties						
	\bigcirc			42.3		Online	ourchasing	of tickets to	o shows an	d museums h	as made it	easier to atte	nd
		C)	71.5									
						Орро	tunities	(Work &	School)				
		\bigcirc		61.0		Online	access to jo	ob listings h	nas made it	easier to find	work		
		\bigcirc		53.8		IT skills	are taught	well in sch	ools				
	\bigcirc			47.6		Online	services pro	ovided by tl	he city has	made it easie	r to start a r	ew busines	S
		\bigcirc		53.8		The cu	rent interne	et speed an	nd reliability	meet connect	tivity needs		
				37.9									

Governance

35.0

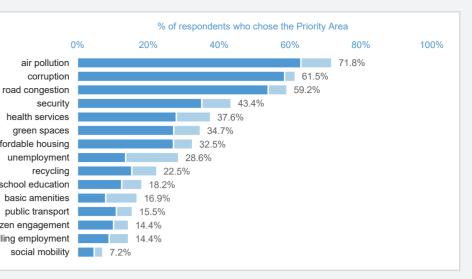
12.2

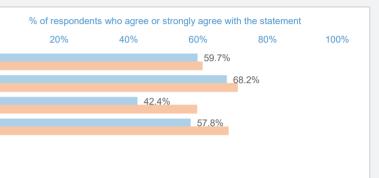
24.2

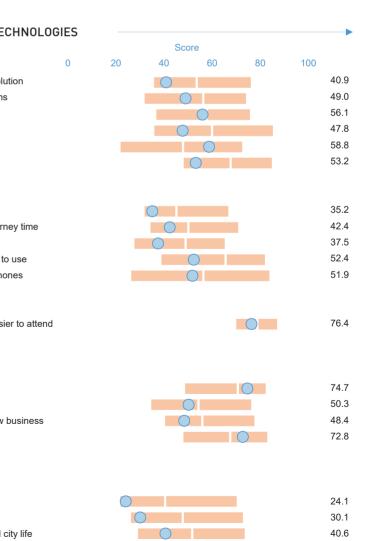
33.5

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved city
Processing Identification Documents online has reduced waiting times

0%







56.1

St. Petersburg

SMART CITY RANKING

79

Out of 118

73 in 2020

BACKGROUND INFORMATION

City Population 5,470,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.817	0.822	0.824	0.824	+0.000
Life expectancy at Birth	71.8	72.1	72.4	72.6	+0.2
Expected years of schooling	15.5	15.5	15.5	15.0	-0.5
Mean years of schooling	11.8	12.0	12.0	12.2	+0.2
GNI per capita (PPP \$)	24,096	24,472	25,036	26,157	+1,121

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% corruption affordable housing road congestion health services air pollution recvclina fulfilling employment basic amenities security unemployment green spaces school education 14.6%

ATTITUE	DES		0	%
You are wil	ling to concede perso	onal data in order to imp	prove traffic congestion	
You are co	mfortable with face re	cognition technologies	to lower crime	
You feel the	e availability of online	information has increa	ased your trust in authorities	
The propor (% of trans		y payment transactions	s that are non-cash	
LEGEND:	GROUP MEAN	CITY		

GROUP MAX

					LEGEND:	MIN	
4	STRUCTURES						•
			Sc	ore			
Health & Safety	0	20	40	60	80	100	Н
Basic sanitation meets the needs of the poorest areas				\bigcirc		64.6	0
Recycling services are satisfactory						49.8	A
Public safety is not a problem				\bigcirc		58.0	Fr
Air pollution is not a problem			\bigcirc			37.2	С
Medical services provision is satisfactory				\bigcirc		55.9	A
Finding housing with rent equal to 30% or less of a monthly sale	ary is not a problem		\bigcirc			38.5	A
Mobility							Μ
Traffic congestion is not a problem		\bigcirc				25.3	C
Public transport is satisfactory				\bigcirc		62.4	A
							Bi
							0
							TI

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government \bigcirc Residents provide feedback on local government projects

Health & Safety
Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion

Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

66.4

83.1

71.1

64.9

69.0

53.6

42.2

54.0

30.8

39.3

57.1

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

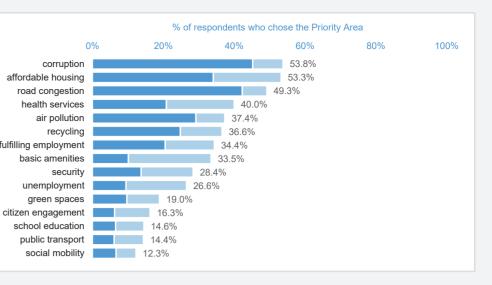
CCC STRUCTURES

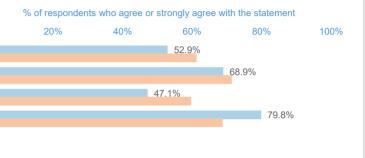
CCC

TECHNOLOGIES

GROUP

3







Stockholm

SMART CITY RANKING BACKGROUND INFORMATION

Lifelong learning opportunities are provided by local institutions

Information on local government decisions are easily accessible

Residents contribute to decision making of local government

Residents provide feedback on local government projects

Corruption of city officials is not an issue of concern

Businesses are creating new jobs

Minorities feel welcome

Governance

Citv Population 950 000

(Eurostat)

Out of 118

25

16 in 2020

SMART CITY RATING BBB A in 2020

FACTOR RATINGS

STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D



Country	2016	2017	2018	2019	1 yr change
HDI	0.934	0.935	0.937	0.945	+0.008
Life expectancy at Birth	82.4	82.5	82.7	82.8	+0.1
Expected years of schooling	18.8	18.8	18.8	19.5	+0.7
Mean years of schooling	12.4	12.4	12.4	12.5	+0.1
GNI per capita (PPP \$)	46,662	47,398	47,955	54,508	+6,553

PRIORITY /	AREAS
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LEGEND: GROUP MEAN CITY

affordable housing health services security unemployment public transport school education fulfilling employment social mobility road congestion air pollution basic amenities 16.5% citizen engagement 14.4%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: STRUCTURES Score 80 20 40 60 100 Health & Safety Health & Safety 63.5 Basic sanitation meets the needs of the poorest areas Online reporting of city maintenance problems provides a speedy solution 70.5 Recycling services are satisfactory A website or App allows residents to easily give away unwanted items \bigcirc 50.0 Public safety is not a problem Free public wifi has improved access to city services 55.0 Air pollution is not a problem CCTV cameras has made residents feel safer 59.4 Medical services provision is satisfactory A website or App allows residents to effectively monitor air pollution Finding housing with rent equal to 30% or less of a monthly salary is not a problem 27.8 Arranging medical appointments online has improved access Mobility Mobility 32.1 Traffic congestion is not a problem Car-sharing Apps have reduced congestion Public transport is satisfactory 56.3 Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones Activities Activities 76.3 Green spaces are satisfactory Online purchasing of tickets to shows and museums has made it easier to attend Cultural activities (shows, bars, and museums) are satisfactory 77.0 \bigcirc Opportunities (Work & School) Opportunities (Work & School) 66.3 Employment finding services are readily available Online access to job listings has made it easier to find work \bigcirc 72.4 Most children have access to a good school IT skills are taught well in schools

Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

68.2

65.4

53.3

63.4

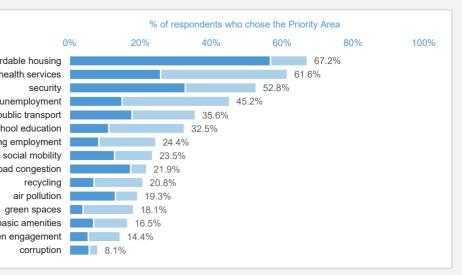
57.2

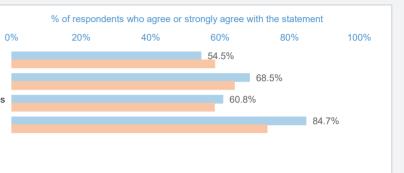
51.3

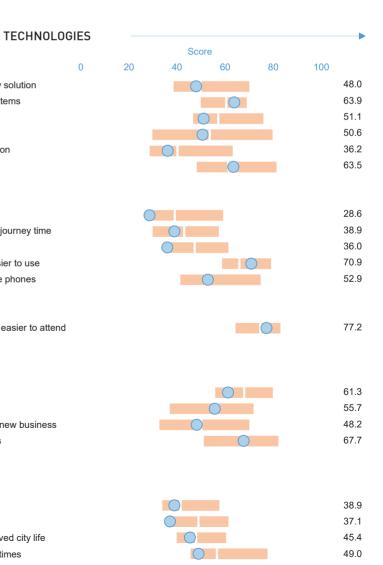
58.3

 \bigcirc

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times











18

Out of 118

BACKGROUND INFORMATION

City Population 4,930,000

(UN World Urbanization Prospects)



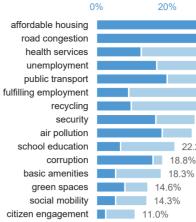
nen Design CC BY 3.0 Man Data © One

Country	2016	2017	2018	2019	1 yr change
HDI	0.935	0.937	0.938	0.944	+0.006
Life expectancy at Birth	83.0	83.1	83.3	83.4	+0.1
Expected years of schooling	22.9	22.1	22.1	22.0	-0.1
Mean years of schooling	12.6	12.7	12.7	12.7	+0.0
GNI per capita (PPP \$)	43,653	43,756	44,097	48,085	+3,988

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authorities	
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	

					LEGEN	D:
•	STRUCTURES					
			Sco	ore		
Health & Safety	0	20	40	60	80	
Basic sanitation meets the needs of the poorest areas						
Recycling services are satisfactory				C		
Public safety is not a problem			(
Air pollution is not a problem			\bigcirc			
Medical services provision is satisfactory						
Finding housing with rent equal to 30% or less of a month	ly salary is not a problem					

Mobility	
Traffic congestion is not a problem	23.9
Public transport is satisfactory	55.7

Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

MODILITY
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to u
The city provides information on traffic congestion through mobile phone

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

18 in 2020

SMART CITY RATING BBB

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A in 2020
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FACTOR RATINGS

BBB STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

CITY MEAN GROUP MAX

67.2

69.0

51.5

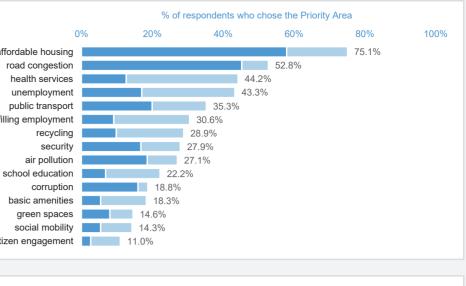
41.4

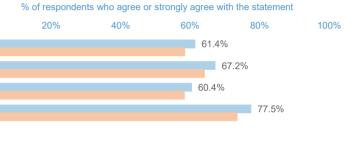
70.0

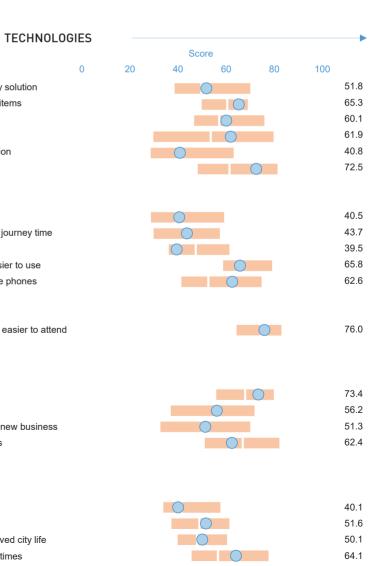
30.0

100

LEGEND: GROUP MEAN CITY







Taipei City

SMART CITY RANKING

Out of 118

8 in 2020

SMART

BACKGROUND INFORMATION

City Population 2,720,000

(UN World Urbanization Prospects)



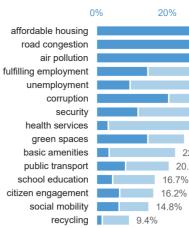
C RV 3 0 Man Data © 0

Country	2016	2017	2018	2019	1 yr change
HDI	0.903	0.907	0.911	0.916	+0.005
Life expectancy at Birth	80.0	80.4	80.7	80.9	+0.2
Expected years of schooling	16.6	16.6	16.5	16.5	+0.0
Mean years of schooling	12.0	12.1	12.2	12.3	+0.1
GNI per capita (PPP \$)	46,054	47,144	49,403	52,573	+3,170

PRIORITY AREAS

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0%

ATTITUDES

You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime					
You are comfortable with face recognition technologies to lower crime					
You feel the availability of online information has increased your trust in authorities					
The according of some days to day according the tax whet are not	_				
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)					
LEGEND: GROUP MEAN CITY					

LEGEND: Ocr MIN STRUCTURES -Score 80 100 0 20 40 60 Health & Safety 80.6 Basic sanitation meets the needs of the poorest areas \bigcirc 83.6 Recycling services are satisfactory 69.4 Public safety is not a problem 41.8 Air pollution is not a problem 86.2 Medical services provision is satisfactory Finding housing with rent equal to 30% or less of a monthly salary is not a problem 34.4 Mobility 24.1 Traffic congestion is not a problem Public transport is satisfactory 64.8 Activities 61.2 Green spaces are satisfactory

	01.2
Cultural activities (shows, bars, and museums) are satisfactory	72.6
Opportunities (Work & School)	
Employment finding services are readily available	66.7
Most children have access to a good school	62.0
Lifelong learning opportunities are provided by local institutions	71.1
Businesses are creating new jobs	60.7
Minorities feel welcome	62.6
Governance	
Information on local government decisions are easily accessible	67.9
Corruption of city officials is not an issue of concern	43.0
Residents contribute to decision making of local government	62.6
Residents provide feedback on local government projects	65.1

ΤY	MEAN GROUP MAX	
	•	TE
	Health & Safety	
	Online reporting of city maintenance problems provides	a speedy sol
	A website or App allows residents to easily give away up	nwanted item
	Free public wifi has improved access to city services	
	CCTV cameras has made residents feel safer	
	A website or App allows residents to effectively monitor	air pollution
	Arranging medical appointments online has improved a	ccess
	Mobility	

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

C	Inline public access to city finances has reduced corruption
C	Online voting has increased participation
A	n online platform where residents can propose ideas has improved cit
P	Processing Identification Documents online has reduced waiting times

CITY RATING

Δ A in 2020

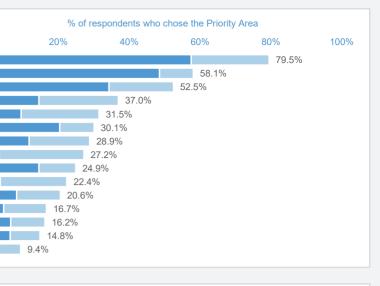
FACTOR RATINGS

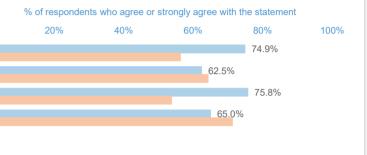
STRUCTURES

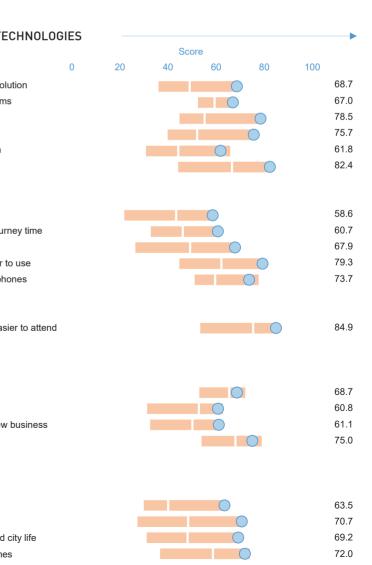
TECHNOLOGIES

GROUP

Ζ







Tallinn

SMART CITY RANKING

56

BACKGROUND INFORMATION

City Population 440,000

(Eurostat)

Governance

Out of 118

59 in 2020

SMART CITY RATING

B

B in 2020

FACTOR

RATINGS

B

STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range

from AAA to D





Country	2016	2017	2018	2019	1 yr change
HDI	0.875	0.879	0.882	0.892	+0.010
Life expectancy at Birth	78.1	78.4	78.6	78.8	+0.2
Expected years of schooling	16.1	16.1	16.1	16.0	-0.1
Mean years of schooling	13.1	13.0	13.0	13.1	+0.1
GNI per capita (PPP \$)	27,915	29,320	30,379	36,019	+5,640

PRIORITY AREAS

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The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing corruption road congestion health services fulfilling employment citizen engagement unemployment recvclina green spaces social mobility security

ΔΤ	тіт	חט	FS
~ ~ ·		~ ~	

			0	/0	
You are wil	ling to concede person	al data in order to imp	prove traffic congestion		
You are co	mfortable with face rec	ognition technologies	to lower crime		
You feel the availability of online information has increased your trust in authorities					
	,		,		
The propor	tion of your day-to-day	payment transactions	that are non-cash		
(% of trans	actions)				
LEGEND:	GROUP MEAN	CITY			

					LEGEND	MIN		TY MEAN	GROUP MAX
▲	STRUCTURES							-	
			Sc	ore					
Health & Safety	0	20	40	60	80	100		Heal	th & Safety
Basic sanitation meets the needs of the poorest areas				(\bigcirc	71.	7	Online	e reporting of city n
Recycling services are satisfactory				(\bigcirc	71.	6	A web	osite or App allows
Public safety is not a problem						79.	8	Free p	oublic wifi has impr
Air pollution is not a problem					\bigcirc	72.	0	CCTV	cameras has mad
Medical services provision is satisfactory					\bigcirc	74.	8	A web	osite or App allows
Finding housing with rent equal to 30% or less of a monthly salary	is not a problem		\bigcirc			33.	1	Arran	ging medical appoi
Mobility								Mob	ility
Traffic congestion is not a problem						26.	2	Car-s	haring Apps have i
Public transport is satisfactory						70.	0	Apps	that direct you to a
								Bicycl	e hiring has reduce
								Online	e scheduling and ti

Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	ł

Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Covernence	



Health & Safety
Online reporting of city maintenance problems provides a speedy solut
A website or App allows residents to easily give away unwanted items
Free public wifi has improved access to city services
CCTV cameras has made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access

Apps have reduced congestion irect you to an available parking space have reduced journey time ng has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

75.4

86.6

78.4

75.2

67.8

70.4

49.7

Online purchasing of tickets to shows and museums has made it easier to attend

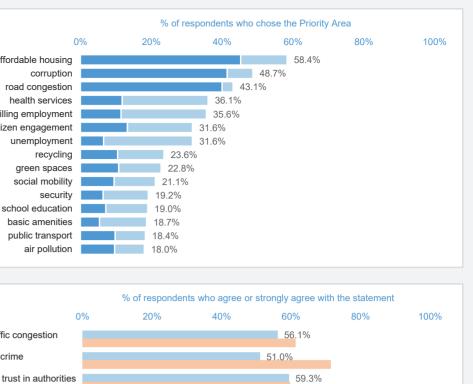
Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

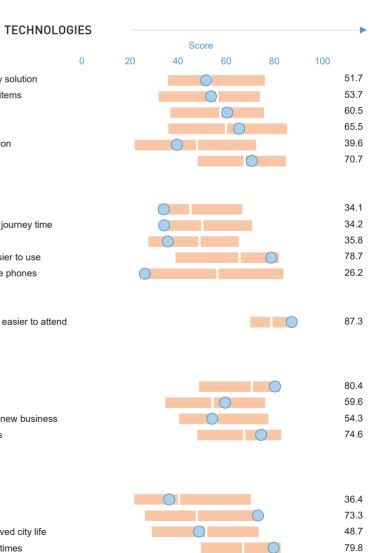
Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved ci
Processing Identification Documents online has reduced waiting times

0%







Tel Aviv



L2

Out of 118

50 in 2020

SMART

CITY RATING

BB

BB in 2020

FACTOR

RATINGS

B

STRUCTURES

BB

TECHNOLOGIES

GROUP

2

All ratings range

from AAA to D

BACKGROUND INFORMATION

City Population 4,180,000

(UN World Urbanization Prospects)



2016	2017	2018	2019	1 yr change
0.902	0.904	0.906	0.919	+0.013
82.5	82.7	82.8	83.0	+0.2
15.9	16.0	16.0	16.2	+0.2
13.0	13.0	13.0	13.0	+0.0
32,428	32,860	33,650	40,187	+6,537
	0.902 82.5 15.9 13.0	0.902 0.904 82.5 82.7 15.9 16.0 13.0 13.0	0.902 0.904 0.906 82.5 82.7 82.8 15.9 16.0 16.0 13.0 13.0 13.0	0.902 0.904 0.906 0.919 82.5 82.7 82.8 83.0 15.9 16.0 16.0 16.2 13.0 13.0 13.0 13.0 13.0

PRIORITY /	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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road congestion affordable housing air pollution public transport security green spaces fulfilling employment corruption recycling basic amenities school education citizen engagement 15.6%

ATTITUDES

			0	
You are wil	ling to concede person	al data in order to imp	rove traffic congestion	
You are co	mfortable with face rec	ognition technologies	to lower crime	
You feel the	e availability of online i	nformation has increas	sed your trust in authorities	
T 1	6			-
(% of trans	tion of your day-to-day	payment transactions	that are non-cash	
(70 01 11010	dollons)			
LEGEND:	GROUP MEAN	CITY		

					LEGEND:	MIN	CITY	MEAN	GROUP MAX
ST	RUCTURES							-	
			Sc	ore					
Health & Safety	0	20	40	60	80	100		Healt	h & Safety
Basic sanitation meets the needs of the poorest areas						48.8		Online	reporting of city
Recycling services are satisfactory						60.8		A webs	ite or App allows
Public safety is not a problem						49.9		Free pu	ublic wifi has imp
Air pollution is not a problem		(31.9		CCTV	cameras has ma
Medical services provision is satisfactory				(71.6		A webs	ite or App allows
Finding housing with rent equal to 30% or less of a monthly salary is no	t a problem	\bigcirc				22.5		Arrang	ing medical appo
Mobility								Mobil	ity
Traffic congestion is not a problem						15.3		Car-sh	aring Apps have
Public transport is satisfactory			\bigcirc			41.1		Apps th	nat direct you to a
								Bicycle	hiring has reduc
								Online	scheduling and t
								The cit	y provides inform
Activities								Activi	ties
Green spaces are satisfactory				\bigcirc		52.7		Online	purchasing of tic
Cultural activities (shows, bars, and museums) are satisfactory						80.8			
Opportunities (Work & School)								Onno	rtunities (Wo

opportunities (work & School)	
Employment finding services are readily available	61.4
Most children have access to a good school	66.1
Lifelong learning opportunities are provided by local institutions	63.9
Businesses are creating new jobs	67.1
Minorities feel welcome	46.7
Governance	
Information on local government decisions are easily accessible	59.0
Corruption of city officials is not an issue of concern	39.8
Residents contribute to decision making of local government	43.7
Residents provide feedback on local government projects	53.3

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access Mobility

Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to u
The city provides information on traffic congestion through mobile phone

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

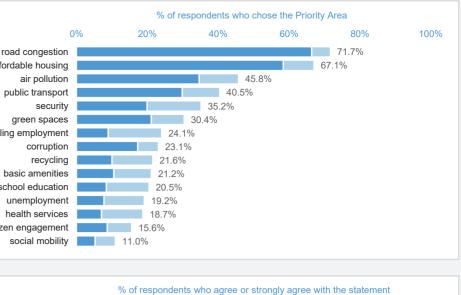
Opportunities (Work & School)

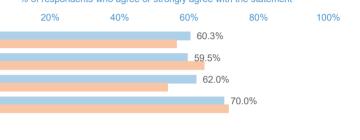
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

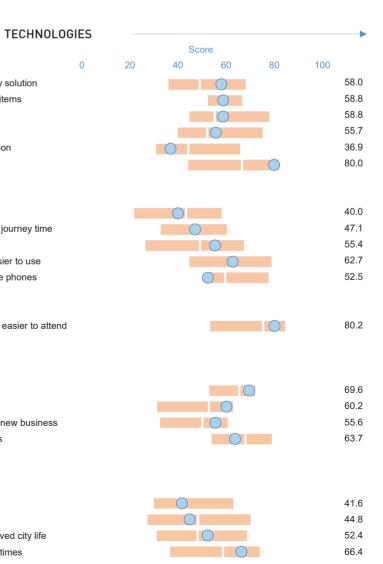
Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

0%







The Hague

SMART CITY RANKING

23

BACKGROUND INFORMATION

City Population 770,000

(Eurostat)

Out of 118

28 in 2020

SMART CITY RATING BBB BBB in 2020

FACTOR RATINGS

P STRUCTURES

BBB

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Polanc

p	tiles	by	Stamen	Design	СС	ΒY	3.0	Мар	Data	C	OpenStreetMa

Country	2016	2017	2018	2019	1 yr change
HDI	0.929	0.932	0.934	0.944	+0.010
Life expectancy at Birth	81.9	82.0	82.1	82.3	+0.2
Expected years of schooling	18.0	18.0	18.0	18.5	+0.5
Mean years of schooling	12.2	12.2	12.2	12.4	+0.2
GNI per capita (PPP \$)	47,008	48,994	50,013	57,707	+7,694

PRIORITY AREAS

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0% affordable housing security health services road congestion basic amenities school education green spaces air pollution public transport recycling fulfilling employment 14.8%

ATTITUDES

	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	s
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

CITY MEAN GROUP MAX Health & Safety Online reporting of city maintenance problems provides a speedy solution

A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

52.3

59.9

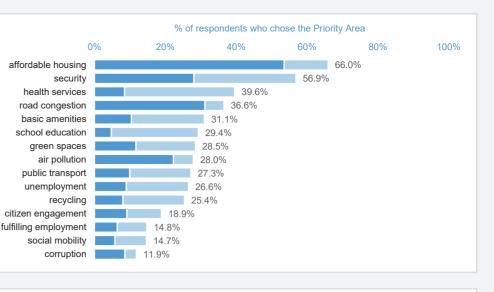
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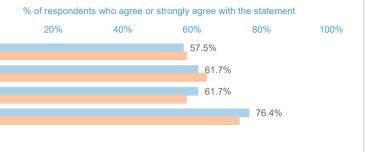
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

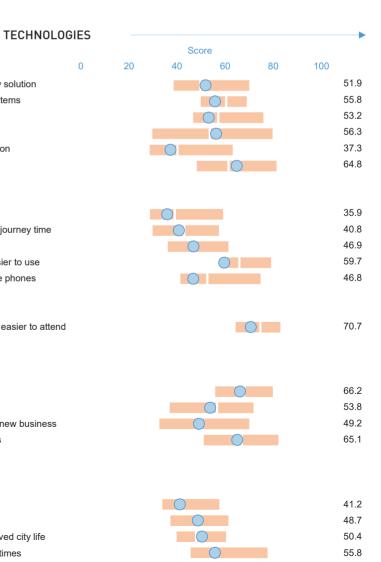
				LEGEND:	MIN
STRUCTURES					
		Sco	ore		
Health & Safety 0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas					67.4
Recycling services are satisfactory			\bigcirc		67.8
Public safety is not a problem			\bigcirc		54.8
Air pollution is not a problem					40.4
Medical services provision is satisfactory				\bigcirc	76.1
Finding housing with rent equal to 30% or less of a monthly salary is not a problem					30.3
Mobility					
Traffic congestion is not a problem		\bigcirc			34.8
Public transport is satisfactory		-			70.4
Activities					
Green spaces are satisfactory					65.4
Cultural activities (shows, bars, and museums) are satisfactory				\bigcirc	76.9
Opportunities (Work & School)					
Employment finding services are readily available					68.4
Most children have access to a good school				\bigcirc	76.6
ifelong learning opportunities are provided by local institutions					62.4
Businesses are creating new jobs			\bigcirc		63.8
Minorities feel welcome			\bigcirc		59.8
Governance					
Soverhance					
nformation on local government decisions are easily accessible			\bigcirc		60.4

Residents contribute to decision making of local government

Residents provide feedback on local government projects







Tianjin



70

Out of 118

63 in 2020

BACKGROUND INFORMATION

City Population 13,590,000

. Changchun (UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRIORITY AREAS	
----------------	--

77.1

78.3

70.1

72.6

78.8

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0% air pollution road congestion affordable housing health services fulfilling employment corruption basic amenities security school education social mobility green spaces unemployment 15.1%

ATTITUDES	0%
You are willing to concede personal data in order to improve traffic congestion	
You are comfortable with face recognition technologies to lower crime	
You feel the availability of online information has increased your trust in authoritie	s
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)	
LEGEND: GROUP MEAN CITY	

					LEGEND	: MIN
S ⁻	TRUCTURES					
			Sc	ore		
lealth & Safety	0	20	40	60	80	100
Basic sanitation meets the needs of the poorest areas					\bigcirc	80
Recycling services are satisfactory						78
Public safety is not a problem					\bigcirc	74
ir pollution is not a problem				\bigcirc		5
ledical services provision is satisfactory						7
inding housing with rent equal to 30% or less of a monthly salary is r	not a problem			\bigcirc		62
4 - 5 111						
Aobility					_	5
raffic congestion is not a problem				\bigcirc		5

		The city provides
Activities		Activities
Green spaces are satisfactory	78.1	Online purchasing
Cultural activities (shows, bars, and museums) are satisfactory	81.8	

Opportunities (Work & School) Employment finding services are readily available Most children have access to a good school \bigcirc Lifelong learning opportunities are provided by local institutions Businesses are creating new jobs \bigcirc Minorities feel welcome

Governance	
Information on local government decisions are easily accessible	69.6
Corruption of city officials is not an issue of concern	55.7
Residents contribute to decision making of local government	60.1
Residents provide feedback on local government projects	65.7

CITY	MEAN GROUP MAX	
	•	TEC
	Health & Safety	
	Online reporting of city maintenance problems provides a speed	y soluti
	A website or App allows residents to easily give away unwanted	items
	Free public wifi has improved access to city services	
	CCTV cameras has made residents feel safer	
	A website or App allows residents to effectively monitor air pollut	ion
	Arranging medical appointments online has improved access	
	Mobility	

hobidity
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journ
Bicycle hiring has reduced congestion
Online scheduling and ticket sales has made public transport easier to
The city provides information on traffic congestion through mobile pho

ing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

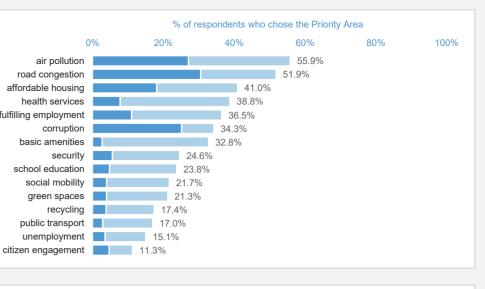
CCC STRUCTURES

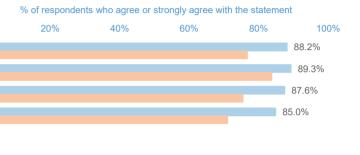
CCC

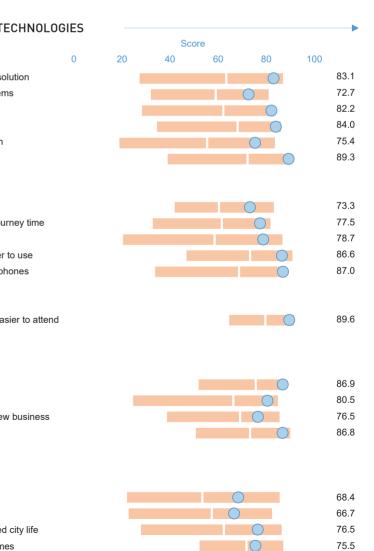
TECHNOLOGIES

GROUP

4







Tokyo

SMART CITY RANKING

84

Out of 118

79 in 2020

SMART

CITY RATING

CCC

BACKGROUND INFORMATION

(UN World Urbanization Prospects)

City Population 37,390,000

iles by Stamen Design CC BY 3.0 Map Data © Open

Score

60

 \bigcirc

40

try	2016	2017	2018	2019	1 yr change
	0.910	0.913	0.915	0.919	+0.004
pectancy at Birth	84.1	84.3	84.5	84.6	+0.1
ed years of schooling	15.2	15.2	15.2	15.2	+0.0
ears of schooling	12.7	12.8	12.8	12.9	+0.1
r capita (PPP \$)	39,407	40,343	40,799	42,932	+2,133
vears of schooling	12.7	12.8	12.8	12.9	

STRUCTURES

0

20

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

health services basic amenities affordable housing security road congestion school education public transport air pollution unemployment fulfilling employment citizen engagement corruption green spaces

ATTITUDES

CITY MEAN

LEGEND:

80

MIN

100

68.2

63.8

59.6

ATTITUDES	0%					
You are willing to concede personal data in order to improve traffic congestion						
You are comfortable with face recognition technologies to lower crime						
You feel the availability of online information has increased your trust in authorities						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)						
LEGEND: GROUP MEAN CITY						

CCC in 2020	
000 111 2020	
	Health & Safety
	Basic sanitation meets the needs of the poorest areas
	Recycling services are satisfactory
FACTOR	Public safety is not a problem
RATINGS	Air pollution is not a problem
NATINO J	Medical services provision is satisfactory

B STRUCTURES

CCC

TECHNOLOGIES

GROUP

9 Z

All ratings range from AAA to D

Air pollution is not a problem	42.9
Medical services provision is satisfactory	68.0
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	43.8
Mobility	
Traffic congestion is not a problem	34.4
Public transport is satisfactory	69.6
Activities	
Green spaces are satisfactory	41.0
Cultural activities (shows, bars, and museums) are satisfactory	62.5
Opportunities (Work & School)	
Employment finding services are readily available	53.6
Most children have access to a good school	53.8
Lifelong learning opportunities are provided by local institutions	57.4
Businesses are creating new jobs	46.7
Minorities feel welcome	37.0
Governance	
Information on local government decisions are easily accessible	51.0
Corruption of city officials is not an issue of concern	33.5
Residents contribute to decision making of local government	38.8
Residents provide feedback on local government projects	36.7

Heal	lth	&	Safety	

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

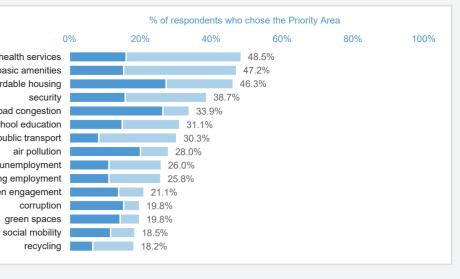
Online purchasing of tickets to shows and museums has made it easier to attend

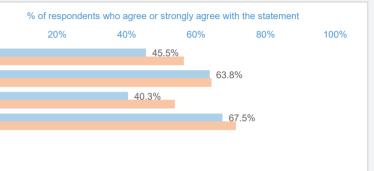
Opportunities (Work & School)

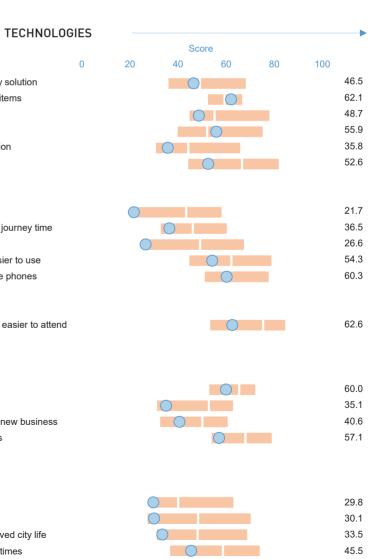
Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new h
The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Toronto

SMART CITY RANKING

36

Out of 118

30 in 2020

SMART

CITY

RATING

BACKGROUND INFORMATION

Residents contribute to decision making of local government

Residents provide feedback on local government projects

City Population 6,200,000

ON 6 (UN World Urbanization Prospects) MO

Country	2016	2017	2018	2019	1 yr change
HDI	0.920	0.921	0.922	0.929	+0.007
Life expectancy at Birth	82.1	82.2	82.3	82.4	+0.1
Expected years of schooling	16.1	16.1	16.1	16.2	+0.1
Mean years of schooling	13.3	13.3	13.3	13.4	+0.1
GNI per capita (PPP \$)	42,691	43,496	43,602	48,527	+4,925

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing road congestion health services unemployment air pollution public transport fulfilling employment security school education corruption basic amenities 16.3% green spaces 13.8% social mobility 12.7%

ATTITUDES	0%				
You are willing to concede personal data in order to improve traffic congestion					
You are comfortable with face recognition technologies to lower crime					
You feel the availability of online information has increased your trust in authorities					
The proportion of your day-to-day payment transactions that are non-cash					
(% of transactions)					
LEGEND: GROUP MEAN CITY					

RR									
					LE	EGEND:	MIN	CITY	MEAN GROUP MAX
BBB in 2020	STRUCTURES								•
			S	core					
	Health & Safety 0	20	40	60	80	1	00		Health & Safety
	Basic sanitation meets the needs of the poorest areas						68.1		Online reporting of city maintenance problems provides a sp
	Recycling services are satisfactory				0		73.3		A website or App allows residents to easily give away unwar
FACTOR	Public safety is not a problem			\bigcirc			51.5		Free public wifi has improved access to city services
RATINGS	Air pollution is not a problem						42.8		CCTV cameras has made residents feel safer
10/111100	Medical services provision is satisfactory			\bigcirc)		66.7		A website or App allows residents to effectively monitor air p
	Finding housing with rent equal to 30% or less of a monthly salary is not a problem						23.5		Arranging medical appointments online has improved acces
BBB	Mobility								Mobility
	Traffic congestion is not a problem						19.7		Car-sharing Apps have reduced congestion
STRUCTURES	Public transport is satisfactory						53.3		Apps that direct you to an available parking space have redu
									Bicycle hiring has reduced congestion
									Online scheduling and ticket sales has made public transpor
BB									The city provides information on traffic congestion through n
	Activities								Activities
TECHNOLOGIES	Green spaces are satisfactory			\bigcirc			67.7		Online purchasing of tickets to shows and museums has ma
	Cultural activities (shows, bars, and museums) are satisfactory				C		81.0		
	Opportunities (Work & School)								Opportunities (Work & School)
	Employment finding services are readily available						63.8		Online access to job listings has made it easier to find work
GROUP	Most children have access to a good school				\bigcirc		70.4		IT skills are taught well in schools
	Lifelong learning opportunities are provided by local institutions				\bigcirc		70.6		Online services provided by the city has made it easier to sta
2	Businesses are creating new jobs			\bigcirc			59.7		The current internet speed and reliability meet connectivity n
	Minorities feel welcome)		67.2		
	Governance								Governance
	Information on local government decisions are easily accessible			\bigcirc			66.9		Online public access to city finances has reduced corruption
	Corruption of city officials is not an issue of concern			\bigcirc			52.3		Online voting has increased participation

All ratings range from AAA to D



59.7
67.2
66.9
52.3
55.3
60.6

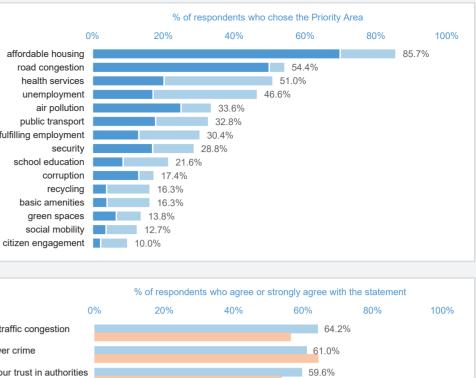
TEC
lth & Safety
e reporting of city maintenance problems provides a speedy solut
bsite or App allows residents to easily give away unwanted items
public wifi has improved access to city services
V cameras has made residents feel safer
bsite or App allows residents to effectively monitor air pollution
nging medical appointments online has improved access
dita

educed journey time port easier to use n mobile phones

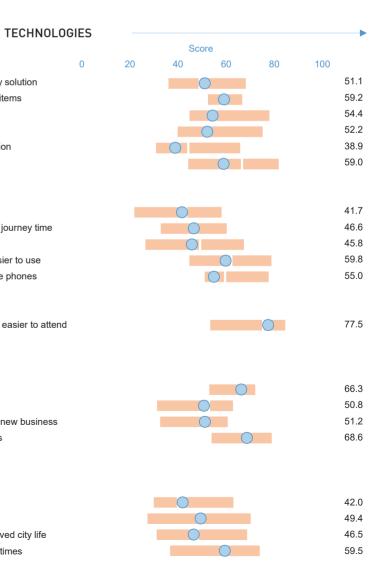
made it easier to attend

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new be
The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times







Vancouver

SMART CITY RANKING

33

Out of 118

BACKGROUND INFORMATION

City Population 2,580,000

(UN World Urbanization Prospects)

19 in 2020



BB

A in 2020

FACTOR

RATINGS

BBB

STRUCTURES

BB

TECHNOLOGIES

GROUP

2



Country	2016	2017	2018	2019	1 yr change
HDI	0.920	0.921	0.922	0.929	+0.007
Life expectancy at Birth	82.1	82.2	82.3	82.4	+0.1
Expected years of schooling	16.1	16.1	16.1	16.2	+0.1
Mean years of schooling	13.3	13.3	13.3	13.4	+0.1
GNI per capita (PPP \$)	42,691	43,496	43,602	48,527	+4,925

PRIORITY AREAS	F	PRI	OR	ITY	AF	REAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

0% affordable housing health services road congestion unemployment public transport security fulfilling employment corruption air pollution school education 20.5% green spaces 15.3% citizen engagement 14.9% social mobility 14.5%

ATTITUDES

ATTITUDES	0%								
You are willing to concede personal data in order to improve traffic congestion									
You are comfortable with face recognition technologies to lower crime									
You feel the availability of online information has increased your trust in authorities									
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)									
LEGEND: GROUP MEAN CITY									

					LEGEN	D: MIN		CITY	MEAN	GROUP MAX
STRUCTURE	S								-	
			Sc	ore						
Health & Safety	0	20	40	60	80	100			Healt	h & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc			58.5		Online	reporting of city maintenance pr
Recycling services are satisfactory					\bigcirc		80.0		A webs	ite or App allows residents to ea
Public safety is not a problem				\bigcirc			52.5		Free pu	blic wifi has improved access to
Air pollution is not a problem				0			52.6		CCTV o	cameras has made residents fee
Medical services provision is satisfactory							64.4		A webs	ite or App allows residents to eff
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc					20.5		Arrangi	ng medical appointments online
Mobility									Mobil	ity
Traffic congestion is not a problem		\bigcirc					25.7		Car-sha	aring Apps have reduced conge
Public transport is satisfactory				\bigcirc			59.5		Apps th	at direct you to an available par
									Bicycle	hiring has reduced congestion
									Online	scheduling and ticket sales has
									The city	provides information on traffic
Activities									Activi	ties
Green spaces are satisfactory					\bigcirc		76.4		Online	purchasing of tickets to shows a
Cultural activities (shows, bars, and museums) are satisfactory					\bigcirc		76.1			

Opportunities (Work & School)

Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	

problems provides a speedy solution easily give away unwanted items to city services eel safer effectively monitor air pollution ne has improved access

estion arking space have reduced journey time s made public transport easier to use c congestion through mobile phones

and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new
The current internet speed and reliability meet connectivity needs

Governance

66.9

75.3

70.1

60.8

65.6

63.0

46.6

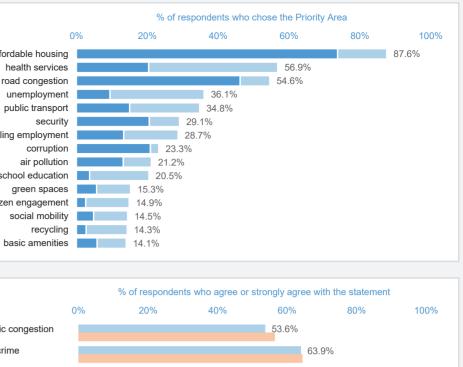
56.5

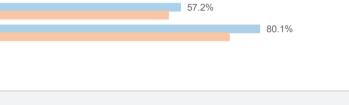
65.3

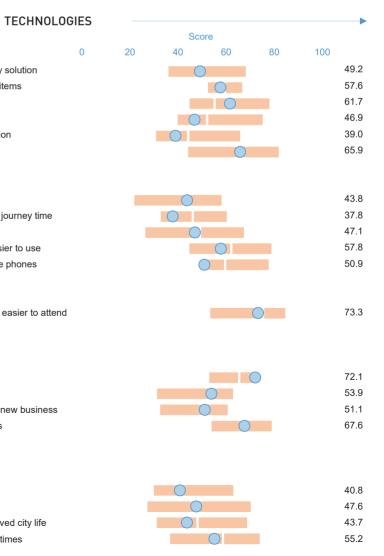
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

All ratings range

from AAA to D







SMART CITY RANKING

Out of 118

25 in 2020

BACKGROUND INFORMATION

City Population 1 930 000

Health & Safety

Recycling services are satisfactory

Medical services provision is satisfactory

Public safety is not a problem

Air pollution is not a problem

Basic sanitation meets the needs of the poorest areas

Belarus (UN World Urbanization Prospects)

Country	2016	2017	2018	2019	1 yr change
HDI	0.909	0.912	0.914	0.922	+0.008
Life expectancy at Birth	81.3	81.3	81.4	81.5	+0.1
Expected years of schooling	16.1	16.3	16.3	16.1	-0.2
Mean years of schooling	12.6	12.6	12.6	12.5	-0.1
GNI per capita (PPP \$)	44,621	45,375	46,231	56,197	+9,966

STRUCTURES

0

20

Score

60

40

80

100

84.6

86.1

68.5

58.0

82.5

29.6

39.3

77.7

73.1

86.7

66.9

67.9

72.3

66.4

60.3

60.4

45.0

50.1

53.3

PRIORITY	AREAS
----------	-------

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing unemployment road congestion security air pollution corruption school education citizen engagement health services areen spaces public transport 13.8%

0%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction LEGEND: GROUP MEAN CITY

LEGEND:

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING BBB

FACTOR RATINGS

BBB in 2020

Δ STRUCTURES

BB

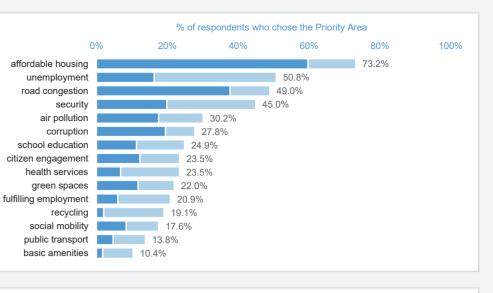
TECHNOLOGIES

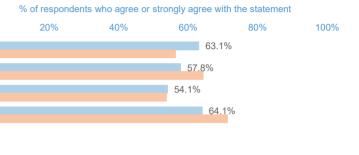
GROUP

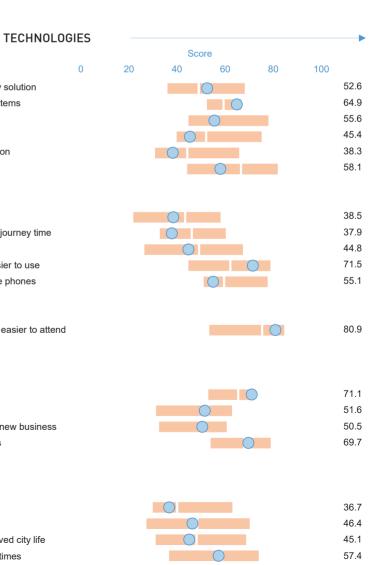
Ζ

Finding housing with rent equal to 30% or less of a monthly salary is not a problem	
Mobility	
Traffic congestion is not a problem	
Public transport is satisfactory	0
Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	
Minorities feel welcome	
Governance	
Information on local government decisions are easily accessible	
Corruption of city officials is not an issue of concern	
Residents contribute to decision making of local government	
Residents provide feedback on local government projects	\bigcirc









Warsaw

SMART CITY RANKING

75

Out of 118

55 in 2020

BACKGROUND INFORMATION

City Population 1,780,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.864	0.868	0.872	0.880	+0.008
Life expectancy at Birth	78.1	78.3	78.5	78.7	+0.2
Expected years of schooling	16.4	16.4	16.4	16.3	-0.1
Mean years of schooling	12.3	12.3	12.3	12.5	+0.2
GNI per capita (PPP \$)	25,042	26,182	27,626	31,623	+3,997

PR	IORITY	' AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.

affordable housing health services air pollution fulfilling employment road congestion security basic amenities areen spaces public transport recycling corruption school education

Δ.	гт	ITI	П	١FS
A				JE3

			0,	%
You are will	ing to concede person	al data in order to imp	prove traffic congestion	
You are cor	nfortable with face rec	ognition technologies	to lower crime	
You feel the	e availability of online in	nformation has increas	sed your trust in authorities	
The proport (% of transa	ion of your day-to-day actions)	payment transactions	that are non-cash	
LEGEND:	GROUP MEAN	CITY		

			LEGEN	D: MIN	CITY MEAN GROUP MAX
					TEC
	Sc	ore			
20	40	60	80	100	Health & Safety
		\bigcirc		62.6	Online reporting of city maintenance problems provides a speedy solution
				55.6	A website or App allows residents to easily give away unwanted items
		\bigcirc		61.4	Free public wifi has improved access to city services
				27.9	CCTV cameras has made residents feel safer
				45.0	A website or App allows residents to effectively monitor air pollution
				27.1	Arranging medical appointments online has improved access

29.4

65.0

67.2

76.5

66.8

65.6

70.8

67.9

52.8

62.6

37.2

50.6

61.6

		L	11		
м	0	n	ιl	т	Ŧ١
	v	D.	ιu		•

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new b
The current internet speed and reliability meet connectivity needs

Governance

ooverhance
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC B in 2020

FACTOR RATINGS

CCC STRUCTURES

CCC

TECHNOLOGIES

GROUP

3

All ratings range from AAA to D

Air pollution is not a problem Medical services provision is satisfactory	
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	
Mobility	
Traffic congestion is not a problem	
Public transport is satisfactory	
Activities	
Green spaces are satisfactory	
Cultural activities (shows, bars, and museums) are satisfactory	
Opportunities (Work & School)	
Employment finding services are readily available	
Most children have access to a good school	
Lifelong learning opportunities are provided by local institutions	
Businesses are creating new jobs	

STRUCTURES

0

Information on local government decisions are easily accessible Corruption of city officials is not an issue of concern Residents contribute to decision making of local government Residents provide feedback on local government projects	Governance	
Residents contribute to decision making of local government	Information on local government decisions are easily accessible	
	Corruption of city officials is not an issue of concern	
Residents provide feedback on local government projects	Residents contribute to decision making of local government	
	Residents provide feedback on local government projects	

blem	

20

\bigcirc			

	\bigcirc	

\bigcirc	

Health & Safety

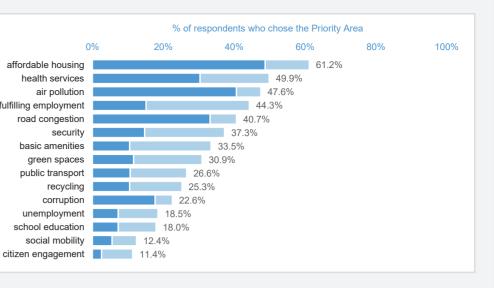
Minorities feel welcome

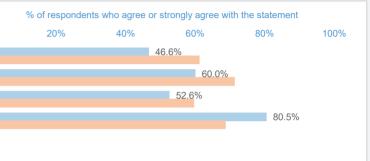
Governance

Recycling services are satisfactory

Public safety is not a problem

Basic sanitation meets the needs of the poorest areas







Washington D.C.

SMART CITY RANKING

35

Out of 118

12 in 2020

SMART

CITY

RATING

BB

A in 2020

FACTOR

RATINGS

BBB

STRUCTURES

BB

TECHNOLOGIES

GROUP

2

BACKGROUND INFORMATION

City Population 5,320,000

(UN World Urbanization Prospects)



1 yr change	2019	2018	2017	2016	Country
+0.006	0.926	0.920	0.919	0.919	HDI
+0.0	78.9	78.9	78.9	78.9	Life expectancy at Birth
+0.0	16.3	16.3	16.3	16.3	Expected years of schooling
+0.0	13.4	13.4	13.4	13.4	Mean years of schooling
+7,686	63,826	56,140	55,351	54,443	GNI per capita (PPP \$)
	16.3 13.4	16.3 13.4	16.3 13.4	16.3 13.4	Expected years of schooling Mean years of schooling

PRIORITY	AREAS
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From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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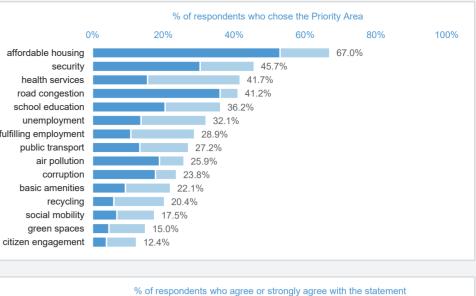
0% affordable housing security health services road congestion school education unemployment fulfilling employment public transport air pollution corruption basic amenities green spaces 15.0%

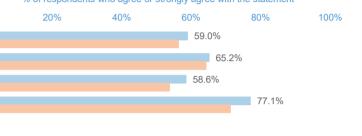
ATTITUDES

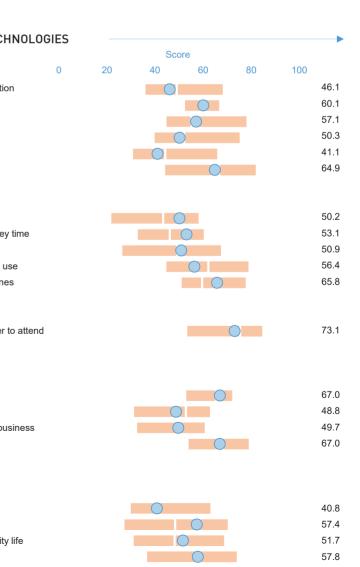
0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

STRUCTURES						•	TECHNOLO
		Sco	ore				
Health & Safety 0	20	40	60	80	100		Health & Safety
Basic sanitation meets the needs of the poorest areas					57.	7	Online reporting of city maintenance problems provides a speedy solution
Recycling services are satisfactory					67.	1	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		\bigcirc			39.	1	Free public wifi has improved access to city services
Air pollution is not a problem					41.	6	CCTV cameras has made residents feel safer
Aedical services provision is satisfactory					61.	6	A website or App allows residents to effectively monitor air pollution
inding housing with rent equal to 30% or less of a monthly salary is not a problem		\bigcirc			36.)	Arranging medical appointments online has improved access
Mobility							Mobility
raffic congestion is not a problem					29.4	1	Car-sharing Apps have reduced congestion
Public transport is satisfactory			\bigcirc		57.	6	Apps that direct you to an available parking space have reduced journey time
							Bicycle hiring has reduced congestion
							Online scheduling and ticket sales has made public transport easier to use
							The city provides information on traffic congestion through mobile phones
Activities							Activities
Green spaces are satisfactory			\bigcirc		67.	5	Online purchasing of tickets to shows and museums has made it easier to atten
Cultural activities (shows, bars, and museums) are satisfactory					83.	1	
Opportunities (Work & School)							Opportunities (Work & School)
Employment finding services are readily available					64.	1	Online access to job listings has made it easier to find work
Nost children have access to a good school					54.9	9	IT skills are taught well in schools
ifelong learning opportunities are provided by local institutions					65.	1	Online services provided by the city has made it easier to start a new business
Businesses are creating new jobs			\bigcirc		66.	5	The current internet speed and reliability meet connectivity needs
/linorities feel welcome			\bigcirc		63.	6	
Governance							Governance
nformation on local government decisions are easily accessible					70.	7	Online public access to city finances has reduced corruption
Corruption of city officials is not an issue of concern		\bigcirc			39.3	2	Online voting has increased participation
Residents contribute to decision making of local government			\bigcirc		55.	5	An online platform where residents can propose ideas has improved city life
Residents provide feedback on local government projects					62.	3	Processing Identification Documents online has reduced waiting times







Zaragoza

SMART CITY RANKING

15

BACKGROUND INFORMATION

City Population 670,000

(Eurostat)

Out of 118



48 in 2020

SMART CITY RATING BBB BB in 2020

FACTOR RATINGS

STRUCTURES

BB

TECHNOLOGIES

GROUP

-

L

All ratings range from AAA to D

Corruption of city officials is not an issue of concern

Residents contribute to decision making of local government

Residents provide feedback on local government projects

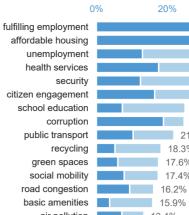


2016	2017	2018	2019	1 yr change
0.888	0.891	0.893	0.904	+0.011
83.1	83.3	83.4	83.6	+0.2
17.8	17.9	17.9	17.6	-0.3
9.8	9.8	9.8	10.3	+0.5
33,379	34,226	35,041	40,975	+5,934
	0.888 83.1 17.8 9.8	0.888 0.891 83.1 83.3 17.8 17.9 9.8 9.8	0.8880.8910.89383.183.383.417.817.917.99.89.89.8	0.8880.8910.8930.90483.183.383.483.617.817.917.917.69.89.89.89.810.3

PRIORITY AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand section of each bar shows the Alignment - the proportion of those respondents who also answered the corresponding survey questions low. A strong Alignment implies that these areas also demand priority attention.



Δ.	тті	τυ	DES
		. •	

45.9

40.5

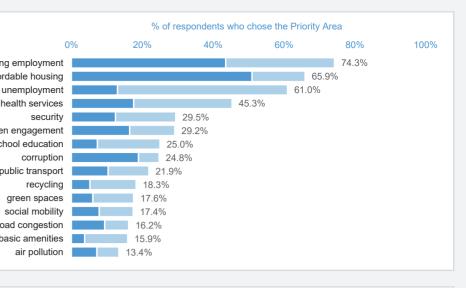
47.6

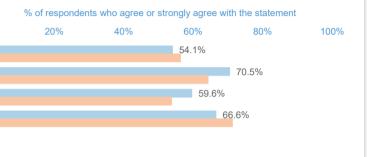
	0%						
You are willing to concede personal data in order to improve traffic congestion							
You are comfortable with face recognition technologies to lower crime							
You feel the availability of online information has increased your trust in author	ities						
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)							
LEGEND: GROUP MEAN CITY							

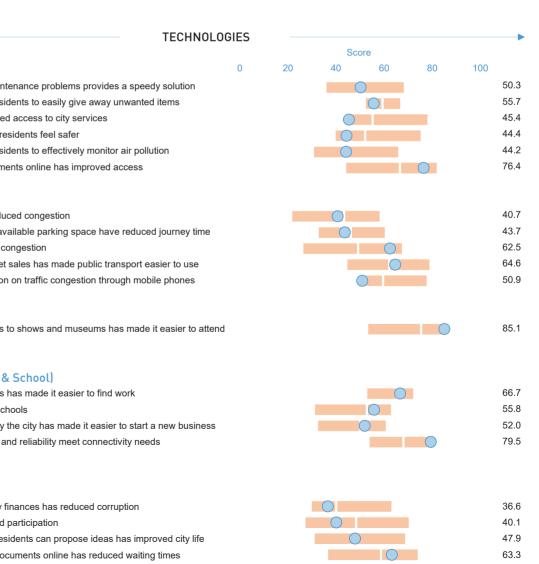
		LEGEND: MIN	CITY MEAN GROUP MAX
STRUCTURES	;		TEC
	Score		
Health & Safety 0	20 40 60	80 100	Health & Safety
Basic sanitation meets the needs of the poorest areas		73.1	Online reporting of city maintenance problems provides a speedy solu
Recycling services are satisfactory		71.4	A website or App allows residents to easily give away unwanted items
Public safety is not a problem		69.8	Free public wifi has improved access to city services
Air pollution is not a problem		55.4	CCTV cameras has made residents feel safer
Medical services provision is satisfactory		67.4	A website or App allows residents to effectively monitor air pollution
Finding housing with rent equal to 30% or less of a monthly salary is not a problem		32.5	Arranging medical appointments online has improved access
Mobility			Mobility
Traffic congestion is not a problem		52.9	Car-sharing Apps have reduced congestion
Public transport is satisfactory		71.0	Apps that direct you to an available parking space have reduced journ
			Bicycle hiring has reduced congestion
			Online scheduling and ticket sales has made public transport easier to
			The city provides information on traffic congestion through mobile pho
Activities			Activities
Green spaces are satisfactory		77.5	Online purchasing of tickets to shows and museums has made it easi
Cultural activities (shows, bars, and museums) are satisfactory		75.0	
Opportunities (Work & School)			Opportunities (Work & School)
Employment finding services are readily available		72.6	Online access to job listings has made it easier to find work
Most children have access to a good school		73.7	IT skills are taught well in schools
Lifelong learning opportunities are provided by local institutions		73.5	Online services provided by the city has made it easier to start a new
Businesses are creating new jobs		47.4	The current internet speed and reliability meet connectivity needs
Minorities feel welcome		60.9	
Governance			Governance
Information on local government decisions are easily accessible		59.8	Online public access to city finances has reduced corruption

and reliability meet connectivity needs

finances has reduced corruption Online voting has increased participation An online platform where residents can propose ideas has improved city life Processing Identification Documents online has reduced waiting times







Zhuhai

SMART CITY RANKING

63

Out of 118

62 in 2020

BACKGROUND INFORMATION

City Population 1,760,000

(UN World Urbanization Prospects)



Country	2016	2017	2018	2019	1 yr change
HDI	0.749	0.753	0.758	0.761	+0.003
Life expectancy at Birth	76.2	76.5	76.7	76.9	+0.2
Expected years of schooling	13.9	13.9	13.9	14.0	+0.1
Mean years of schooling	7.8	7.8	7.9	8.1	+0.2
GNI per capita (PPP \$)	14,311	15,212	16,127	16,057	-70

PRIORITY	ADEAC
PRIURIT	AREAS

From a list of 15 indicators, survey respondents were asked to select 5 that they perceived as the most urgent for their city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

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0% health services fulfilling employment social mobility road congestion air pollution security affordable housing basic amenities corruption public transport green spaces citizen engagement 13.7% school education 9.3%

ATTITUDES

0% You are willing to concede personal data in order to improve traffic congestion You are comfortable with face recognition technologies to lower crime You feel the availability of online information has increased your trust in authorities The proportion of your day-to-day payment transactions that are non-cash (% of transaction

LEGEND: GROUP MEAN CITY

				LEGEND:	MIN	CITY	MEAN GROUP MAX
STRUCTURES					•		4
		Sc	ore				
Health & Safety 0	20	40	60	80	100		Health & Safety
Basic sanitation meets the needs of the poorest areas				\bigcirc	86.2		Online reporting of city
Recycling services are satisfactory				\bigcirc	84.3		A website or App allows
Public safety is not a problem				\bigcirc	82.5		Free public wifi has imp
Air pollution is not a problem				\bigcirc	82.8		CCTV cameras has ma
Medical services provision is satisfactory				\bigcirc	87.2		A website or App allows
Finding housing with rent equal to 30% or less of a monthly salary is not a problem				\bigcirc	81.2		Arranging medical appo
Mobility							Mobility
Traffic congestion is not a problem				\bigcirc	77.1		Car-sharing Apps have
Public transport is satisfactory				\bigcirc	83.3		Apps that direct you to a
							Bicycle hiring has reduc
							Online scheduling and t
							The city provides inform

Activities	
Green spaces are satisfactory	88.6
Cultural activities (shows, bars, and museums) are satisfactory	86.0

Opportunities (Work & School)	
Employment finding services are readily available	86.4
Most children have access to a good school	84.2
Lifelong learning opportunities are provided by local institutions	82.7
Businesses are creating new jobs	84.0
Minorities feel welcome	86.2

Governance 82.5 Information on local government decisions are easily accessible 80.0 \bigcirc Corruption of city officials is not an issue of concern 81.3 Residents contribute to decision making of local government 85.3 Residents provide feedback on local government projects

•	TEC
Health & Safety	
Online reporting of city maintenance problems provides	a speedy solut
A website or App allows residents to easily give away ur	nwanted items
Free public wifi has improved access to city services	
CCTV cameras has made residents feel safer	
A website or App allows residents to effectively monitor	air pollution
Arranging medical appointments online has improved ac	ccess
Mobility	
Car-sharing Apps have reduced congestion	
Apps that direct you to an available parking space have	reduced journe
Pievele biring has reduced congestion	

Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

Governance

Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

SMART CITY RATING CCC CCC in 2020

FACTOR RATINGS

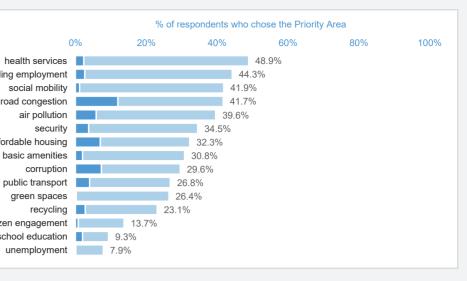
CCC STRUCTURES

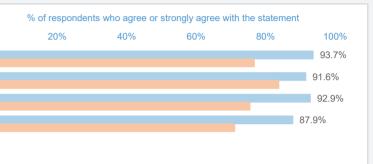
CCC

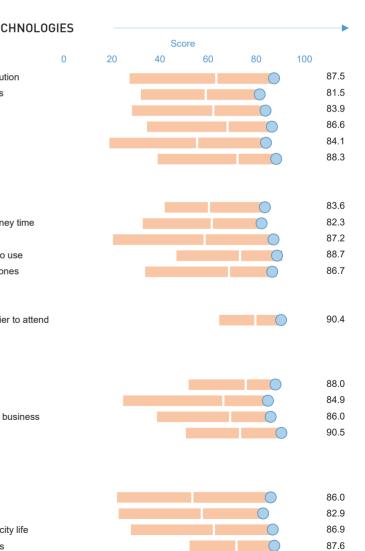
TECHNOLOGIES

GROUP

4







Zurich

SMART CITY RANKING

2

Out of 118

BACKGROUND INFORMATION

City Population 410,000

(Eurostat)

3 in 2020

SMART CITY RATING

ΔΔ

AA in 2020

FACTOR RATINGS

ΔΔΔ STRUCTURES

TECHNOLOGIES

GROUP

1

All ratings range from AAA to D

Residents provide feedback on local government projects

iles	by	Stamen	Design	CC	ΒY	3.0	Мар	Data	C	OpenStreetMap

Country	2016	2017	2018	2019	1 yr change
HDI	0.943	0.943	0.946	0.955	+0.009
Life expectancy at Birth	83.3	83.5	83.6	83.8	+0.2
Expected years of schooling	16.2	16.2	16.2	16.3	+0.1
Mean years of schooling	13.4	13.4	13.4	13.4	+0.0
GNI per capita (PPP \$)	58,138	57,301	59,375	69,394	+10,019

PRIORITY AREAS

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0% affordable housing road congestion air pollution unemployment security areen spaces recycling fulfilling employment social mobility 16.9% basic amenities 14.8% corruption 12.8% citizen engagement 12.5% health services 11.3%

AT	Τľ	ΤU	DE	S

	0%							
You are willing to concede personal data in order to improve traffic congestion								
You are comfortable with face recognition technologies to lower crime								
You feel the availability of online information	has increased your trust in authorities							
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)								
LEGEND: GROUP MEAN CITY								

LEGEND: MIN CITY MEAN GROUP MAX

Health & Safety

Online reporting of city maintenance problems provides a speedy solution A website or App allows residents to easily give away unwanted items Free public wifi has improved access to city services CCTV cameras has made residents feel safer A website or App allows residents to effectively monitor air pollution Arranging medical appointments online has improved access

Mobility

Car-sharing Apps have reduced congestion Apps that direct you to an available parking space have reduced journey time Bicycle hiring has reduced congestion Online scheduling and ticket sales has made public transport easier to use The city provides information on traffic congestion through mobile phones

Activities

Online purchasing of tickets to shows and museums has made it easier to attend

Opportunities (Work & School)

Online access to job listings has made it easier to find work IT skills are taught well in schools Online services provided by the city has made it easier to start a new business The current internet speed and reliability meet connectivity needs

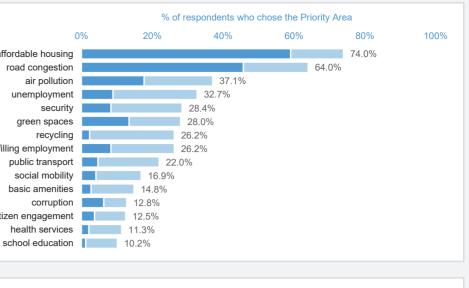
Governance

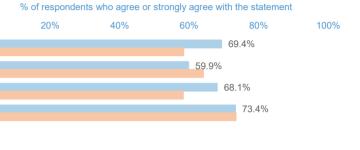
73.6

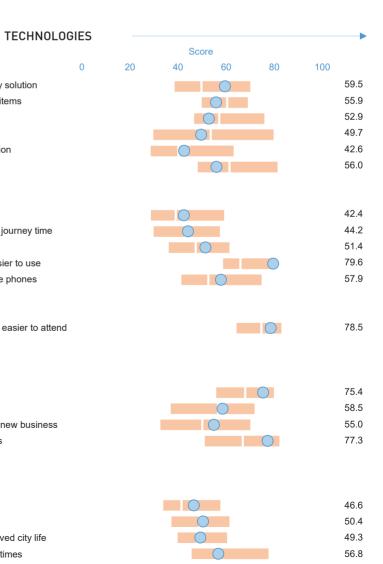
Online public access to city finances has reduced corruption
Online voting has increased participation
An online platform where residents can propose ideas has improved cit
Processing Identification Documents online has reduced waiting times

STRUCTURES							
			Sc				
Health & Safety	0	20	40	60	80	100	
Basic sanitation meets the needs of the poorest areas					\bigcirc		83
Recycling services are satisfactory							8
Public safety is not a problem					\bigcirc		7
Air pollution is not a problem				\bigcirc			5
Medical services provision is satisfactory			- I				8
Finding housing with rent equal to 30% or less of a monthly salary is not a problem	n						3(
Mobility							
Traffic congestion is not a problem							4
Public transport is satisfactory					\bigcirc		7
Green spaces are satisfactory Cultural activities (shows, bars, and museums) are satisfactory					0		7 8
Opportunities (Work & School)							_
Employment finding services are readily available							74
Most children have access to a good school							8
Lifelong learning opportunities are provided by local institutions			_				7
				(7
Businesses are creating new jobs							~
Businesses are creating new jobs Minorities feel welcome				C)		6
Minorities feel welcome Governance)		
Minorities feel welcome Governance Information on local government decisions are easily accessible							7(
Minorities feel welcome Governance							

-	Count
	HDI
	Life exp
	Expecte







A collaboration between:



