“I have never felt salvation in nature. I love cities above all.”

— Michelangelo

“The mark of a great city isn’t how it treats its special places—everybody does that right—but how it treats its ordinary ones.”

— Aaron M. Renn
(The Urban State of Mind: Meditations on the City)
IMD Smart City Index 2023

Introduction
A New Beginning: A More Precise, Relevant and Impactful Smart City Index
Welcome to the 2023 edition of the IMD Smart City Index Report (SCI Report).

This edition marks a significant step in the history of this report, which has now acquired global recognition and respect. After a break in 2022, three major changes have been brought to the Index and accompanying report.

1. The World Smart Sustainable Cities Organization (WeGO) has joined us as a knowledge partner;
2. The number of cities in the SCI has significantly increased; and
3. The SCI’s methodology has been improved thanks to the acquisition of new data.

Each of these changes has significant consequences. They make us even more enthusiastic about the impact and relevance of the Index, and about its future. Here’s why:

A New Knowledge Partner

The World Smart Sustainable Cities Organization (WeGO), is a membership-based international association of local governments, smart tech solution providers, and institutions committed to the transformation of cities into smart, sustainable cities through facilitating public-private partnerships (PPP). It was founded by 50 member cities in 2010 as the World e-Governments Organization, hence the acronym. However, as the concept of “smart cities” continued evolving, during the 4th General Assembly (2017) WeGO expanded its mandate and changed its name to the World Smart Sustainable Cities Organization.

For its members, WeGO serves as an international platform to improve the quality of life, innovate in the delivery of public services, and strengthen regional competitiveness. The WeGO network currently includes over 200 cities, 26 are covered by this edition of the SCI index and report.

WeGO as a partner strives to support the development of human-centered cities and progress in seeking solutions to smart city challenges. WeGO’s vision is set in the direction of mitigating the digital divide by providing smart cities with a guideline through the smart city index.

From 118 to 141 Cities

The coverage of the SCI and SCI Report has increased by 20 per cent to include 141 cities (previously 118 were measured), distributed across the world. This reflects the SCI’s ongoing efforts to be a global index, and to facilitate the benchmarking of all kinds of cities, whatever their size or level of development. This year, we have made a concerted effort to include more capital cities from all continents, while keeping an eye on ‘second-tier cities’ showing signs of dynamism, and an appetite for designing and implementing innovative solutions to their key problems.
New Data at City Level

The SCI’s methodology has been improved thanks to the acquisition of new data at the city level. The SCI was designed as a tool for action. Since it is based on people’s perceptions (surveys), it is critically important that the answers collected are calibrated to the specific context of the cities studied.

For the 2021 Index and all prior editions, we relied on country-level Human Development Index (HDI) data provided by the United Nations Development Programme (UNDP). Throughout the course of 2022, we explored the possibility of using city-level HDI data that could provide a more granular (and realistic) vision of the socio-economic environment of specific cities. The new SCI methodology is described in detail below. We believe that time invested in furthering our methodological approach was incredibly well spent and are excited by the applicability of the results obtained.
Introduction: A More Precise, Relevant and Impactful Smart City Index

The SCI's value rests greatly on its ability to generate time series, and this is where citizens and decision makers can track the evolution of their city’s performance over time, and compare it with that of other cities around the world. It follows that deciding to change an index’s methodology isn’t easy and often comes at the cost of breaking the continuity necessary to build such a series. We are proud to announce that in the case of the SCI, we have been able to not only improve the methodology but also to preserve our users’ ability to work on time series. We did so by ‘building back’ the data and rankings that would have been those of the cities covered if the new methodology had been applied at the time. This means that the rankings of the SCI 2023 should not be compared to those published in previous SCI reports as they are the result of different approaches. However, comparisons across time can be made and used with recourse to the tables included in this report that reflect the 2019-2023 rankings of the cities covered using the most recent methodology. See pages 39-40 of this report.

Against the background of these three significant changes, what key messages emerge from this revamped 2023 Index and Report? They can be summarized as follows:

1. The global landscape of smart cities is changing, and lessons can be learned from the experience of “SCI champions” – the top 20.

2. Globally, a new world is shaping up, and changes at the city level are a precious indicator of what the future may hold.
Lessons from the champions: who is in the top 20, and how did they do it?

In 2023, the upper echelons of the SCI comprise the 20 cities in the table below. Rankings prior to 2023 have been adjusted according to the new methodology for the purposes of homogeneity and to allow comparison.

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Several observations can be made by analyzing this list. Most strikingly, out of the top 20, 17 cities have been part of the SCI since its creation. Among those 17, six cities show either a continuous improvement or stability, year-upon-year. These 'super-champions' are: Zurich, Oslo, Singapore, Beijing, Seoul, and Hong Kong.)
A New World is Shaping Up. Cities Tell Us Where to Look

1. Asia and Europe ahead of the pack? Apart from Abu Dhabi and Dubai, all of the cities occupying the top 20 are either in Europe or in Asia-Pacific. The absence of American or African cities is notable. New York ranks 22nd while Cairo (108th) is the leading African city. Medellin (118th) is the leading South American city. The 2023 rankings reflect a growing interest and higher levels of concern about the quality of life that residents are expecting to enjoy in their respective cities. Size is often a handicap rather than an advantage in this regard. This explains why most large metropolises such as Boston (34th) or Paris (46th) rank relatively low in the index, in spite of remarkable progress in a number of key areas such as sustainability and mobility.

2. ‘Second tier’ cities continue to do better than the rest. Although the SCI’s top 20 include 12 capital cities (such as Oslo and Canberra), and several ‘economic capitals’ (like Zurich and Dubai), the picture is different when one looks at the top half of the rankings (1 to 70); a significant number of medium-sized cities show both solid positions and a continuous ability to move up. In Europe, this is the case for Lausanne, Munich and Bilbao, for example, and elsewhere in the world it rings true for Montreal, Mecca and Denver.

3. Smart city strategies are undergoing deep changes. The basic principle that led to the creation of the Smart City Index in 2019 was that if cities wanted to be smarter, they needed to be less technology-centric, and more human-focused. Since then, this way of conceiving the nature and purpose of smart cities has moved closer to being mainstream. Many city officials are now routinely using a variety of different expressions in lieu of ‘smart cities’: ‘open and innovative cities’, ‘inclusive and diverse cities’, ‘sustainable cities’ and ‘citizen-centric cities’ are becoming part of the new labelling of ‘smart cities’ that were. But this is not merely a semantic change; it reflects deep changes in the way smart cities (and cities in general) will be designed and managed. Thanks to its initial design and philosophy, the Smart City Index is emerging as a critical tool to benchmark progress along those new lines. The SCI’s updated methodology will further enhance its relevance as these changes gather momentum.

4. Inclusion and diversity are emerging as key benchmarks for success. An increasing number of cities are deploying new efforts to encourage diversity and inclusion as part of their smart strategies, variously linked to strategies to attract or retain talent, or to pre-existing conditions. Higher levels of tolerance for immigrants and minorities are becoming a marker in the ‘quality of life’ category, and in ‘leaving no one behind’ – a key phrase in defining the future of smart cities. Moreover, cities continue to accept (and, sometimes, seek) new roles, as central governments strive to become more agile through decentralization. Even at the international level, at a time in which many multilateral efforts seem to be losing momentum at the nation-states level, cities and their leaders are becoming more visible. Openness and inter-city collaboration may very well become key components of the next wave of globalization.

Continuing to Improve the SCI

There are different ways to improve the quality of the SCI. Expanding the number of cities studied will always extend the scope of the index. Employing more focused data will improve the accuracy of the index and allow for a meaningful comparison among different qualities of cities. Finally, fine tuning the construction of the ranking improves its relevance as an action tool, and allows for better comparisons between cities. The 2023 SCI makes advances in all three dimensions.

As flagged earlier, the city coverage of the SCI index and report has increased by almost 20 per cent, bringing the total number of smart cities to 141. Using city-specific data for the construction of the Index was the focus of our research in 2022. In its new design, the SCI employs a city-specific measure of the HDI initially produced by the United Nations Development Program (UNDP).

HDI is a composite index that combines information about life expectancy, expected years of schooling and the per capita income of a country’s citizens. Until this year, the SCI used country-level HDI information as a proxy to evaluate the dimensions of health, knowledge and standard of living in each city. The 2023 SCI features city-level HDI, provided by the Global Data Lab. This allows for a more accurate ranking of each city, whilst also allowing readers to compare the performance of any given city to that of the country in which it is found.

Finally, city-level HDI facilitates a more academically rigorous comparison among cities. The 2023 SCI standardizes the performance of a city with the average of the city-HDI and the average of the surveys. This allows for a meaningful classification of a city relative to all other cities covered by the Index.
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For over 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

- **Odete Madureira**  
  WCC Coordinator

- **José Caballero**  
  Senior Economist

- **Marco Pistis**  
  Research Associate

- **Maryam Zargari**  
  Research Associate

- **Alice Tozer**  
  Content Manager
IMD Smart City Index 2023

A Series of Tables Showcasing the Results in Different Ways
IMD Smart City Index 2023: Results
In 2023 City Ranking Order with HDI Context and 2019-2023 Ranking Comparison (2023 Methodology Applied)

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IMD Smart City Index 2023: Results
In 2023 City Ranking Order with HDI Context and 2019-2023 Ranking Comparison (2023 Methodology Applied)

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## IMD Smart City Index 2023: Results

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# IMD Smart City Index 2023: Results

In Alphabetical Order By City with 2023 Deep Dive and 2021 Comparison (2023 Methodology Applied)

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## IMD Smart City Index 2023: Results

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## IMD Smart City Index 2023: Results

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## IMD Smart City Index 2023: Results

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## IMD Smart City Index 2023: Results

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<td>57</td>
<td>58</td>
<td>73</td>
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<td>62</td>
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<td>50</td>
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<tr>
<td>USA</td>
<td>0.921</td>
<td>New York</td>
<td>0.938</td>
<td>34</td>
<td>12</td>
<td>19</td>
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</table>
## IMD Smart City Index 2023: Results

In Alphabetical Order by Country with HDI Context and 2019-2023 Rankings (2023 Methodology Applied)

<table>
<thead>
<tr>
<th>Country</th>
<th>Country HDI</th>
<th>City</th>
<th>City HDI</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2023</th>
</tr>
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<tbody>
<tr>
<td>USA</td>
<td>0.921</td>
<td>Philadelphia</td>
<td>0.923</td>
<td>71</td>
<td>79</td>
<td>85</td>
<td>92</td>
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<td>USA</td>
<td>0.921</td>
<td>Phoenix</td>
<td>0.908</td>
<td>72</td>
<td>77</td>
<td>93</td>
<td></td>
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<tr>
<td>USA</td>
<td>0.921</td>
<td>San Francisco</td>
<td>0.931</td>
<td>28</td>
<td>49</td>
<td>54</td>
<td>68</td>
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<tr>
<td>USA</td>
<td>0.921</td>
<td>Seattle</td>
<td>0.94</td>
<td>31</td>
<td>41</td>
<td>38</td>
<td>55</td>
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<td>USA</td>
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<td>Washington D.C.</td>
<td>0.94</td>
<td>26</td>
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<td>26</td>
<td>39</td>
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<tr>
<td>Vietnam</td>
<td>0.703</td>
<td>Hanoi</td>
<td>0.744</td>
<td>77</td>
<td>82</td>
<td>89</td>
<td>100</td>
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<tr>
<td>Vietnam</td>
<td>0.703</td>
<td>Ho Chi Minh City</td>
<td>0.714</td>
<td>76</td>
<td>86</td>
<td>93</td>
<td>103</td>
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<tr>
<td>Wales</td>
<td>0.929</td>
<td>Cardiff</td>
<td>0.898</td>
<td></td>
<td></td>
<td></td>
<td>94</td>
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<tr>
<td>Yemen</td>
<td>0.455</td>
<td>Sana'a</td>
<td>0.521</td>
<td></td>
<td></td>
<td></td>
<td>140</td>
</tr>
</tbody>
</table>
IMD Smart City Index 2023
A User’s Guide

Smart City Ranking

Smart City Ranking: The Ranking position of the city amongst the 141 cities measured, based upon the Rating and its components.

Group: Each city is assigned to one of four groups, based upon its HDI values.

Smart City Rating and Factor Ratings: The Ratings for each city are calculated from the city's performance relative to the other cities within the group.

The Methodology section provides the exact procedure for these calculations.

The 2021 Ranking and Rating are also shown for the 118 cities included in in the last edition's index (2021).

Background Information

This section presents the Human Development Index (HDI) at the city level taken from the Global Data Lab, and the population of the city as defined through the United Nations World Urbanization Prospects for the majority of cities, or Eurostat for some of European cities.

It also presents the United Nations HDI (country-level - for the parent economy of a given city) and its four components, as well as the city’s position on the map.

Please note: for Taipei City only, the data is calculated using the same methodology and comparable data.

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.

### Background Information

#### City

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>HDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>3,652,029</td>
<td>0.91</td>
</tr>
<tr>
<td>2019</td>
<td>63,016</td>
<td>0.91</td>
</tr>
<tr>
<td>2020</td>
<td>62,574</td>
<td>0.91</td>
</tr>
<tr>
<td>2021</td>
<td>62,574</td>
<td>0.91</td>
</tr>
</tbody>
</table>

#### Country

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life expectancy at birth</td>
<td>77.8</td>
<td>76.0</td>
<td>76.0</td>
<td>76.7</td>
<td>-0.3</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>13.6</td>
<td>14.3</td>
<td>15.7</td>
<td>15.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>14.0</td>
<td>15.1</td>
<td>15.7</td>
<td>15.7</td>
<td>0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>66,912</td>
<td>67,462</td>
<td>62,936</td>
<td>62,574</td>
<td>-443</td>
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### Priority Areas

<table>
<thead>
<tr>
<th>Area</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
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</thead>
<tbody>
<tr>
<td>affordable housing</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>技职教育</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>unemployment</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>health services</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>air pollution</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>green spaces</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>road congestion</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
<tr>
<td>public transport</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
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<td>school education</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
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<td>26.4%</td>
</tr>
<tr>
<td>basic amenities</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
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<tr>
<td>citizen engagement</td>
<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
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<tr>
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<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
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<td>26.4%</td>
</tr>
<tr>
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<td>72.8%</td>
<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
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<td>26.4%</td>
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<tr>
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<td>29.7%</td>
<td>26.6%</td>
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<tr>
<td>citizen compliance</td>
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<td>50.0%</td>
<td>34.4%</td>
<td>29.7%</td>
<td>26.6%</td>
<td>26.4%</td>
</tr>
</tbody>
</table>

This indicates that these areas may benefit from closer observation.
IMD Smart City Index 2023
A User’s Guide

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.

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.
IMD Smart City Index 2023
Methodology

1. The IMD Smart City Index 2023 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 141 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 2023:2021:2020.

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 Global Data Lab’s Human Development Index (HDI) score of the city 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: AAA–AA–A–BBB–BB
   - **For group 2** (second HDI quartile), scale: A–BBB–BB–B–CCC
   - **For group 3** (third HDI quartile), scale: BB–B–CCC–CC–C
   - **For group 4** (lowest HDI quartile), scale: CCC–CC–C–D

7. Rankings are then presented in two formats:
   - an overall ranking (1 to 141)
   - a rating for each pillar and overall
Online services provided by the city has made it easier to start a new business.

Free public wifi has improved access to city services.

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

Online voting has increased participation.

A website or App allows residents to effectively monitor air pollution.

An online platform where residents can propose ideas has improved city life.

Processing Identification Documents online has reduced waiting times.

Residents provide feedback on local government projects.

Residents contribute to decision making of local government.

Online public access to city finances has reduced corruption.

Lifelong learning opportunities are provided by local institutions.

Opportunities (Work & School)

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

% of respondents who agree or strongly agree with the statement

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

The city provides information on traffic congestion through mobile phones.

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

Bicycle hiring has reduced congestion.

Online reporting of city maintenance problems provides a speedy solution.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

A website or App allows residents to effectively monitor air pollution.

Corruption of city officials is not an issue of concern.

Online public access to city finances has reduced corruption.

An online platform where residents can propose ideas has improved city life.

Processing Identification Documents online has reduced waiting times.

All ratings range from AAA to D.

Minorities feel welcome.

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

Arranging medical appointments online has improved access.

CCTV cameras has made residents feel safer.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

Online reporting of city maintenance problems provides a speedy solution.

The city provides information on traffic congestion through mobile phones.

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

Bicycle sharing Apps have reduced congestion.

Apps that direct you to an available parking space have reduced journey time.

Public transport is satisfactory.

Traffic congestion is not a problem.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic amenities are satisfactory.

Health services are satisfactory.

Unemployment is not a problem.

Social mobility is not a problem.

Security is not a problem.

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

Public transport is satisfactory.

Traffic congestion is not a problem.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic amenities are satisfactory.

Health services are satisfactory.

Unemployment is not a problem.

Social mobility is not a problem.

Security is not a problem.

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

Public transport is satisfactory.

Traffic congestion is not a problem.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic amenities are satisfactory.

Health services are satisfactory.

Unemployment is not a problem.

Social mobility is not a problem.

Security is not a problem.

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

Health & Safety

Drone 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

Mobility

Traffic congestion is not a problem
Public transport is satisfactory

Mobility

Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey time
Cycling 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

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

Activities

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

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

Opportunities (Work & School)

Online public access to city finances has reduced corruption
Drone usage has increased participation
An online platform where residents can propose ideas has improved city life
Processing Identification Documents online has reduced waiting times
Health & Safety

Opportunities (Work & School)

Governance

Opportunities (Work & School)

Activities

Health & Safety

Opportunities (Work & School)

Activities

Health & Safety

Opportunities (Work & School)

Health & Safety

Opportunities (Work & School)

ACTITUDES

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)

Smart City Index 2021

BACKGROUND INFORMATION

City

Population

HDI

2,605,402

0.707

(UN World Urbanisation Prospects 2022 estimate)

Country

2018

2019

2020

2021

1 yr change

HDI

0.620

0.631

0.632

0.632

+0.000

Life expectancy at birth

64.1

64.7

64.1

63.8

-0.3

Expected years of schooling

11.5

11.0

12.1

12.1

+0.0

Mean years of schooling

8.2

8.3

8.3

8.3

+0.0

GNI per capita (PPP $)

5,072

5,387

5,601

5,745

+143

Health & Safety

Basic sanitation meets the needs of the poorest areas

37.6

38.0

40.1

40.4

+3.4

Recycling services are satisfactory

40.4

37.3

37.3

37.0

-0.4

Public safety is not a problem

19.4

18.2

18.2

18.0

-0.3

Air pollution is not a problem

50.1

50.1

50.1

50.1

0.0

Medical services provision is satisfactory

12.4

12.4

12.4

12.4

0.0

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

38.0

38.0

38.0

38.0

0.0

Health & Safety

Online reporting of city maintenance problems provides a speedy solution

31.4

27.4

27.4

27.4

-4.0

A website or App allows residents to easily give away unwanted items

21.5

21.5

21.5

21.5

0.0

Free public wifi has improved access to city services

43.6

43.6

43.6

43.6

0.0

CCTV cameras has made residents feel safer

15.1

15.1

15.1

15.1

0.0

A website or App allows residents to effectively monitor air pollution

41.1

41.1

41.1

41.1

0.0

Arranging medical appointments online has improved access

Mobility

Traffic congestion is not a problem

38.8

38.8

38.8

38.8

0.0

Public transport is satisfactory

38.8

38.8

38.8

38.8

0.0

Activities

Green spaces are satisfactory

38.0

38.0

38.0

38.0

0.0

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

38.0

38.0

38.0

38.0

0.0

Opportunities (Work & School)

Employment finding services are readily available

29.2

29.2

29.2

29.2

0.0

Most children have access to a good school

46.5

46.5

46.5

46.5

0.0

Lifelong learning opportunities are provided by local institutions

34.5

34.5

34.5

34.5

0.0

Businesses are creating new jobs

44.1

44.1

44.1

44.1

0.0

Minorities feel welcome

46.6

46.6

46.6

46.6

0.0

Opinions on local government decisions are easily accessible

40.4

40.4

40.4

40.4

0.0

Corruption of city officials is not an issue of concern

11.9

11.9

11.9

11.9

0.0

Residents contribute to decision making of local government

26.0

26.0

26.0

26.0

0.0

Residents provide feedback on local government projects

36.7

36.7

36.7

36.7

0.0

Opinions on local government decisions are easily accessible

40.4

40.4

40.4

40.4

0.0

Corruption of city officials is not an issue of concern

11.9

11.9

11.9

11.9

0.0

Residents contribute to decision making of local government

26.0

26.0

26.0

26.0

0.0

Residents provide feedback on local government projects

36.7

36.7

36.7

36.7

0.0

Banking & Insurance

You are comfortable with face recognition technologies to lower crime

87.3%

87.3%

87.3%

87.3%

0.0%

You are willing to concede personal data in order to improve traffic congestion

78.0%

78.0%

78.0%

78.0%

0.0%

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

62.7%

62.7%

62.7%

62.7%

0.0%

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

54.2%

54.2%

54.2%

54.2%

0.0%

The current internet speed and reliability meet connectivity needs

50.8%

50.8%

50.8%

50.8%

0.0%

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

56.8%

56.8%

56.8%

56.8%

0.0%

Arranging medical appointments online has improved access

58.7%

58.7%

58.7%

58.7%

0.0%

Online voting has increased participation

44.1%

44.1%

44.1%

44.1%

0.0%

Information on local government decisions are easily accessible

49.2%

49.2%

49.2%

49.2%

0.0%

Online public access to city finances has reduced corruption

54.2%

54.2%

54.2%

54.2%

0.0%

Lifelong learning opportunities are provided by local institutions

56.8%

56.8%

56.8%

56.8%

0.0%

Most children have access to a good school

58.7%

58.7%

58.7%

58.7%

0.0%

Employment finding services are readily available

62.7%

62.7%

62.7%

62.7%

0.0%

Most children have access to a good school

65.0%

65.0%

65.0%

65.0%

0.0%

Lifelong learning opportunities are provided by local institutions

67.4%

67.4%

67.4%

67.4%

0.0%

Businesses are creating new jobs

69.4%

69.4%

69.4%

69.4%

0.0%

Minorities feel welcome

72.2%

72.2%

72.2%

72.2%

0.0%

Opinions on local government decisions are easily accessible

78.0%

78.0%

78.0%

78.0%

0.0%

Corruption of city officials is not an issue of concern

87.3%

87.3%

87.3%

87.3%

0.0%

Residents contribute to decision making of local government

90.6%

90.6%

90.6%

90.6%

0.0%

Residents provide feedback on local government projects

94.5%

94.5%

94.5%

94.5%

0.0%

Opinions on local government decisions are easily accessible

97.7%

97.7%

97.7%

97.7%

0.0%

Corruption of city officials is not an issue of concern

99.2%

99.2%

99.2%

99.2%

0.0%

Residents contribute to decision making of local government

99.9%

99.9%

99.9%

99.9%

0.0%

Residents provide feedback on local government projects

99.9%

99.9%

99.9%

99.9%

0.0%
Health & Safety
Free public wifi has improved access to city services
IT skills are taught well in schools
Online services provided by the city has made it easier to start a new business
Online voting has increased participation
Corruption of city officials is not an issue of concern
Online public access to city finances has reduced corruption
Online public access to city finances has reduced corruption
You are comfortable with face recognition technologies to lower crime
You feel the availability of online information has increased your trust in authorities
You are willing to concealer personal data in order to improve traffic congestion
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

Mobility
The city provides information on traffic congestion through mobile phones
Public transport is satisfactory
Traffic congestion is not a problem
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey time
Bicycle hiring has reduced congestion
Public transport is satisfactory
Traffic congestion is not a problem

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

Opportunities (Work & School)
Online job listings and job postings has made it easier to find work
If 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

Technologies
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

Structures
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

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

Technology
Home to the Smart City Index 2021
Algiers
123
Out of 141
not in 2021
1 yr change

Country 2018 2019 2020 2021 1 yr change
HDG 0.745 0.748 0.736 0.745 +0.009
Life expectancy at birth 78.1 76.5 74.5 76.4 +1.9
Mean years of schooling 14.6 14.6 14.6 14.6 +0.0
Mean years of schooling 8.0 8.1 8.1 8.1 +0.0
GNI per capita (PPP $) 11,344 11,242 10,530 10,800 +270

Minors feel welcome
Businesses are creating new jobs
The current internet speed and reliability meet connectivity needs
CCTV cameras has made residents feel safer
Online services provided by the city has made it easier to start a new business
Online voting has increased participation
Corruption of city officials is not an issue of concern
Online public access to city finances has reduced corruption
You are comfortable with face recognition technologies to lower crime
You feel the availability of online information has increased your trust in authorities
You are willing to concealer personal data in order to improve traffic congestion
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
### BACKGROUND INFORMATION

#### City

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.723</td>
<td>0.727</td>
<td>0.723</td>
<td>0.720</td>
<td>-0.003</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>75.8</td>
<td>76.0</td>
<td>75.2</td>
<td>74.3</td>
<td>-0.9</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>10.4</td>
<td>10.6</td>
<td>10.7</td>
<td>10.7</td>
<td>+0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>10.4</td>
<td>10.4</td>
<td>10.5</td>
<td>10.5</td>
<td>+0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>9,067</td>
<td>10,073</td>
<td>9,789</td>
<td>9,924</td>
<td>+135</td>
</tr>
</tbody>
</table>

### 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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

### ATTITUDES

#### You are willing to concede personal data in order to improve traffic congestion

#### 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)

#### % of respondents who agree or strongly agree with the statement

### TECHNOLOGIES

#### 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

### Mobilities

#### 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

#### 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

### Opportunities (Work & School)

#### 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 Index 2021

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; Safety</td>
<td>40.8</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Recycling services are satisfactory</td>
<td>23.1</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Public safety is not a problem</td>
<td>33.5</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Air pollution is not a problem</td>
<td>29.0</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Finding housing with rent equal to 30% or less of a monthly salary is not a problem</td>
<td>22.5</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Traffic congestion is not a problem</td>
<td>8.1</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Public transport is satisfactory</td>
<td>30.4</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Green spaces are satisfactory</td>
<td>27.6</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Cultural activities (shows, bars, and museums) are satisfactory</td>
<td>45.6</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Employment finding services are readily available</td>
<td>22.9</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Most children have access to a good school</td>
<td>34.0</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Lifelong learning opportunities are provided by local institutions</td>
<td>27.8</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Businesses are creating new jobs</td>
<td>24.0</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Minorities feel welcome</td>
<td>47.4</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Information on local government decisions are easily accessible</td>
<td>53.3</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Corruption of city officials is not an issue of concern</td>
<td>12.5</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Residents contribute to decision making of local government</td>
<td>15.3</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Residents provide feedback on local government projects</td>
<td>26.3</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
</tbody>
</table>
Health & Safety

Opportunities (Work & School)

Governance

Online services provided by the city has made it easier to start a new business.

Online technologies.

Free public wifi has improved access to city services.

62.9

Activities

IT skills are taught well in schools.

All ratings range from AAA to D.

Urbanization

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

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

You are willing to concede personal data in order to improve traffic congestion.

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A greater the priority for the city. This is the total bar. The higher the percentage of responses per area, the greater the priority for the city.

The left hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A stronger Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The city provides information on traffic congestion through mobile phones.

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

Bicycle hiring has reduced congestion.

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Information on local government decisions are easily accessible.

Online public access to city finances has reduced corruption.

Online technologies.

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.

Most children have access to a good school.

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

It skills are taught well in schools.

Online technologies.

Online technologies.

Online technologies.

Online technologies.

Online technologies.

Online technologies.
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

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 well 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
- Bike-sharing 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 city life
- Processing Identification Documents online has reduced waiting times

**Background Information**

- **Country**: Athens
- **Population**: 3,738,737
- **HDI**: 0.909

**Factor Ratings**

- **SMART CITY RATING**: C
- **C in 2021**: Yes

**Technologies**

- **Score**: 20
- **Tech Score**: 20

**Structures**

- **Score**: 80
- **Struct Score**: 80

**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

**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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

- The right-hand, light blue section of each bar shows the Priority, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. The greater the priority for the city.
The city provides information on traffic congestion through mobile phones

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

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

You are comfortable with face recognition technologies to lower crime

You are willing to concede personal data in order to improve traffic congestion

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who chose a Priority Area, and the corresponding area, which is the total bar. The right-hand, light blue section shows the proportion of respondents who chose the Priority Area but did not select the area.

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 city provides information on traffic congestion through mobile phones

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

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

You are comfortable with face recognition technologies to lower crime

You are willing to concede personal data in order to improve traffic congestion

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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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 city provides information on traffic congestion through mobile phones

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

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

You are comfortable with face recognition technologies to lower crime

You are willing to concede personal data in order to improve traffic congestion

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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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 city provides information on traffic congestion through mobile phones

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

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

You are comfortable with face recognition technologies to lower crime

You are willing to concede personal data in order to improve traffic congestion

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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Smart City Index 2021

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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)
- You are comfortable with the use of AI to lower crime
- You feel that online voting has increased citizen engagement

Structures

- 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

- 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

Technologies

- 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 transport has improved access
  - CCTV cameras have 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 sharing has reduced congestion
  - Online scheduling and ticket sales have 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 public services have improved access to city finances
  - 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
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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<table>
<thead>
<tr>
<th>PRIORITY AREAS</th>
<th>% of respondents who chose the Priority Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>affordable housing</td>
<td>0%</td>
</tr>
<tr>
<td>security</td>
<td>20%</td>
</tr>
<tr>
<td>fulfilling employment</td>
<td>40%</td>
</tr>
<tr>
<td>health services</td>
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<td>unemployment</td>
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<td>air pollution</td>
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<th>ATTITUDES</th>
<th>% of respondents who agree or strongly agree with the statement</th>
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<th>PRIORITY AREAS</th>
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Health & Safety
Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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

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

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

All ratings range from AAA to D

SMART CITY RATING
BB
17 out of 118 in 2021

BACKGROUND INFORMATION
City
Population HDI
21,333 0.907

(UN World Urbanisation Prospects 2022 estimate)

Country 2018 2019 2020 2021 1 yr change
HDI 0.756 0.761 0.764 0.768 +0.004
Life expectancy at birth 76.7 76.9 78.1 78.2 +0.1
Expected years of schooling 13.9 14.0 14.2 14.2 +0.0
Mean years of schooling 7.9 8.1 7.6 7.6 +0.0
GNI per capita (PPP $) 16,127 16,057 16,201 17,504 +1,303

Mean years of schooling
Life expectancy at birth
Expected years of schooling
GNI per capita (PPP $)

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% 20% 40% 60% 80% 100%

12 0 20 40 60 80 100

All ratings range from AAA to D

SMART CITY RANKING
BB
12
Out of 141

17 out of 118 in 2021

SMART CITY RATING
BB

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

0% 20% 40% 60% 80% 100%

0% 20% 40% 60% 80% 100%
Health & Safety

- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public safety 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
- 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 services provided by the city has made it easier to start a new business

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
### Belfast

#### Smart City Index 2021

**Belfast**

**CC**
- **Ranking**: 95
- **Out of**: 141
- **Not out of 118 in 2021**

#### City Rating

**Population**: 341,506

**HDI**: 0.896

#### Background Information

**Country**
- **2018**: HDI 0.929
- **2019**: HDI 0.935
- **2020**: HDI 0.924
- **2021**: HDI 0.929

#### City

**Population**: 341,506

**HDI**: 0.896

#### Governance

- **Free public wifi has improved access to city services**
- **Cooperation of city officials is not an issue of concern**
- **Residents contribute to decision making of local government**
- **Residents provide feedback on local government projects**

#### Activities

- **Opportunities (Work & School)**
  - **49.9**

#### Health & Safety

- **Basic sanitation meets the needs of the poorest areas**
  - **60.8**
- **Recycling services are satisfactory**
  - **65.0**
- **Public safety is not a problem**
  - **43.6**
- **Medical services provision is satisfactory**
  - **42.5**

#### Mobility

- **Traffic congestion is not a problem**
  - **27.1**
- **Public transport is satisfactory**
  - **50.0**

#### Structures

- **Basic sanitation meets the needs of the poorest areas**
  - **60.8**
- **Recycling services are satisfactory**
  - **65.0**
- **Public safety is not a problem**
  - **43.6**
- **Medical services provision is satisfactory**
  - **42.5**

#### Technologies

- **Smart reporting of city maintenance problems provides a speedy solution**
  - **38.1**
- **A website or App allows residents to easily gain unwarranted items**
  - **68.9**
- **Free public wifi has improved access to city services**
  - **61.9**
- **CCTV cameras have made residents feel safer**
  - **55.7**
- **A website or App allows residents to effectively monitor air pollution**
  - **29.4**
- **Arranging medical appointments online has improved access**
  - **39.7**

#### Opportunities (Work & School)

- **Online access to job listings has made it easier to find work**
  - **72.2**
- **IT skills are taught well in schools**
  - **65.1**
- **Online services provided by the city has made it easier to start a new business**
  - **51.7**
- **The current internet speed and reliability meet connectivity needs**
  - **71.7**

#### Attitudes

- **You are willing to concede personal data in order to improve traffic congestion**
  - **59.2%**
- **You are comfortable with face recognition technologies to lower crime**
  - **73.3%**
- **You feel the availability of online information has increased your trust in authorities**
  - **75.0%**

#### PRIORITY AREAS

- **Affordable housing**
- **Health services**
- **Employment**
- **Transport**
- **Security**
- **Road congestion**
- **Full-time employment**
- **School education corruption**
- **Corruption**
- **Recycling**
- **Green spaces**
- **Air pollution**
- **Citizen engagement**
- **Basic amenities**
- **Security**
- **Recycling**
- **Green spaces**
- **Air pollution**
- **Citizen engagement**

### Smart City Index 2021

**Score**
- **Health & Safety**: 38.1
- **Mobility**: 31.5
- **Activities**: 74.2
- **Opportunities (Work & School)**: 72.2
- **Government**: 33.3
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: 66.3
- Recycling services are satisfactory: 64.7
- Public safety is not a problem: 50.1
- Air pollution is not a problem: 31.6
- Medical services provision is satisfactory: 72.7
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 52.1

**Mobility**

- Traffic congestion is not a problem: 26.2
- Public transport is satisfactory: 64.9

**Activities**

- Green spaces are satisfactory: 70.5
- Cultural activities (shows, bars, and museums) are satisfactory: 78.3

**Opportunities (Work & School)**

- Employment finding services are readily available: 74.9
- Most children have access to a good school: 74.6
- Lifelong learning opportunities are provided by local institutions: 68.4
- Businesses are creating new jobs: 78.1
- Minorities feel welcome: 70.8

**Governance**

- Information on local government decisions are easily accessible: 71.2
- Corruption of city official is not an issue of concern: 40.8
- Residents contribute to decision making of local government: 60.1
- Residents provide feedback on local government projects: 64.5

**Health & Safety**

- Online reporting of city maintenance problems provides a speedy solution: 66.7
- A website or App allows residents to easily give away unwanted items: 61.7
- Free public wifi has improved access to city services: 80.9
- CCTV cameras have made residents feel safer: 74.1
- A website or App allows residents to effectively monitor air pollution: 56.1
- Arranging medical appointments online has improved access: 79.4

**Mobility**

- Car-sharing Apps have reduced congestion: 65.3
- Apps that direct you to an available parking space have reduced journey time: 62.8
- Bicycle hiring has reduced congestion: 60.9
- Online scheduling and ticket sales has made public transport easier to use: 77.3
- The city provides information on traffic congestion through mobile phones: 70.1

**Activities**

- Online purchasing of tickets to shows and museums has made it easier to attend: 83.0

**Opportunities (Work & School)**

- Online access to job listings has made it easier to find work: 80.5
- IT skills are taught well in schools: 73.9
- Online services provided by the city has made it easier to start a new business: 76.3
- The current internet speed and reliability meet connectivity needs: 80.5

**Governance**

- Online public access to city finances has reduced corruption: 68.4
- Online voting has increased participation: 62.9
- An online platform where residents can propose ideas has improved city life: 69.8
- Processing Identification Documents online has reduced waiting times: 81.0
Online services provided by the city has made it easier to start a new business.

Medical services provision is satisfactory.

A website or App allows residents to effectively monitor air pollution.

Residents provide feedback on local government projects.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Information on local government decisions are easily accessible.

Berlin

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.939</td>
<td>0.947</td>
<td>0.944</td>
<td>0.942</td>
<td>-0.002</td>
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<tr>
<td>Life expectancy at birth</td>
<td>81.3</td>
<td>81.3</td>
<td>81.2</td>
<td>80.6</td>
<td>-0.5</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>14.1</td>
<td>14.2</td>
<td>14.1</td>
<td>14.1</td>
<td>0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>46,946</td>
<td>55,314</td>
<td>53,078</td>
<td>54,524</td>
<td>+1,457</td>
</tr>
</tbody>
</table>

**STRUCTURES**

- Health & Safety
  - Basic sanitation meets the needs of the poorest areas: 64.0
  - Recycling services are satisfactory: 67.8
  - Public safety is not a problem: 44.8
  - Air pollution is not a problem: 35.2
  - Medical services provision is satisfactory: 67.2
  - Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 25.7

- Mobility
  - Traffic congestion is not a problem: 33.3
  - Public transport is satisfactory: 60.7

- Activities
  - Green spaces are satisfactory: 60.9
  - Cultural activities (shows, bars, and museums) are satisfactory: 72.9

- Opportunities (Work & School)
  - Employment finding services are readily available: 58.2
  - Most children have access to a good school: 53.3
  - Lifelong learning opportunities are provided by local institutions: 53.6
  - Businesses are creating new jobs: 57.1
  - Minorities feel welcome: 55.3

- Governance
  - Information on local government decisions are easily accessible: 50.7
  - Corruption of city officials is not an issue of concern: 47.3
  - Residents contribute to decision making of local government: 44.7
  - Residents provide feedback on local government projects: 50.5

**ATTITUDES**

You are willing to concede personal data in order to improve traffic congestion.

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)

**Smart City Index 2021**
Smart City Index 2021

**Background Information**

- **City:** Bilbao
  - Population: 216,908
  - HDI: 0.932

**Country**

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<tbody>
<tr>
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<td>0.904</td>
<td>0.899</td>
<td>0.905</td>
<td>+0.006</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>83.4</td>
<td>83.5</td>
<td>82.3</td>
<td>83.0</td>
<td>+0.7</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>17.9</td>
<td>17.6</td>
<td>17.9</td>
<td>17.9</td>
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<tr>
<td>Mean years of schooling</td>
<td>9.8</td>
<td>10.3</td>
<td>10.6</td>
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<tr>
<td>GNI per capita (PPP $)</td>
<td>35,041</td>
<td>40,975</td>
<td>36,516</td>
<td>38,354</td>
<td>+1,838</td>
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</tbody>
</table>

**Structures**

- **Health & Safety**
  - Basic sanitation meets the needs of the poorest areas: 76.4
  - Recycling services are satisfactory: 76.0
  - Public transport is satisfactory: 82.8

- **Mobility**
  - Traffic congestion is not a problem: 47.0
  - Public transport is satisfactory: 82.8

- **Activities**
  - Green spaces are satisfactory: 78.9
  - Cultural activities (shows, bars, and museums) are satisfactory: 84.0

- **Opportunities (Work & School)**
  - Employment finding services are readily available: 75.4
  - Most children have access to a good school: 76.2
  - Lifelong learning opportunities are provided by local institutions: 76.2
  - Businesses are creating new jobs: 50.0
  - Minorities feel welcome: 63.8

- **Governance**
  - Information on local government decisions are easily accessible: 61.9
  - Corruption of city officials is not an issue of concern: 51.6
  - Residents contribute to decision making of local government: 48.4
  - Residents provide feedback on local government projects: 54.9

**Technologies**

- **Health & Safety**
  - Drone reporting of city maintenance problems provides a speedy solution: 55.4
  - A website or App allows residents to easily report unmet services: 55.8
  - Free public wi-fi has improved access to city services: 58.7
  - CCTV cameras has made residents feel safer: 50.3
  - A website or App allows residents to effectively monitor air pollution: 43.2
  - Arranging medical appointments online has improved access: 68.0

- **Mobility**
  - Car-sharing Apps have reduced congestion: 47.2
  - Apps that direct you to an available parking space have reduced journey time: 48.6
  - Bicycle sharing has reduced congestion: 60.7
  - Online scheduling and ticket sales has made public transport easier to use: 72.7
  - The city provides information on traffic congestion through mobile phones: 60.1

- **Activities**
  - Online purchasing of tickets to shows and museums has made it easier to attend: 82.5

**Opportunities (Work & School)**

- Online job listings has made it easier to find work: 65.1
- IT skills are taught well in schools: 62.7
- Online services provided by the city has made it easier to start a new business: 52.3
- The current internet speed and reliability meet connectivity needs: 71.7

**Governance**

- Online public access to city finances has reduced corruption: 41.7
- Online voting has increased participation: 42.7
- An online platform where residents can propose ideas has improved city life: 56.1
- Processing of identification documents online has reduced waiting times: 65.4

**Score**

- **Health & Safety:** 76.4
- **Mobility:** 82.8
- **Activities:** 78.9
- **Opportunities (Work & School):** 75.4
- **Governance:** 61.9

**1 yr change**

- HDI: +0.006
- Life expectancy at birth: +0.7
- Expected years of schooling: +0.0
- Mean years of schooling: +0.0
- GNI per capita (PPP $): +1,838

**Group**

- **2**

**All ratings range from AAA to D**
Online services provided by the city has made it easier to start a new business (Opportunities (Work & School)). Free public wifi has improved access to city services (Activities). IT skills are taught well in schools (Mobility).
The city provides information on traffic congestion through mobile phones.

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

Bicycle hiring has reduced congestion.

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)

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Security
Health services
Corruption
Unemployment
Public transport
Air pollution
Filling employment
Affordable housing
Road congestion
Basic amenities
Social mobility
School education
Green spaces
Recycling
Citizen engagement

All ratings range from AAA to D

Factors

Health & Safety

IT skills are taught well in schools

Mean years of schooling

Mean expected years of schooling

Life expectancy at birth

Mean years of schooling

GNI per capita (PPP $)

Activities

Green spaces are satisfactory

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

Mobility

Traffic congestion is not a problem

Public transport is 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

Employment finding services are readily available

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Processing Identification Documents online has reduced waiting times

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

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)

% of respondents who agree or strongly agree with the statement

% of respondents who agree or strongly agree with the statement

Score

Score

70.5

41.4

43.6

42.0

61.0

67.8

73.3

60.3

48.0

49.7

58.5

54.1

58.1

6.0%

16.7%

17.7%

16.6%

17.4%

17.7%

17.7%

17.7%

17.7%

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Health & Safety

- Basic sanitation meets the needs of the poorest areas: 72.5
- Recycling services are satisfactory: 70.7
- Public safety is not a problem: 44.9
- Air pollution is not a problem: 29.5
- Medical services provision is satisfactory: 74.2
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 73.3

Mobility

- Traffic congestion is not a problem: 29.6
- Public transport is satisfactory: 62.7

Activities

- Green spaces are satisfactory: 72.9
- Cultural activities (shows, bars, and museums) are satisfactory: 79.9

Opportunities (Work & School)

- Employment finding services are readily available: 41.1
- Most children have access to a good school: 70.4
- Lifelong learning opportunities are provided by local institutions: 66.4
- Businesses are creating new jobs: 51.4
- Minorities feel welcome: 54.9

Governance

- Information on local government decisions are easily accessible: 62.1
- Corruption of city officials is not an issue of concern: 43.1
- Residents contribute to decision-making of local government: 44.4
- Residents provide feedback on local government projects: 51.6

Technologies

- Affordable housing: 57.7
- Air pollution monitoring security: 56.5
- Road congestion: 50.1
- Fulfilling employment opportunities: 42.6
- Recycling: 39.6
- Public transport: 22.8
- Social mobility: 21.2
- Corruption: 19.5
- Basic amenities: 18.2
- Health services: 18.1
- Green spaces: 17.0
- Citizen engagement: 15.5
- School education: 7.8

ATTITUDES

- You are willing to concede personal data in order to improve traffic congestion: 39.6
- You feel the availability of online information has increased your trust in authorities: 57.5
- You are comfortable with face recognition technologies to lower crime: 57.5
- You are willing to concede personal data in order to improve traffic congestion: 47.8
- You feel the availability of online information has increased your trust in authorities: 77.0

PRIORITY AREAS

- Affordable housing: 63.0
- Air pollution security: 68.1
- Road congestion: 57.5
- Fulfilling employment opportunities: 57.5
- Recycling: 57.0
- Public transport: 47.8
- Social mobility: 77.0
- Corruption: 43.5
- Basic amenities: 45.8
- Health services: 56.0
- Green spaces: 70.2
- Citizen engagement: 52.3
- School education: 83.7
- Employment finding services: 66.2
- It skills are taught well in schools: 53.2
- Online purchasing of tickets to shows and museums has made it easier to attend: 52.7
- Online voting has increased participation: 58.7
- Online public access to city finances has reduced corruption: 46.5
- Online public access to city finances has reduced corruption: 46.0
- Online voting has increased participation: 50.2
- Processing identification documents online has reduced waiting times: 63.9
BACKGROUND INFORMATION

City

Population HDI
3,511,921 0.900

(UNHDI)

Country 2018 2019 2020 2021 1 yr change
HDI 0.891 0.901 0.896 0.903 +0.005
Life expectancy at birth 82.5 82.7 82.2 82.5 +0.3
Expected years of schooling 15.5 15.6 15.8 15.8 +0.0
Mean years of schooling 11.4 11.5 11.6 11.6 +0.0
GNI per capita (PPP $) 40,511 47,173 43,048 45,937 +2,889

SMART CITY RANKING

78
Out of 141

Bordeaux

68 out of 118
in 2021

SMART CITY RATING

CCC
CCC in 2021

0 20 40 60 80 100

LEGEND:

MIN
61.9

MAX
69.2

68 out of 118
in 2021

All ratings range from AAA to D

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

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

Technologies

Affordable housing
Road congestion
Security
Air pollution
Unemployment
Health services
Public transport
Recycling
Basic amenities
Housing
Corruption
Funding
Employment
Corruption
Recycling
Education
Social mobility
Citizen engagement

Feedback & Reporting

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)

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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)

GNI per capita (PPP $)
Mean years of schooling
Life expectancy at birth
HDI
Country
2018
2019
2020
2021
1 yr change
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2021
1 yr change
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1 yr change
Online services provided by the city have made it easier to start a new business.

Max IT skills are taught well in schools.

Free public Wi-Fi has improved access to city services.

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

Arranging medical appointments online has improved access.

Access to health services is satisfactory.

A website or App allows residents to effectively monitor air pollution.

CCTV cameras have made residents feel safer.

Residents provide feedback on local government projects.

Processing identification documents online has reduced waiting times.

Residents contribute to decision-making of local government.

An online platform where residents can propose ideas has improved city life.

Online public access to city finances has reduced corruption.

Online voting has increased participation.

Information on local government decisions is easily accessible.

Deline reporting of city maintenance problems provides a speedy solution.

A website or App allows residents to readily give away unwanted items.

Utilising mobile data to monitor traffic congestion has increased public trust in authorities.

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

For 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, dark blue section of each bar shows the alignment, i.e., the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong alignment (i.e., consistency across both areas explained) means that these areas may benefit from close observation.

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
Free public wifi has improved access to city services

Online services provided by the city has made it easier to start a new business

IT skills are taught well in schools

Activities

Opportunities (Work & School)

Health & Safety

Mobility

Technologies

Structures

Opportunities (Work & School)

Governance

PRIORITY AREAS

Structures

Businesses are creating new jobs

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

Medical services provision is satisfactory

Public transport is satisfactory

Traffic congestion is not a problem

Opportunities (Work & School)

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

Online public access to city finances has reduced corruption

Governmental decisions are easily accessible

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

All ratings range from AAA to D

Country 2018 2019 2020 2021 1 yr change

HDI 0.764 0.765 0.758 0.754 -0.004

Life expectancy at birth 75.1 75.3 74.0 72.8 -1.3

Expected years of schooling 15.7 15.6 15.6 15.6 0.0

Mean years of schooling 8.0 10.6 10.9 10.9 0.0

GNI per capita (PPP $) 21,972 23,261 22,386 24,563 +2,277

Smart City Index 2021

PRIORITY AREAS

LATITUDES

Map tiles by Stamen Design CC BY 3.0 Map data © OpenStreetMap contributors

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

You are confident that face recognition technologies can lower crime

You are willing to give up some of your personal data in order to improve traffic congestion

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
Health & Safety

Opportunities (Work & School)

Activities

MEAN

Free public wifi has improved access to city services

TECHNOLOGIES

MEAN

2021

Mobility

IT skills are taught well in schools

Online services provided by the city has made it easier to start a new business

GROUP

Governance

Bratislava

BACKGROUND INFORMATION

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
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<td>0.860</td>
<td>0.857</td>
<td>0.848</td>
<td>-0.009</td>
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<td>77.5</td>
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<td>14.0</td>
<td>14.5</td>
<td>14.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>12.6</td>
<td>12.7</td>
<td>12.9</td>
<td>12.9</td>
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<tr>
<td>GNI per capita (PPP $)</td>
<td>30,672</td>
<td>32,113</td>
<td>29,801</td>
<td>30,690</td>
<td>+889</td>
</tr>
</tbody>
</table>

Health & Safety

Basic sanitation meets the needs of the poorest areas

Score

57.6

57.4

58.2

37.5

42.4

25.2

Mobility

Traffic congestion is not a problem

Score

22.2

48.0

Activities

Green spaces are satisfactory

Score

40.5

67.8

Opportunities (Work & School)

Employment finding services are readily available

Score

67.0

64.2

61.0

62.4

46.3

Governance

Information on local government decisions are easily accessible

Score

61.0

28.8

40.1

50.7

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)

You are willing to concede personal data in order to improve traffic congestion

You are comfortable with face recognition technologies to lower crime
Free public wifi has improved access to city services

Governance

Opportunities (Work & School)

IT skills are taught well in schools

Activities

2021

MAX

CITY

MEAN

54.5

Online services provided by the city has made it easier to start a new business

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution

Mobility

Traffic congestion is not a problem

Mobility

Car-sharing Apps have reduced congestion

Structures

Score

0 20 40 60 80 100

Country

2018

2019

2020

2021

1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution

Structures

Score

0 20 40 60 80 100

Country

2018

2019

2020

2021

1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution

Structures

Score

0 20 40 60 80 100

Country

2018

2019

2020

2021

1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution

Structures

Score

0 20 40 60 80 100

Country

2018

2019

2020

2021

1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution

Structures

Score

0 20 40 60 80 100

Country

2018

2019

2020

2021

1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas

Health & Safety

Drone reporting of city maintenance problems provides a speedy solution
Online services provided by the city have made it easier to start a new business.

58.2

Health & Safety

Basic sanitation meets the needs of the poorest areas

54.3

Health & Safety

Online reporting of city maintenance problems provides a speedy solution

46.5

Mobility

Traffic congestion is not a problem

28.6

Health & Safety

A website or App allows residents to easily give away unwanted items

52.3

Activities

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

73.8

Opportunities (Work & School)

Most children have access to a good school

58.3

Opportunities (Work & School)

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

61.9

Government

Online public access to city finances has reduced corruption

42.7

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

The left-hand, dark blue section of each bar shows the Alignment (i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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

17.3%

You are willing to concede personal data in order to improve traffic congestion

59.7%

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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You are comfortable with face recognition technologies to lower crime

23.8%

You are willing to concede personal data in order to improve traffic congestion

59.7%

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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The left-hand, dark blue section of each bar shows the Alignment (i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

You are comfortable with face recognition technologies to lower crime
Online services provided by the city has made it easier to start a new business.

Free public wifi has improved access to city services.

CITY RATING

RATINGS

EXPECTED YEARS OF SCHOOLING

LIFE EXPECTANCY AT BIRTH

GNI PER CAPITA (PPP $)

Mean years of schooling

Health & Safety

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)

Priorities (Work & School)

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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<thead>
<tr>
<th>Country</th>
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<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
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<tr>
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<td>29,497</td>
<td>28,359</td>
<td>30,027</td>
<td>1,669</td>
</tr>
</tbody>
</table>

Structures

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

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

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 city life

Processing Identification Documents online has reduced waiting times

<table>
<thead>
<tr>
<th>Factor Ratings</th>
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<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
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<tr>
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<th>1 yr change</th>
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</thead>
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<tr>
<td>Health &amp; Safety</td>
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<td>52.4</td>
<td>48.6</td>
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<td>41.9</td>
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<td>37.9</td>
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<td>37.9</td>
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<td>32.0</td>
<td>39.7</td>
<td>52.7</td>
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</tbody>
</table>
Online services provided by the city have made it easier to start a new business. IT skills are taught well in schools. Free public Wi-Fi has improved access to city services. CCTV cameras have made residents feel safer. An online platform where residents can propose ideas has improved city life. Online voting has increased participation. Information on local government decisions are easily accessible. Online public access to city finances has reduced corruption. Online purchasing of tickets to shows and museums has made it easier to attend. Apps that direct you to an available parking space have reduced journey time. Online reporting of city maintenance problems provides a speedy solution. Basic sanitation meets the needs of the poorest areas. Online reporting of city maintenance problems provides a speedy solution. Basic sanitation meets the needs of the poorest areas. Online reporting of city maintenance problems provides a speedy solution.
Health & Safety

Online services provided by the city has made it easier to start a new business.

Activities

65.3

Governance

CITY

Opportunities (Work & School)

67.8

IT skills are taught well in schools.

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

Air pollution is not a problem.

CCTV cameras has made residents feel safer.

Residents provide feedback on local government projects.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Information on local government decisions are easily accessible.

Online public access to city finances has reduced corruption.

Lifelong learning opportunities are provided by local institutions.

Most children have access to a good school.

Employment finding services are readily available.

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

Most children have access to a good school.

Online public access to city finances has reduced corruption.

Residents contribute to decision making of local government.

An online platform where residents can propose ideas has improved city life.

Residents provide feedback on local government projects.

Processing Identification Documents online has reduced waiting times.

Bicycle hiring has reduced congestion.

Car-sharing Apps have reduced congestion.

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

The city provides information on traffic congestion through mobile phones.

Public transport is satisfactory.

Traffic congestion is not a problem.

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% 20% 40% 60% 80% 100%
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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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

### 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
- 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 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
Health & Safety
IT skills are taught well in schools

Opportunities (Work & School)
Mobility
Free public wifi has improved access to city services

Governance
Information on local government decisions are easily accessible

CITY RATING
All ratings range from AAA to D

TECHNOLOGIES
MAX
Opportunities (Work & School)
MEAN
Activities
Mobility
Free public wifi has improved access to city services

SMART CITY RATING
3
Out of 141

SMART CITY RATING
not out of 118 in 2021

BACKGROUND INFORMATION
Canberra
Population 395,790
HDI 0.860

Country
Population
HDI
2018 2019 2020 2021 1 yr change

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
Health & Safety

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

ATTITUDES
You are willing to concede personal data in order to improve traffic congestion
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)

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

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

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

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

Opportunities (Work & School)
Online public access to city finances has reduced corruption

GNI per capita (PPP $)
Mean years of schooling
Expected years of schooling
Life expectancy at birth

ATTITUDES
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)

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

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

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

Opportunities (Work & School)
Online public access to city finances has reduced corruption

GNI per capita (PPP $)
Mean years of schooling
Expected years of schooling
Life expectancy at birth
The document contains information about Cape Town's SMART City Index 2021, including ratings and comparisons over the years. It covers various aspects such as mobility, health & safety, education, and technology. The index provides data on key indicators like the proportion of respondents who agree or strongly agree with statements about various aspects of city life, as well as the percentage of respondents who chose specific priority areas.
**Smart City Index 2021**

**Cardiff**

**Smart City Rating**

- **Country:** Cardiff
- **Population HDI:** 0.898

**Background Information**

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.920</td>
<td>0.932</td>
<td>0.924</td>
<td>0.929</td>
<td>+0.005</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>81.2</td>
<td>81.3</td>
<td>80.4</td>
<td>80.7</td>
<td>+0.3</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>17.4</td>
<td>17.5</td>
<td>17.3</td>
<td>17.3</td>
<td>=0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>13.0</td>
<td>13.2</td>
<td>13.4</td>
<td>13.4</td>
<td>=0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>39,507</td>
<td>46,071</td>
<td>42,375</td>
<td>45,225</td>
<td>+2,850</td>
</tr>
</tbody>
</table>

**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

**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

**Technology**

- 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

**Country Ranking**

- **Cardiff:** 94 out of 141

**Smart City Rating**

- **CC**
- **CCC**

**Factor Ratings**

- **STRUCTURES**
- **TECHNOLOGIES**

**Priorities Areas**

- Affordable housing
- Health services
- Public transport
- Unemployment
- Road congestion
- Fuel levies
- School education
- Security
- Air pollution
- Recycling
- Green spaces
- Basic amenities
- Social mobility
- Corruption
- 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 transactions)

**Map Tiles**

- Map tiles by Stamen Design CC BY 3.0
- Map Data © OpenStreetMap
Health & Safety

IT skills are taught well in schools

GROUP

MEAN

Activities

69.4

Opportunities (Work & School)

Mobility

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

- Basic sanitation meets the needs of the poorest areas: 51.3
- Recycling services are satisfactory: 60.5
- Public safety is not a problem: 53.7
- Air pollution is not a problem: 34.8
- Medical services provision is satisfactory: 55.6
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 36.3

Mobility

- Traffic congestion is not a problem: 27.9
- Public transport is satisfactory: 54.0

Activities

- Green spaces are satisfactory: 63.0
- Cultural activities (shows, bars, and museums) are satisfactory: 77.1

Opportunities (Work & School)

- Employment finding services are readily available: 63.6
- Most children have access to a good school: 50.1
- Lifelong learning opportunities are provided by local institutions: 54.5
- Businesses are creating new jobs: 62.8
- Minorities feel welcome: 60.4

Governance

- Information on local government decisions are easily accessible: 60.1
- Corruption of city officials is not an issue of concern: 28.1
- Residents contribute to decision-making of local government: 49.3
- Residents provide feedback on local government projects: 55.3

TECHNOLOGIES

- Online reporting of city maintenance problems provides a speedy solution: 43.8
- A website or App allows residents to easily give away unwanted items: 54.1
- Free public wifi has improved access to city services: 53.7
- CCTV cameras make residents feel safer: 49.4
- A website or App allows residents to effectively monitor air pollution: 44.7
- Arranging medical appointments online has improved access: 66.0

- Car-sharing Apps have reduced congestion: 48.7
- Apps that direct you to an available parking space have reduced journey time: 54.1
- Bicycle sharing has reduced congestion: 49.2
- Online scheduling and ticket sales has made public transport easier to use: 60.8
- The city provides information on traffic congestion through mobile phones: 61.5

- Online purchasing of tickets to shows and museums has made it easier to attend: 74.3

- Online access to job listings has made it easier to find work: 66.1
- IT skills are taught well in schools: 50.8
- Online services provided by the city has made it easier to start a new business: 50.2
- The current internet speed and reliability meet connectivity needs: 63.8

- Online public access to city finances has reduced corruption: 39.1
- Online voting has increased participation: 56.6
- An online platform where residents can propose ideas has improved city life: 51.6
- Processing Identification Documents online has reduced waiting times: 56.8

All ratings range from AAA to D
Smart City Index 2021

**BACKGROUND INFORMATION**

**City**
Population: 16,874,741
HDI: 0.774
(UN World Urbanisation Prospects 2022 estimate)

**Country**
<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.758</td>
<td>0.761</td>
<td>0.764</td>
<td>0.768</td>
<td>+0.004</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>76.7</td>
<td>76.9</td>
<td>78.1</td>
<td>78.2</td>
<td>+0.1</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>13.9</td>
<td>14.0</td>
<td>14.2</td>
<td>14.2</td>
<td>+0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>7.9</td>
<td>8.1</td>
<td>7.6</td>
<td>7.6</td>
<td>+0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>16,127</td>
<td>16,057</td>
<td>16,201</td>
<td>17,504</td>
<td>+1,303</td>
</tr>
</tbody>
</table>

**Health & Safety**
- Basic sanitation meets the needs of the poorest areas: 82.2%
- Recycling services are satisfactory: 73.9%
- Public safety is not a problem: 73.3%
- Air pollution is not a problem: 63.7%
- Medical services provision is satisfactory: 76.8%
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 66.0%

**Mobility**
- Traffic congestion is not a problem: 43.3%
- Public transport is satisfactory: 66.9%

**Activities**
- Green spaces are satisfactory: 79.1%
- Cultural activities (shows, bars, and museums) are satisfactory: 79.3%

**Opportunities (Work & School)**
- Employment finding services are readily available: 74.8%
- Most children have access to a good school: 74.0%
- Lifelong learning opportunities are provided by local institutions: 64.3%
- Businesses are creating new jobs: 75.6%
- Minorities feel welcome: 82.2%

**Governance**
- Information on local government decisions are easily accessible: 73.4%
- Corruption of city officials is not an issue of concern: 56.6%
- Residents contribute to decision-making of local government: 57.7%
- Residents provide feedback on local government projects: 69.1%

**Technology**

**Health & Safety**
- Online reporting of city maintenance problems provides a speedy solution: 78.5%
- A website or App allows residents to easily give away unwanted items: 74.2%
- Free public Wi-Fi has improved access to city services: 76.3%
- CCTV cameras have made residents feel safer: 79.1%
- A website or App allows residents to effectively monitor air pollution: 74.4%
- Arranging medical appointments online has improved access: 87.4%

**Mobility**
- Car-sharing Apps have reduced congestion: 63.4%
- Apps that direct you to an available parking space have reduced journey time: 78.5%
- Bicycle sharing has reduced congestion: 71.7%
- Online scheduling and ticket sales has made public transport easier to use: 85.7%
- The city provides information on traffic congestion through mobile phones: 83.4%

**Activities**
- Online purchasing of tickets to shows and museums has made it easier to attend: 88.3%

**Opportunities (Work & School)**
- Online access to job listings has made it easier to find work: 81.1%
- IT skills are taught well in schools: 74.9%
- Online services provided by the city has made it easier to start a new business: 74.3%
- The current internet speed and reliability meet connectivity needs: 88.2%

**Governance**
- Online public access to city finances has reduced corruption: 79.3%
- Online voting has increased participation: 73.9%
- An online platform where residents can propose ideas has improved city life: 77.8%
- Processing Identification Documents online has reduced waiting times: 78.9%

**ATTITUDES**

- You feel the availability of online information has increased your trust in authorities: 88.1%
- You are comfortable with face recognition technologies to lower crime: 89.4%
- You are willing to concede personal data in order to improve traffic congestion: 90.0%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 85.5%

**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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
### Background Information

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.930</td>
<td>0.940</td>
<td>0.947</td>
<td>0.948</td>
<td>+0.001</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>80.8</td>
<td>80.9</td>
<td>81.6</td>
<td>81.4</td>
<td>-0.2</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>19.1</td>
<td>18.9</td>
<td>18.0</td>
<td>18.0</td>
<td>&lt;0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>12.6</td>
<td>12.6</td>
<td>13.0</td>
<td>13.0</td>
<td>&lt;0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>48,836</td>
<td>58,662</td>
<td>58,144</td>
<td>60,385</td>
<td>+2,221</td>
</tr>
</tbody>
</table>

### Health & Safety

- Basic sanitation meets the needs of the poorest areas: Score 78.4
- Recycling services are satisfactory: Score 79.3
- Public safety is not a problem: Score 73.1
- Air pollution is not a problem: Score 49.5
- Medical services provision is satisfactory: Score 79.2
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: Score 24.7

### Mobility

- Traffic congestion is not a problem: Score 38.2
- Public transport is satisfactory: Score 67.9

### Activities

- Green spaces are satisfactory: Score 74.8
- Cultural activities (shows, bars, and museums) are satisfactory: Score 84.2

### Opportunities (Work & School)

- Employment finding services are readily available: Score 78.4
- Most children have access to a good school: Score 80.9
- Lifelong learning opportunities are provided by local institutions: Score 73.9
- Businesses are creating new jobs: Score 73.9
- Minorities feel welcome: Score 61.5

### Governance

- Information on local government decisions are easily accessible: Score 63.0
- Corruption of city officials is not an issue of concern: Score 64.7
- Residents contribute to decision making of local government: Score 60.9
- Residents provide feedback on local government projects: Score 66.3

### Technologies

- Affordable housing: Score 45.2
- Road congestion: Score 44.4
- Air pollution: Score 31.2
- Green spaces: Score 29.5
- Public transport: Score 25.9
- Health services: Score 25.9
- Unemployment: Score 25.9
- Security: Score 25.6
- Recycling: Score 22.6
- Basic amenities: Score 19.0
- Fulfilling employment: Score 18.3
- School education: Score 18.8
- Social mobility: Score 18.4
- Social support: Score 17.3
- Corruption: Score 15.5

### Smart City Index 2021

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; Safety</td>
<td>AA</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Opportunities (Work &amp; School)</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Governance</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Technologies</td>
<td>AA</td>
<td></td>
</tr>
</tbody>
</table>

### City Rating

- Smart City Ranking: 4 out of 141
- Smart City Rating: AAA in 2021

### Background Information

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

### Attitudes

- You are willing to concede personal data in order to improve traffic congestion: 44.6%
- You feel the availability of online information has increased your trust in authorities: 55.8%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 85.3%

### Priorities

<table>
<thead>
<tr>
<th>Priority Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health services</td>
<td>78.4</td>
</tr>
<tr>
<td>Road congestion</td>
<td>45.2</td>
</tr>
<tr>
<td>Air pollution</td>
<td>44.4</td>
</tr>
<tr>
<td>Affordable housing</td>
<td>31.2</td>
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<tr>
<td>Public transport</td>
<td>29.5</td>
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<tr>
<td>Health services</td>
<td>25.9</td>
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<tr>
<td>Unemployment</td>
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<tr>
<td>Security</td>
<td>25.6</td>
</tr>
<tr>
<td>Recycling</td>
<td>22.6</td>
</tr>
<tr>
<td>Basic amenities</td>
<td>19.0</td>
</tr>
<tr>
<td>Fulfilling employment</td>
<td>18.3</td>
</tr>
<tr>
<td>School education</td>
<td>18.8</td>
</tr>
<tr>
<td>Social mobility</td>
<td>18.4</td>
</tr>
<tr>
<td>Social support</td>
<td>17.3</td>
</tr>
<tr>
<td>Corruption</td>
<td>15.5</td>
</tr>
</tbody>
</table>

### Technographics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Health &amp; Safety</td>
<td>AA</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Opportunities (Work &amp; School)</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Governance</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Technologies</td>
<td>AA</td>
<td></td>
</tr>
</tbody>
</table>

### Maps

Map tiles by Stamen Design CC BY 3.0 Map Data © OpenStreetMap
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
- Arranging medical appointments online has improved access
- Medical services provision is satisfactory
- A website or App allows residents to effectively monitor air pollution
- Air pollution is not a problem
- CCTV cameras has made residents feel safer
- Residents provide feedback on local government projects
- Processing Identification Documents online has reduced waiting times
- Residents contribute to decision making of local government
- An online platform where residents can propose ideas has improved city life
- Information on local government decisions are easily accessible
- Online public access to city finances has reduced corruption
- GNI per capita (PPP $)
- Mean years of schooling
- Expected years of schooling
- Life expectancy at birth
- HDI
- Governance
- Employment finding services are readily available
- Basic skills training is not an issue of concern
- Lifelong learning opportunities are provided by local institutions
- Businesses are creating new jobs
- Minority feel welcome
- Opportunities (Work & School)
- Employment finding services are readily available
- Basic skills training is not an issue of concern
- Lifelong learning opportunities are provided by local institutions
- Businesses are creating new jobs
- Minority feel welcome
- Activities
- Green spaces are satisfactory
- Cultural activities (shows, bars, and museums) are satisfactory
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- Opportunities (Work & School)
- Employment finding services are readily available
- Basic skills training is not an issue of concern
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- Activities
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- Cultural activities (show...
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

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

Opportunities (Work & School) & Life-long Learning
- 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
- Drone 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 have made residents feel safer
- A website or App allows residents to effectively monitor air pollution

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

Traffic congestion is not a problem
- 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 have made public transport easier to use
- The city provides information on traffic congestion through mobile phones

Mobility
- Public transport is satisfactory
- Public transport is satisfactory
- Public transport is satisfactory
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Activities
- Online purchasing of tickets to shows and museums has made it easier to attend
- Online access to job listings has made it easier to find work
- Online public access to city finances has reduced corruption
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Air pollution is not a problem
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Corruption of city officials is not an issue of concern
- An online platform where residents can propose ideas has improved city life
- Online voting has increased participation
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Public safety is not a problem
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denver.png
Online services provided by the city has made it easier to start a new business.

Free public wifi has improved access to city services.

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

Arranging medical appointments online has improved access.

Recycling services are satisfactory. A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas. Online reporting of city maintenance problems provides a speedy solution.

Most children have access to a good school.

Cultural activities (shows, bars, and museums) are satisfactory. Online purchasing of tickets to shows and museums has made it easier to attend.

Public transport is satisfactory. Apps that direct you to an available parking space have reduced journey time.

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Public safety is not a problem.
Online services provided by the city have made it easier to start a new business.

Governance:

Free public wifi has improved access to city services.

Public transport is satisfactory.

Health & Safety:

Recycling services are satisfactory.

Health services provision is satisfactory.

A website or app allows residents to effectively monitor air pollution.

Medical services provision is satisfactory.

Lifelong learning opportunities are provided by local institutions.

Opportunities (Work & School):

A website or app allows residents to easily give away unwanted items.

Online reporting of city maintenance problems provides a speedy solution.

Basic sanitation meets the needs of the poorest areas.

Public safety is not a problem.

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

Lifelong learning opportunities are provided by local institutions.

Basic sanitation meets the needs of the poorest areas.

Information on local government decisions are easily accessible.

 Residents provide feedback on local government projects.

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Public safety is not a problem.

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

Lifelong learning opportunities are provided by local institutions.
**Health & Safety**

**ATTITUDES**

You are willing to concede personal data in order to improve traffic congestion

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)

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**STRAIGHT INFORMATION**

Country 2018 2019 2020 2021 1 yr change

**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

**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 feelwelcome

**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

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**TECHNOLOGIES**

**Health & Safety**

Drone reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
Free public with 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 has 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 city life
Processing Identification Documents online has reduced waiting times

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**BACKGROUND INFORMATION**

City

Population HDI 1,423,957 0.950

**SMART CITY RANKING**

**Factor Ratings**

BB 68.4

**STRUCTURES**

Score

0 20 40 60 80 100

**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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Map tiles by Stamen Design CC BY 3.0 Map Data © OpenStreetMap

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**PRIORITY AREAS**

**Health & Safety**

- Affordable housing
- Health services
- Security
- Public transport
- Road congestion
- Unemployment
- Corruption
- Hitting employment
- School education
- Air pollution
- Recycling
- Social mobility
- Basic amenities
- Green spaces
- Citizen engagement

**ATTITUDES**

- 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)
- You are willing to concede personal data in order to improve traffic congestion
- You are comfortable with face recognition technologies to lower crime
- The city provides information on traffic congestion through mobile phones

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**TECHNOLOGIES**

- Affordable housing
- Health services
- Security
- Public transport
- Road congestion
- Unemployment
- Corruption
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- School education
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- Recycling
- Social mobility
- Basic amenities
- Green spaces
- Citizen engagement

---

**SMART CITY RATING**

**GROUP 1**

All ratings range from AAA to D
Health & Safety

- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- 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
- 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

Technologies

- 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

The city provides information on traffic congestion through mobile phones
- Online scheduling and ticket sales has made public transport easier to use
- Bicycle sharing has reduced congestion
- The city provides information on traffic congestion through mobile phones
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

Overall, the city scores well in various aspects, including health & safety, mobility, activities, and technologies. The provision of online services and improved access to city services are highlighted as significant improvements.
Free public wifi has improved access to city services.

Online services provided by the city has made it easier to start a new business.

IT skills are taught well in schools.

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

Arranging medical appointments online has improved access.

Medical services provision is satisfactory.

A website or App allows residents to effectively monitor air pollution.

Air pollution is not a problem.

CCTV cameras has made residents feel safer.

Residents provide feedback on local government projects.

Processing Identification Documents online has reduced waiting times.

Residents contribute to decision making of local government.

An online platform where residents can propose ideas has improved city life.

Online voting has increased participation.

Information on local government decisions are easily accessible.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

Online reporting of city maintenance problems provides a speedy solution.

Traffic congestion is not a problem.

Car-sharing Apps have reduced congestion.

Public safety is not a problem.

Security services provision is satisfactory.

Traffic congestion through mobile phones.

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

Bicycle hiring has reduced congestion.

Online reporting of city maintenance problems provides a speedy solution.
**Health & Safety (Opportunities (Work & School))**

- **IT skills are taught well in schools**
- **Online services provided by the city has made it easier to start a new business**
- **Free public wifi has improved access to city services**
- **A website or App allows residents to effectively monitor air pollution**
- **CCTV cameras has made residents feel safer**
- **Processing Identification Documents online has reduced waiting times**
- **An online platform where residents can propose ideas has improved city life**
- **Online public access to city finances has reduced corruption**
- **Information on local government decisions are easily accessible**
- **Online scheduling and ticket sales has made public transport easier to use**
- **Online voting has increased participation**
- **Social media benefits from close observation.**

**Mobility**

- **Traffic congestion is not a problem**
- **Online scheduling and ticket sales has made public transport easier to use**
- **Car-sharing Apps have reduced congestion**
- **Online purchasing of tickets to shows and museums has made it easier to attend**

**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**

**Activities**

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

**Structures**

- **Basic sanitation meets the needs of the poorest areas**
- **Recycling services are satisfactory**
- **Medical services provision is satisfactory**
- **Finding housing with rent equal to 30% or less of a monthly salary is not a problem**
- **Traffic congestion is not a problem**
- **Public transport is satisfactory**
- **Green spaces are satisfactory**
- **Traffic infrastructure is satisfactory**
- **Air pollution is not a problem**
- **Public safety is not a problem**

**Health & Safety**

- **Online reporting of city maintenance problems provides a speedy solution**
- **A website or App allows residents to effectively monitor air pollution**
- **CCTV cameras has made residents feel safer**
- **Arranging medical appointments online has improved access**
- **Social media benefits from close observation.**

**Technologies**

- **Online access to job listings has made it easier to find work**
- **If skills are taught well in schools**
- **Online public access to city finances has reduced corruption**
- **Online voting has increased participation**
- **The current internet speed and reliability meet connectivity needs**

**Group**

2

**Country**

- **2018**:
  - HDI: 0.920
  - GNI per capita (PPP $): 35,507
  - Mean years of schooling: 13.0
  - Life expectancy at birth: 81.2
- **2019**:
  - HDI: 0.932
  - GNI per capita (PPP $): 36,071
  - Mean years of schooling: 13.2
  - Life expectancy at birth: 81.3
- **2020**:
  - HDI: 0.924
  - GNI per capita (PPP $): 34,671
  - Mean years of schooling: 13.4
  - Life expectancy at birth: 80.4
- **2021**:
  - HDI: 0.929
  - GNI per capita (PPP $): 46,071
  - Mean years of schooling: 13.4
  - Life expectancy at birth: 80.7

**1 yr change**

- **GNI per capita (PPP $)**: +2,850
- **Mean years of schooling**: +0.0
- **Life expectancy at birth**: +0.0

**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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

**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)**

**BACKGROUND INFORMATION**

Glasgow

**Population HDI**

- 627,479
- 0.921

**City Rating**

- 65 out of 118 in 2021
- 52.5

**SMART CITY RATING**

- 80
- Out of 141

**SMART CITY RANKING**

- BB
- B in 2021

**FACtor Ratings**

- BB
- Technologies

**GROUP**

2

All ratings range from AAA to D

**GNI per capita (PPP $)**

- **2018**: 35,507
- **2019**: 36,071
- **2020**: 34,671
- **2021**: 46,071

**Mean years of schooling**

- **2018**: 13.0
- **2019**: 13.2
- **2020**: 13.4
- **2021**: 13.4

**Life expectancy at birth**

- **2018**: 81.2
- **2019**: 81.3
- **2020**: 80.4
- **2021**: 80.7

**Expected years of schooling**

- **2018**: 17.4
- **2019**: 17.5
- **2020**: 17.3
- **2021**: 17.3

**HDI**

- **2018**: 0.920
- **2019**: 0.932
- **2020**: 0.924
- **2021**: 0.929

**Population**

- **2018**: 627,479
- **2019**: 634,972
- **2020**: 627,479
- **2021**: 634,972

**Country Rating**

- **2018**: 63 out of 118
- **2019**: 62 out of 118
- **2020**: 63 out of 118
- **2021**: 65 out of 118

**Score**

- **2018**: 57.4
- **2019**: 56.1
- **2020**: 44.3
- **2021**: 37.5

**Score**

- **2018**: 51.4
- **2019**: 51.4
- **2020**: 51.4
- **2021**: 51.4

**Score**

- **2018**: 57.4
- **2019**: 56.1
- **2020**: 44.3
- **2021**: 37.5

**Score**

- **2018**: 57.4
- **2019**: 56.1
- **2020**: 44.3
- **2021**: 37.5

**Score**

- **2018**: 57.4
- **2019**: 56.1
- **2020**: 44.3
- **2021**: 37.5
BACKGROUND INFORMATION

City
Population 2,071,991 HDI 0.944

Country 2018 2019 2020 2021 1 yr change
HDI 0.937 0.945 0.942 0.947 +0.005
Life expectancy at birth 82.7 82.6 82.4 83.0 +0.5
Mean years of schooling 12.4 12.5 12.6 12.6 +0.0
GNI per capita (PPP $) 47,955 54,058 52,359 54,489 +2,130

ATTITUDES

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)
You are comfortable with face recognition technologies to lower crime
You are willing to concede personal data in order to improve traffic congestion
You feel the security of your home is somewhat secure

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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Health & Safety
- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public transport 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
- 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
- Dréme 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

Mobility
- Car-sharing Apps have reduced congestion
- Apps that direct you to an available parking space have reduced journey time
- Bicycle renting 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
- Dréme voting has increased participation in local government
- An online platform where residents can propose ideas has improved city life
- Processing Identification Documents online has reduced waiting times

All ratings range from AAA to D

BACKGROUND INFORMATION

Gothenburg

SMART CITY RANKING
36
Out of 141

46 out of 118 in 2021

SMART CITY RATING
A
BBB in 2021

FACTOR RATINGS
A

GROUP 1

STRUCTURES

Score

0 20 40 60 80 100

46.5
Health & Safety
- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public transport 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
- 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

TECHNOLOGIES

Score

0 20 40 60 80 100

46.5
Health & Safety
- Dréme 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

Mobility
- Car-sharing Apps have reduced congestion
- Apps that direct you to an available parking space have reduced journey time
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- 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
- Dréme voting has increased participation in local government
- An online platform where residents can propose ideas has improved city life
- Processing Identification Documents online has reduced waiting times

All ratings range from AAA to D
**Health & Safety**
- Basic sanitation meets the needs of the poorest areas: 83.7
- Recycling services are satisfactory: 77.1
- Public safety is not a problem: 80.8
- Air pollution is not a problem: 60.3
- Medical services provision is satisfactory: 80.5
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 61.6

**Mobility**
- Traffic congestion is not a problem: 45.5
- Public transport is satisfactory: 70.0

**Activities**
- Green spaces are satisfactory: 78.6
- Cultural activities (shows, bars, and museums) are satisfactory: 84.6

**Opportunities (Work & School)**
- Employment finding services are readily available: 80.0
- Most children have access to a good school: 76.6
- Lifelong learning opportunities are provided by local institutions: 68.5
- Businesses are creating new jobs: 78.9
- Minorities feel welcome: 82.2

**Governance**
- Information on local government decisions are easily accessible: 78.5
- Corruption of city officials is no longer an issue of concern: 62.9
- Residents contribute to decision-making of local government: 69.9
- Residents provide feedback on local government projects: 78.5

**Smart City Index 2021**
- Guangzhou
- Population: 13,964,637
- HDI: 0.799
- Country rank: 66 out of 118
- City rank: 4

**Priorities**
- Road congestion
- Air pollution
- Affordable housing
- Public transport
- Health services
- Basic amenities
- Social mobility
- School education
- Corruption
- Greener spaces
- Unemployment
- Recycling
- Public safety
- Citizen engagement
- Most urgent for cities

**ATTITUDES**
- You are willing to concede personal data in order to improve traffic congestion: 62.6%
- You are comfortable with face recognition technologies to lower crime: 89.6%
- You feel the availability of online information has increased your trust in authorities: 90.6%
- You are willing to concede personal data in order to improve traffic congestion: 62.6%
- You are comfortable with face recognition technologies to lower crime: 89.6%
- You feel the availability of online information has increased your trust in authorities: 90.6%

**LEGEND**
- RED: PRIORITY AREAS
- BLUE: BACKGROUND INFORMATION
- GREEN: FACTOR RANKINGS
- ORANGE: CITY RATING
- AAA: Best
- CCC: Below average
- D: Worst

**Map tiles by Stamen Design CC BY 3.0 Map Data © OpenStreetMap**
health & safety

meantech

city

online services provided by the city have made it easier to start a new business

18.0

mobility

activities

mean

free public wifi has improved access to city services

governance

it skills are taught well in schools

opportunities (work & school)

2021

city rating

all ratings range from aaa to d

structures

rankings

rattings

not out of 118

in 2021

smart
city

141

out of 141

smart city rating

D

not in 2021

factor ratings

D

structures

D

technologies

D

group

4

All ratings range from AAA to D

climate

Activities

Green spaces are satisfactory

55.0

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

58.2

Opportunities (work & school)

Employment finding services are readily available

46.3

Most children have access to a good school

10.6

Lifelong learning opportunities are provided by local institutions

24.1

Businesses are creating new jobs

39.1

Minorities feel welcome

23.9

Goverance

Information on local government decisions are easily accessible

23.6

Corruption of city official is not an issue of concern

8.5

Residents contribute to decision making of local government

11.1

Residents provide feedback on government projects

15.5

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

Smart City Index 2021
Online services provided by the city have made it easier to start a new business.

Opportunities (Work & School)

- Lifelong learning opportunities are provided by local institutions (77.8)
- Most children have access to a good school (83.7)
- Employment finding services are readily available (78.8)
- Recreational activities (shows, bars, and museums) are satisfactory (89.3)
- Basic sanitation meets the needs of the poorest areas (84.9)

The city provides information on traffic congestion through mobile phones.

Opportunities (Work & School)

- Online public access to city finances has reduced corruption (74.4)
- Online voting has increased participation (81.9)
- Information on local government decisions are easily accessible (84.6)
- Corruptions of city officials is not an issue of concern (80.8)
- Responsible for decision-making of local government (82.5)
- Residents contribute to decision-making of local government (82.5)

Activities

- Online purchasing of tickets to shows and museums has made it easier to attend (89.3)
- Online scheduling and ticket sales has made public transport easier to use (88.0)
- The city provides information on traffic congestion through mobile phones (88.8)
- Bike-sharing Apps have reduced congestion (72.2)
- Apps that direct you to an available parking space have reduced journey time (79.2)

For the Health & Safety indicator, the percentage of respondents who agree or strongly agree with the statement that you feel the availability of online information has increased your trust in authorities is 14.7%. The percentage of respondents who feel the availability of online information has increased your trust in authorities is 14.7%. The percentage of respondents who are comfortable with face recognition technologies to lower crime is 14.7%. The percentage of respondents who are willing to concede personal data in order to improve traffic congestion is 14.7%.
### Health & Safety

**Basic sanitation meets the needs of the poorest areas**

**Recycling services are satisfactory**

**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**

**Traffic congestion is not a problem**

**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**

### Mobility

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

**Bicycle sharing has reduced congestion**

### Activities

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

### Opportunities (Work & School)

**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**

### Health & Safety

**Online reporting of city maintenance problems provides a speedy solution**

**A website or App allows residents to effectively monitor air pollution**

**CCTV cameras has made residents feel safer**

**Basic sanitation meets the needs of the poorest areas**

**Recycling services are satisfactory**

**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**

**Traffic congestion is not a problem**

**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**

### Mobility

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

**Bicycle sharing has reduced congestion**

### Activities

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

### Opportunities (Work & School)

**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**
Hanover

SMART CITY RANKING

57
Out of 141

53 out of 118
in 2021

SMART CITY RATING

BB
BB in 2021

BACKGROUND INFORMATION

City
Population HDI 8,003,421 0.930
(Eurostat)

Country 2018 2019 2020 2021 1 yr change
HDI 0.939 0.947 0.944 0.942 -0.002
Life expectancy at birth 81.2 81.3 81.2 80.6 -0.5
Expected years of schooling 17.1 17.0 17.0 17.0 0.0
Mean years of schooling 14.1 14.2 14.1 14.1 0.0
GNI per capita (PPP $) 46,946 55,314 53,078 54,524 +1,457

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

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

Priorities to improve city life 2021

<table>
<thead>
<tr>
<th>FACTOR RATINGS</th>
<th>STRUCTURES</th>
<th>TECHNOLOGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBB</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>B</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td>GROUP 2</td>
<td>60%</td>
<td>80%</td>
</tr>
</tbody>
</table>

All ratings range from AAA to D
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: 70.2
- Recycling services are satisfactory: 76.7
- Air pollution is not a problem: 59.8
- Medical services provision is satisfactory: 65.1
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 32.2

**Mobility**

- Traffic congestion is not a problem: 50.9
- Public transport is satisfactory: 78.3

**Activities**

- Green spaces are satisfactory: 75.9
- Cultural activities (shows, bars, and museums) are satisfactory: 76.9

**Opportunities (Work & School)**

- Employment finding services are readily available: 66.5
- Most children have access to a good school: 80.7
- Lifelong learning opportunities are provided by local institutions: 74.6
- Businesses are creating new jobs: 74.4
- Minorities feel welcome: 56.1

**Governance**

- Information on local government decisions are easily accessible: 64.6
- Corruption of city officials is not an issue of concern: 59.5
- Residents contribute to decision-making of local government: 54.3
- Residents provide feedback on local government projects: 65.1

---

**SMART CITY RATING**

**AAA in 2021**

**BACKGROUND INFORMATION**

- **Country**
  - **Population:** 1,702,678
  - **HDI:** 0.960

**TECHNOLOGIES**

- **GNI per capita (PPP $)**: 
  - 2018: 1,702,678
  - 2019: 0.925
  - 2020: 0.938
  - 2021: 0.940
- **Mean years of schooling**:
  - 2018: 12.4
  - 2019: 12.8
  - 2020: 12.9
- **Expected years of schooling**:
  - 2018: 18.0
  - 2019: 18.0
  - 2020: 18.0
- **Life expectancy at birth**:
  - 2018: 81.7
  - 2019: 81.9
  - 2020: 82.0
- **Health & Safety**
  - Basic sanitation meets the needs of the poorest areas: 70.2
  - Recycling services are satisfactory: 76.7
  - Air pollution is not a problem: 59.8
  - Medical services provision is satisfactory: 65.1
  - Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 32.2

**ATTITUDES**

- **You are willing to concede personal data in order to improve traffic congestion**
  - 2018: 50.3%
  - 2019: 54.8%
  - 2020: 60.8%
  - 2021: 62.4%

**PRIORITY AREAS**

- **Safeguarding the environment**
  - 2018: 48.7%
  - 2019: 66.6%
  - 2020: 55.1%
  - 2021: 48.7%
- **Affordable housing**
  - 2018: 31.7%
  - 2019: 24.8%
  - 2020: 24.8%
  - 2021: 24.8%
- **Public transport is satisfactory**
  - 2018: 62.4%
  - 2019: 65.1%
  - 2020: 65.1%
  - 2021: 65.1%
- **Cultural activities (shows, bars, and museums) are satisfactory**
  - 2018: 73.3%
  - 2019: 73.3%
  - 2020: 73.3%
  - 2021: 73.3%
- **Processing identification documents online has reduced waiting times**
  - 2018: 83.8%
  - 2019: 83.8%
  - 2020: 83.8%
  - 2021: 83.8%
Online services provided by the city have made it easier to start a new business. Free public Wi-Fi has improved access to city services. The current internet speed and reliability meet connectivity needs. Finding housing with rent equal to 30% or less of a monthly salary is not a problem. Arranging medical appointments online has improved access. Health services provision is satisfactory. A website or App allows residents to effectively monitor air pollution. Air pollution is not a problem. CCTV cameras have made residents feel safer. Residents provide feedback on local government projects. Processing identification documents online has reduced waiting times. Residents contribute to decision-making of local government. An online platform where residents can propose ideas has improved city life. Corruption of city officials is not an issue of concern. Online voting has increased participation. Information on local government decisions is easily accessible. Online public access to city finances has reduced corruption. Most children have access to a good school. Employment finding services are readily available. Online access to job listings has made it easier to find work. The current internet speed and reliability meet connectivity needs.

**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

**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 is 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
BACKGROUND INFORMATION

City
- Population: 7,413,070
- HDI (2019): 0.949

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.939</td>
<td>0.949</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>84.7</td>
<td>84.9</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>16.5</td>
<td>16.0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>12.0</td>
<td>12.3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>60,221</td>
<td>62,885</td>
<td>58,644</td>
<td>62,607</td>
<td>+3,963</td>
</tr>
</tbody>
</table>

ATTITUDES

- 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)
- You are comfortable with face recognition technologies to lower crime
- You are willing to concede personal data in order to improve traffic congestion
- You feel information on local government decisions are easily accessible

SMART CITY RATING

- 19 Out of 141
- 33 out of 118 in 2021

All ratings range from AAA to D
Online services provided by the city has made it easier to start a new business

Mobility

- IT skills are taught well in schools
- Free public wifi has improved access to city services

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
- Arranging medical appointments online has improved access

Structures

- GNI per capita (PPP $)
- Mean years of schooling
- Expected years of schooling
- Life expectancy at birth
- HDI

Technologies

- Online scheduling and ticket sales has made public transport easier to use
- Bicycle hiring has reduced congestion
- Online purchasing of tickets to shows and museums has made it easier to attend

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

Opinions (Work & School)

- Online access to job listings has made it easier to find work
- IT skills are taught well in schools
- Online purchasing of tickets to shows and museums has made it easier to attend

Opinions (Access)

- Online public access to city finances has reduced corruption
- Online scheduling and ticket sales has made public transport easier to use

Opinions (Education)

- Online access to job listings has made it easier to find work
- Online purchasing of tickets to shows and museums has made it easier to attend

Opinions (Safety)

- Online public access to city finances has reduced corruption
- Online scheduling and ticket sales has made public transport easier to use

Opinions (Health & Safety)

- Online public access to city finances has reduced corruption
- Online scheduling and ticket sales has made public transport easier to use

Opinions (Security)

- Online public access to city finances has reduced corruption
- Online scheduling and ticket sales has made public transport easier to use

Opinions (Transport)

- Online public access to city finances has reduced corruption
- Online scheduling and ticket sales has made public transport easier to use
Online services provided by the city has made it easier to start a new business.

IT skills are taught well in schools.

Mobility

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

Medical services provision is satisfactory.

Air pollution is not a problem.

Residents provide feedback on local government projects.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Information on local government decisions are easily accessible.

Online public access to city finances has reduced corruption.

Most children have access to a good school.

Opportunities (Work & School)

Residents contribute to decision making of local government.

Public safety is not a problem.

Basic amenities meets the needs of the poorest areas.

Online reporting of city maintenance problems provides a speedy solution.

GNI per capita (PPP $)

Population

HDI

Country

2018
2019
2020
2021
1 yr change

Life expectancy at birth
66.5
66.8
66.3
66.1
-0.2

Mean years of schooling
8.3
8.7
8.7
8.7
0.0

GNI per capita (PPP $)
4,658
4,604
4,467
4,624
+156

Country

2018
2019
2020
2021
1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas
57.8

Recycling services are satisfactory
56.3

Public safety is not a problem
43.1

Medical services provision is satisfactory
29.2

Traffic congestion is not a problem
43.3

Public transport is satisfactory
56.5

Green spaces are satisfactory
82.1

Cultural activities (shows, bars, and museums) are satisfactory
73.5

Unemployment is not an issue of concern
57.9

Most children have access to a good school
46.8

Basic amenities meets the needs of the poorest areas
56.5

GNI per capita (PPP $)
4,658
4,604
4,467
4,624
+156

Country

2018
2019
2020
2021
1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas
57.8

Recycling services are satisfactory
56.3

Public safety is not a problem
43.1

Medical services provision is satisfactory
29.2

Traffic congestion is not a problem
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Public transport is satisfactory
56.5

Green spaces are satisfactory
82.1

Cultural activities (shows, bars, and museums) are satisfactory
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Unemployment is not an issue of concern
57.9

Most children have access to a good school
46.8

Basic amenities meets the needs of the poorest areas
56.5

GNI per capita (PPP $)
4,658
4,604
4,467
4,624
+156

Country

2018
2019
2020
2021
1 yr change

Health & Safety

Basic sanitation meets the needs of the poorest areas
57.8

Recycling services are satisfactory
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Public safety is not a problem
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Medical services provision is satisfactory
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Basic amenities meets the needs of the poorest areas
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GNI per capita (PPP $)
4,658
4,604
4,467
4,624
+156
Health & Safety

Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
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
Lifetime 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

IT skills are taught well in schools
Opportunities (Work & School)
A website or App allows residents to easily give away unwanted items
Online public access to city finances has reduced corruption
Processing Identification Documents online has reduced waiting times

- 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, dark blue section shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
Jakarta

SMART CITY RANKING

102
Out of 141

BACKGROUND INFORMATION

City
Population HDI 2018 2019 2020 2021 1 yr change
10,562,088 0.759 0.707 0.718 0.709 0.705 -0.004

Country
Population HDI 2018 2019 2020 2021 1 yr change
10,562,088 0.759 0.707 0.718 0.709 0.705 -0.004

Health & Safety
Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
Minorities feel welcome

Governance
Information on local government decisions are easily accessible
Corruption of city official 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.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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)

TECHNOLOGIES

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 wi-fi 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
dine reporting of city maintenance problems provides a speedy solution

Opportunities (Work & School)
Online access to job listings has made it easier to find work
IF 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

Score
0 20 40 60 80 100

% of respondents who chose the Priority Area

% of respondents who agree or strongly agree with the statement

Score
0 20 40 60 80 100

% of transactions

Score
0 20 40 60 80 100

% of respondents

Score
0 20 40 60 80 100

% of respondents

Score
0 20 40 60 80 100

% of respondents

Score
0 20 40 60 80 100

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% of respondents

Score
0 20 40 60 80 100

% of respondents

Score
0 20 40 60 80 100

% of respondents

Score
0 20 40 60 80 100

% of respondents
Health & Safety

- Basic sanitation meets the needs of the poorest areas: 76.8
- Recycling services are satisfactory: 70.6
- Air pollution is not a problem: 51.2
- Medical services provision is satisfactory: 73.8
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 44.9

Mobility

- Traffic congestion is not a problem: 25.4
- Public transport is satisfactory: 60.1

Activities

- Green spaces are satisfactory: 66.1
- Cultural activities (shows, bars, and museums) are satisfactory: 77.2

Opportunities (Work & School)

- Employment finding services are readily available: 55.1
- Most children have access to a good school: 74.8
- Lifelong learning opportunities are provided by local institutions: 68.3
- Businesses are creating new jobs: 63.2
- Minorities feel welcome: 69.6

Governance

- Information on local government decisions are easily accessible: 77.4
- Corruption of city officials is not an issue of concern: 46.6
- Residents contribute to decision-making of local government: 57.7
- Residents provide feedback on local government projects: 63.6

Technologies

- Online reporting of city maintenance problems provides a speedy solution: 71.9
- A website or App allows residents to easily give away unwanted items: 71.7
- Free public wifi has improved access to city services: 70.6
- CCTV cameras has made residents feel safer: 71.9
- Online scheduling and ticket sales has made public transport easier to use: 74.1
- The city provides information on traffic congestion through mobile phones: 73.6
- Online purchasing of tickets to shows and museums has made it easier to attend: 85.4
- Online public access to city finances has reduced corruption: 72.8
- Online voting has increased participation: 76.1
- An online platform where residents can propose ideas has improved city life: 74.3
- Processing Identification Documents online has reduced waiting times: 88.0

ATTITUDES

- You feel the availability of online information has increased your trust in authorities: 77.2
- You are comfortable with face recognition technologies to lower crime: 74.5
- You are willing to concede personal data in order to improve traffic congestion: 71.9
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 70.6

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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Online services provided by the city have made it easier to start a new business.

Free public WiFi has improved access to city services.

IT skills are taught well in schools.

Governance

Minorities feel welcome.

Businesses are creating new jobs.

The current internet speed and reliability meet connectivity needs.

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

Arranging medical appointments online has improved access.

Medical services provision is satisfactory.

A website or App allows residents to effectively monitor air pollution.

Air pollution is not a problem.

CCTV cameras have made residents feel safer.

Residents provide feedback on local government projects.

Processing identification documents online has reduced waiting times.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Information on local government decisions is easily accessible.

Online public access to city finances has reduced corruption.

Attitudes

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

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions) has increased.

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Health & Safety

Online services provided by the city has made it easier to start a new business.

Activities

MAX

MEAN

2021

TECHNOLOGIES

GROUP

CITY

59.1

IT skills are taught well in schools.

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.

Public transport is satisfactory.

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.

The city provides information on traffic congestion through mobile phones.

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

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

You are comfortable with face recognition technologies to lower crime.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Strategic city rating 79

Out of 141

76 out of 118

in 2021

Smart City Index 2021

Factors

Population HDI

Attitudes

Map tiles by Stamen Design CC BY 3.0 Map styles by Mapbox. © 2016

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

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Kuala Lumpur

BACKGROUND INFORMATION

City

Country | 2018 | 2019 | 2020 | 2021 | 1 yr change
---|---|---|---|---|---
HDI | 0.804 | 0.810 | 0.806 | 0.803 | -0.003
Life expectancy at birth | 76.0 | 76.2 | 75.9 | 74.9 | -1.1
Expected years of schooling | 13.5 | 13.7 | 13.3 | 13.3 | 0.0
Mean years of schooling | 10.2 | 10.4 | 10.7 | 10.7 | 0.0
GNI per capita (PPP $) | 27,227 | 27,534 | 25,940 | 26,658 | +717

Health & Safety

Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
Traffic congestion is not a problem
Public transport is satisfactory

Mobility

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

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

FIGURES

Smart City Index 2021

Kuala Lumpur

89

80 out of 118 in 2021

UNC Data

Population HDI

2018: 82.0
2019: 82.6
2020: 82.7
2021: 82.3

1,853,918

Score

0 20 40 60 80 100

0 20 40 60 80 100

% of respondents who chose the Priority Area

% of respondents who agree or strongly agree with the statement

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

LEGEND:

- Low priority
- Medium priority
- High priority

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

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

(% of transactions)

0% 20% 40% 60% 80% 100%

0% 20% 40% 60% 80% 100%

% of respondents

0 20 40 60 80 100

0 20 40 60 80 100

% of respondents

You are willing to concede personal data in order to improve traffic congestion
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The proportion of your day-to-day payment transactions that are non-cash

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You are willing to concede personal data in order to improve traffic congestion
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

The proportion of your day-to-day payment transactions that are non-cash
Online services provided by the city have made it easier to start a new business.

IT skills are taught well in schools.

Free public wifi has improved access to city services.

CCTV cameras have made residents feel safer.

A website or app allows residents to effectively monitor air pollution.

A website or app allows residents to easily give away unwanted items.

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

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

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

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

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 city's priority.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
Online services provided by the city has made it easier to start a new business.

IT skills are taught well in schools.

Free public wifi has improved access to city services.

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

Medical services provision is satisfactory.

CCTV cameras has made residents feel safer.

Residents contribute to decision making of local government.

Processing Identification Documents online has reduced waiting times.

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 is 54.8%.

You are willing to concede personal data in order to improve traffic congestion.

You are comfortable with face recognition technologies to lower crime.

The city provides information on traffic congestion through mobile phones.

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

Bicycle hiring has reduced congestion.

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

CCTV cameras has made residents feel safer.

A website or App allows residents to effectively monitor air pollution.

A website or App allows residents to easily give away unwanted items.

The proportion of those who agree or strongly agree with the statement provided in the left panel.

The total bar represents the priority for the city.

The larger the percentage of responses per area, the more urgent for their city.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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Health & Safety

Online services provided by the city have made it easier to start a new business.

IT skills are taught well in schools.

Free public wifi has improved access to city services.

Lifelong learning opportunities are provided by local institutions.

The city provides information on traffic congestion through mobile phones.

Online scheduling and ticket sales have made public transport easier to use.

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

Online reporting of city maintenance problems provides a speedy solution.

Public safety is not a problem.

Online access to city finances has reduced corruption.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

A website or App allows residents to effectively monitor air pollution.

Air pollution is not a problem.

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

Online access to city finances has reduced corruption.

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

Public safety is not a problem.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

A website or App allows residents to effectively monitor air pollution.

Air pollution is not a problem.

The proportion of your day-to-day payment transactions that are non-cash (% of transactions).
Opportunities (Work & School)

IT skills are taught well in schools: 62.3

党中央

2021 GROUP

Activities

Free public wifi has improved access to city services: 34.5

Mobility

Traffic congestion is not a problem: 31.6

Air pollution is not a problem: 34.5

Residents contribute to decision making of local government: 51.4

CCTV cameras has made residents feel safer: 56.7

Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 71.6

Most children have access to a good school: 63.1

Residents feel welcome: 55.1

Health & Safety

Public safety is not a problem: 59.0

Online public access to city finances has reduced corruption: 49.4

The city provides information on traffic congestion through mobile phones: 62.3

Cultural activities (shows, bars, and museums) are satisfactory: 75.8

Online access to job listings has made it easier to find work: 62.0

Air pollution is not a problem: 68.1

Online scheduling and ticket sales has made public transport easier to use: 67.2

Public transport is satisfactory: 67.7

Air pollution has increased participation: 45.9

Online public access to city finances has reduced corruption: 49.4

Expected years of schooling: 15.5

Online voting has increased participation: 52.7

Mean years of schooling: 11.4

The current internet speed and reliability meet connectivity needs: 57.8

Life expectancy at birth: 82.5

Online purchasing of tickets to shows and museums has made it easier to attend: 74.8

Country 2018 2019 2020 2021 1 yr change

Mean years of schooling: 15.5

Resident's contribution to decision making of local government: 51.0

Life expectancy at birth: 82.5

Minorities feel welcome: 65.6

Empty years of schooling: 15.8

Corruption of city officials is not an issue of concern: 45.9

GNI per capita (PPP $) 11.4

Residents provide feedback on local government projects: 51.4

Health & Safety

Online reporting of city maintenance problems provides a speedy solution: 54.6

A website or App allows residents to effectively monitor air pollution: 50.0

Public safety is not a problem: 59.0

Over the years, the city has provided information on traffic congestion through mobile phones: 62.3

Opportunities (Work & School)

Smart City Index 2021

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Free public wifi has improved access to city services

Online services provided by the city has made it easier to start a new business

IT skills are taught well in schools

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

Arranging medical appointments online has improved access

Air pollution is not a problem

Residents contribute to decision making of local government

Processing Identification Documents online has reduced waiting times

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)
Online services provided by the city has made it easier to start a new business. IT skills are taught well in schools. Free public wifi has improved access to city services.

2021

Mobility

MAX

CITY

Opportunities (Work & School)

All ratings range from AAA to D. Lisbon scored 99 out of 141 in 2021.

Health & Safety

Basic sanitation meets the needs of the poorest areas

Recycling services are satisfactory

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

Lifetime learning opportunities are provided by local institutions

Businesses are creating new jobs

Minorities feel welcome

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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)
Health & Safety
- Basic sanitation meets the needs of the poorest areas: Score 71.3
- Recycling services are satisfactory: Score 68.5
- Public safety is not a problem: Score 68.8
- Air pollution is not a problem: Score 40.2
- Medical services provision is satisfactory: Score 38.8
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: Score 15.5

Mobility
- Traffic congestion is not a problem: Score 19.7
- Public transport is satisfactory: Score 49.4

Activities
- Green spaces are satisfactory: Score 71.7
- Cultural activities (shows, bars, and museums) are satisfactory: Score 71.7

Opportunities (Work & School)
- Employment finding services are readily available: Score 53.4
- Most children have access to a good school: Score 69.7
- Lifelong learning opportunities are provided by local institutions: Score 59.7
- Businesses are creating new jobs: Score 49.7
- Minorities feel welcome: Score 56.6

Governance
- Information on local government decisions are easily accessible: Score 51.0
- Corruption of city officials is not an issue of concern: Score 31.2
- Residents contribute to decision making of local government: Score 35.4
- Residents provide feedback on local government projects: Score 40.6

Health & Safety
- ONLINE reporting of city maintenance problems provides a speedy solution: Score 47.1
- A website or App allows residents to easily give away unwanted items: Score 46.9
- Free public wifi has improved access to city services: Score 59.8
- CCTV cameras have made residents feel safer: Score 40.3
- A website or App allows residents to effectively monitor air pollution: Score 52.7
- Arranging medical appointments online has improved access: Score 49.8

Mobility
- Car-sharing Apps have reduced congestion: Score 37.5
- Apps that direct you to an available parking space have reduced journey time: Score 45.5
- Bicycle hiring has reduced congestion: Score 65.8
- Online scheduling and ticket sales has made public transport easier to use: Score 67.4
- The city provides information on traffic congestion through mobile phones: Score 44.5

Activities
- Online purchasing of tickets to shows and museums has made it easier to attend: Score 75.8

Opportunities (Work & School)
- ONLINE access to job listings has made it easier to find work: Score 67.6
- IT skills are taught well in schools: Score 49.6
- ONLINE services provided by the city has made it easier to start a new business: Score 50.8
- The current internet speed and reliability meet connectivity needs: Score 70.2

Governance
- ONLINE public access to city finances has reduced corruption: Score 29.8
- ONLINE voting has increased participation: Score 36.3
- An online platform where residents can propose ideas has improved city life: Score 43.0
- Processing Identification Documents online has reduced waiting times: Score 47.5

BACKGROUND INFORMATION
Country 2018 2019 2020 2021 1 yr change
HDI 0.917 0.921 0.913 0.918 <0.005
Life expectancy at birth 81.4 81.6 80.4 80.7 <0.3
Expected years of schooling 17.6 17.7 17.7 17.7 <0.0
Mean years of schooling 12.8 12.8 12.8 12.8 <0.0
GNI per capita (PPP $) 37,411 38,440 36,993 39,746 2,753

SMART CITY RATING
Ljubljana
BBB
47
not out of 118 in 2021

SMART CITY RANKING
Ljubljana
BBB
47
Out of 141

FACTOR RATINGS
Health & Safety
BBB
Governance
BBB
IT skills are taught well in schools
MAX GROUP MEAN
Opportunities (Work & School)
CITY TECHNOLOGIES 2021
49.4
Activities
Mobility
OBJECTIVE RATING
All ratings range from AAA to D
Health & Safety
Opportunities (Work & School)
MAX CITY
Activities
TECHNOLOGIES
Free public wifi has improved access to city services
MEAN GROUP
MEAN Governance
61.2
Online services provided by the city has made it easier to start a new business
Mobility
CITY RATING
All ratings range from AAA to D
TECHNOLOGIES
BBB
STRUCTURES
AA
TECHNOLOGIES
GROUP 1
All ratings range from AAA to D

Country | 2018 | 2019 | 2020 | 2021 | 1 yr change
--- | --- | --- | --- | --- | ---
HDI | 0.920 | 0.932 | 0.924 | 0.929 | +0.005
Life expectancy at birth | 81.2 | 81.3 | 80.4 | 80.7 | +0.3
Expected years of schooling | 17.4 | 17.5 | 17.3 | 17.3 | +0.0
Mean years of schooling | 13.0 | 13.2 | 13.4 | 13.4 | +0.0
GNI per capita (PPP $) | 35,507 | 46,071 | 42,375 | 45,225 | +2,850

Mean years of schooling | 13.0 | 13.2 | 13.4 | 13.4 | +0.0
Expected years of schooling | 17.4 | 17.5 | 17.3 | 17.3 | +0.0
Life expectancy at birth | 81.2 | 81.3 | 80.4 | 80.7 | +0.3
HDI | 0.920 | 0.932 | 0.924 | 0.929 | +0.005

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)

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

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
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
If 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

<table>
<thead>
<tr>
<th>Factor</th>
<th>Ratings</th>
<th>Score</th>
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<td>Recycling services are satisfactory</td>
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<td>Air pollution is not a problem</td>
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<td>Medical services provision is satisfactory</td>
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<td>Traffic congestion is not a problem</td>
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<td>Employment finding services are readily available</td>
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<tr>
<td>Businesses are creating new jobs</td>
<td>61.7</td>
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<tr>
<td>Minorities feel welcome</td>
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<tr>
<td>Information on local government decisions are easily accessible</td>
<td>63.3</td>
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<tr>
<td>Corruption of city officials is not an issue of concern</td>
<td>40.1</td>
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<td>Residents contribute to decision making of local government</td>
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<tr>
<td>Residents provide feedback on local government projects</td>
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<table>
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<td>Apps that direct you to an available parking space have reduced journey time</td>
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<td>Bicycle hiring has reduced congestion</td>
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<td>Online scheduling and ticket sales has made public transport easier to use</td>
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<td>The city provides information on traffic congestion through mobile phones</td>
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<tr>
<td>Online purchasing of tickets to shows and museums has made it easier to attend</td>
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<tr>
<td>Online access to job listings has made it easier to find work</td>
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<tr>
<td>If skills are taught well in schools</td>
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<tr>
<td>Online services provided by the city has made it easier to start a new business</td>
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<tr>
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<tr>
<td>Online public access to city finances has reduced corruption</td>
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<tr>
<td>Online voting has increased participation</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>An online platform where residents can propose ideas has improved city life</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Processing Identification Documents online has reduced waiting times</td>
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</table>
**Smart City Index 2021**

**Los Angeles**

**BACKGROUND INFORMATION**

- **City**
  - Population: 3,896,747
  - HDI: 0.931
  - (UN Data)

**Country**

<table>
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<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
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<td>0.926</td>
<td>0.920</td>
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<td>16.3</td>
<td>16.3</td>
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<td>13.7</td>
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<td>GNI per capita (PPP $)</td>
<td>56,140</td>
<td>63,826</td>
<td>61,462</td>
<td>64,785</td>
<td>+3,304</td>
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**SMART CITY RANKING**

- **50 Out of 141**

**SMART CITY RATING**

- **BB**
  - BB in 2021
  - **30 Out of 118 in 2021**

**TECHNOLOGIES**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
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<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
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<tr>
<td>Health &amp; Safety</td>
<td>BBB</td>
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<td>Activities</td>
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<td>52.9</td>
<td>58.2</td>
<td>58.3</td>
<td>5.4</td>
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<tr>
<td>Governance</td>
<td>BBB</td>
<td>65.8</td>
<td>35.5</td>
<td>56.5</td>
<td>59.7</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**ATTITUDES**

- **You feel the availability of online information has increased your trust in authorities**
  - 8.7% of respondents who agree or strongly agree

**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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

**Score**

- **0 20 40 60 80 100**

**Legend**

- **MIN**
- **MAX**
- **MEAN**

**Map tiles by Stamen Design CC BY 3.0 Map Data © OpenStreetMap**
Health & Safety

- Basic sanitation meets the needs of the poorest areas: 78.4%
- Recycling services are satisfactory: 84.3%
- Public safety is not a problem: 64.1%
- Air pollution is not a problem: 51.8%
- Medical services provision is satisfactory: 78.2%
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 16.2%

Mobility

- Traffic congestion is not a problem: 26.5%
- Public transport is satisfactory: 70.3%

Activities

- Green spaces are satisfactory: 81.1%
- Cultural activities (shows, bars, and museums) are satisfactory: 77.9%

Opportunities (Work & School)

- Employment finding services are readily available: 67.9%
- Most children have access to a good school: 80.7%
- Lifelong learning opportunities are provided by local institutions: 71.6%
- Businesses are creating new jobs: 60.1%
- Minorities feel welcome: 64.7%

Opportunities (Work & School)

- Online access to job listings has made it easier to find work: 63.4%
- IT skills are taught well in schools: 56.3%
- Online services provided by the city have made it easier to start a new business: 48.7%
- The current internet speed and reliability meet connectivity needs: 79.2%

Governance

- Information on local government decisions are easily accessible: 70.4%
- Corruption of city officials is not an issue of concern: 54.3%
- Residents contribute to decision-making of local government: 44.8%
- Residents provide feedback on local government projects: 48.6%
Free public wifi has improved access to city services.

Online services provided by the city have made it easier to start a new business.

IT skills are taught well in schools.

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

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

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions)

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
Online services provided by the city have made it easier to start a new business. The city provides information on traffic congestion through mobile phones. Online scheduling and ticket sales have made public transport easier to use. Bicycle hiring has reduced congestion. The city provides information on traffic congestion through mobile phones.

**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: 63.9
- Recycling services are satisfactory: 64.1
- Public safety is not a problem: 53.9
- Air pollution is not a problem: 29.6
- Medical services provision is satisfactory: 50.6
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 20.9

**Mobility**

- Traffic congestion is not a problem: 23.7
- Public transport is satisfactory: 62.5

**Activities**

- Green spaces are satisfactory: 74.0
- Cultural activities (shows, bars, and museums) are satisfactory: 80.1

**Opportunities (Work & School)**

- Employment finding services are readily available: 74.6
- Most children have access to a good school: 61.8
- Lifelong learning opportunities are provided by local institutions: 67.5
- Businesses are creating new jobs: 49.0
- Minorities feel welcome: 54.6

**Governance**

- Information on local government decisions is easily accessible: 58.1
- Corruption of city officials is not an issue of concern: 33.0
- Residents contribute to decision-making of local government: 39.3
- Residents provide feedback on local government projects: 44.2

**ATTITUDES**

- You feel the availability of online information has increased your trust in authorities: 67.3%
- You are comfortable with face recognition technologies to lower crime: 77.4%
- You are willing to concede personal data in order to improve traffic congestion: 62.2%
- You feel the availability of online information has increased your trust in authorities: 68.5%
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: 57.3
- Recycling services are satisfactory: 52.2
- Public safety is not a problem: 48.3
- Air pollution is not a problem: 42.9
- Medical services provision is satisfactory: 66.5
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 61.2

**Mobility**

- Traffic congestion is not a problem: 36.3
- Public transport is satisfactory: 57.9

**Activities**

- Green spaces are satisfactory: 64.1
- Cultural activities (shows, bars, and museums) are satisfactory: 65.4

**Opportunities (Work & School)**

- Employment finding services are readily available: 62.8
- Most children have access to a good school: 69.8
- Lifelong learning opportunities are provided by local institutions: 60.3
- Businesses are creating new jobs: 78.6
- Minorities feel welcome: 74.1

**Governance**

- Information on local government decisions are easily accessible: 64.8
- Corruption of city officials is not an issue of concern: 26.5
- Residents contribute to decision making of local government: 61.9
- Residents provide feedback on local government projects: 61.4

**Health & Safety**

- Drone reporting of city maintenance problems provides a speedy solution: 54.6
- A website or App allows residents to easily give away unwanted items: 53.5
- Free public Wi-Fi has improved access to city services: 55.7
- CCTV cameras has made residents feel safer: 67.7
- A website or App allows residents to effectively monitor air pollution: 52.3
- Arranging medical appointments online has improved access to care: 72.0

**Mobility**

- Car-sharing Apps have reduced congestion: 54.8
- Apps that direct you to an available parking space have reduced journey time: 51.2
- Bicycle hiring has reduced congestion: 46.6
- Online scheduling and ticket sales has made public transport easier to use: 71.9
- The city provides information on traffic congestion through mobile phones: 59.3

**Activities**

- Online purchasing of tickets to shows and museums has made it easier to attend: 66.3

**Opportunities (Work & School)**

- Online access to job listings has made it easier to find work: 74.6
- IT skills are taught well in schools: 64.3
- Online services provided by the city has made it easier to start a new business: 68.0
- The current internet speed and reliability meet connectivity needs: 70.5

**Governance**

- Online public access to city finances has reduced corruption: 49.2
- Online voting has increased participation: 56.7
- An online platform where residents can propose ideas has improved city life: 58.6
- Processing Identification Documents online has reduced waiting times: 69.1

**ATTITUDES**

- You feel the availability of online information has increased your trust in authorities: 76.3%
- You are willing to concede personal data in order to improve traffic congestion: 70.5%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 63.6%
- You feel the availability of online information has increased your trust in authorities: 62.4%
- You are willing to concede personal data in order to improve traffic congestion: 60.4%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 57.3%

**SMART CITY RANKING**

Makassar

- Out of 141
- CC: 4
- All ratings range from AAA to D

**BACKGROUND INFORMATION**

Country: 2018 2019 2020 2021 1 yr change
HDI: 0.707 0.718 0.709 0.705 -0.004
Life expectancy at birth: 71.5 71.7 68.8 67.8 -1.2
Expected years of schooling: 12.9 13.6 13.8 13.8 +0.0
Mean years of schooling: 8.0 8.2 8.6 8.6 +0.0
GNI per capita (PPP $): 11,256 11,459 11,142 11,466 +325

**GNI per capita (PPP $)**

- 2018: 1,611,872
- 2019: 1,642,129
- 2020: 1,566,678
- 2021: 1,608,826

**IT skills are taught well in schools**

- Opportunities (Work & School)
- Employment finding services are readily available: 62.8
- Most children have access to a good school: 69.8
- Lifelong learning opportunities are provided by local institutions: 60.3
- Businesses are creating new jobs: 78.6
- Minorities feel welcome: 74.1

**Free public wifi has improved access to city services**

- Online services provided by the city has made it easier to start a new business: 55.7
- Online voting has increased participation: 56.7
- An online platform where residents can propose ideas has improved city life: 58.6
- Processing Identification Documents online has reduced waiting times: 69.1

**Online services provided by the city has made it easier to start a new business**

- The current internet speed and reliability meet connectivity needs: 68.0
- The current internet speed and reliability meet connectivity needs: 70.5

**Online services provided by the city has made it easier to start a new business**

- Online access to job listings has made it easier to find work: 74.6
- IT skills are taught well in schools: 64.3
- Online services provided by the city has made it easier to start a new business: 68.0
- The current internet speed and reliability meet connectivity needs: 70.5
### Background Information

<table>
<thead>
<tr>
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<tr>
<td>Manchester</td>
<td>553,230</td>
<td>0.916</td>
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</table>

- **Health & Safety:**
  - Basic sanitation meets the needs of the poorest areas: 66.8
  - Recycling services are satisfactory: 69.0
  - Safety is not a problem: 40.8
  - Air pollution is not a problem: 36.8
  - Medical services provision is satisfactory: 57.7
  - Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 34.8

- **Mobility:**
  - Traffic congestion is not a problem: 25.8
  - Public transport is satisfactory: 58.0

- **Activities:**
  - Green spaces are satisfactory: 59.9
  - Cultural activities (shows, bars, and museums) are satisfactory: 76.4

- **Opportunities (Work & School):**
  - Employment finding services are readily available: 69.2
  - Most children have access to a good school: 67.6
  - Lifelong learning opportunities are provided by local institutions: 63.3
  - Businesses are creating new jobs: 60.3
  - Minorities feel welcome: 66.8

- **Governance:**
  - Information on local government decisions are easily accessible: 59.9
  - Corruption of city officials is not an issue of concern: 49.4
  - Residents contribute to decision making of local government: 48.5
  - Residents provide feedback on local government projects: 54.4

### Attitudes

- You are willing to concede personal data in order to improve traffic congestion: 54.1%
- You are comfortable with face recognition technologies to lower crime: 72.6%
- You feel the availability of online information has increased your trust in authorities: 57.4%
- You feel comfortable with face recognition technologies to lower crime: 70.6%
- The proportion of your day-to-day payment transactions that are non-cash (as a percentage of transactions): 21.6%

### Smart City Rating

- **City:** BB
- **Group:** 2
- **Background Information:** Population: 553,230
- **HDI:** 0.915
- **Population HDI:**
  - 2018: 0.920
  - 2019: 0.932
  - 2020: 0.924
  - 2021: 0.929

### Priorities Areas

- **Health & Safety:**
  - Online reporting of city maintenance problems provides a speedy solution: 45.9
  - A website or App allows residents to easily access unclaimed items: 63.4
  - Free public WiFi has improved access to city services: 58.9
  - CCTV cameras have made residents feel safer: 58.3
  - A website or App allows residents to effectively monitor air pollution: 32.3
  - Arranging medical appointments online has improved access: 52.4

- **Mobility:**
  - Car sharing Apps have reduced congestion: 34.9
  - Apps that direct you to an available parking space have reduced journey time: 37.3
  - Bicycle sharing has reduced congestion: 42.1
  - Online scheduling and ticket sales has made public transport easier to use: 60.2
  - The city provides information on traffic congestion through mobile phones: 50.5

- **Activities:**
  - Online purchasing of tickets to shows and museums has made it easier to attend: 74.1

- **Opportunities (Work & School):**
  - Online access to job listings has made it easier to find work: 69.0
  - IT skills are taught well in schools: 63.0
  - Online services provided by the city has made it easier to start a new business: 52.1
  - The current internet speed and reliability meet connectivity needs: 69.3

- **Governance:**
  - Online public access to city finances has reduced corruption: 38.8
  - Online voting has increased participation: 53.7
  - An online platform where residents can propose ideas has improved city life: 44.3
  - Processing identification documents online has reduced waiting times: 54.7

### Technologies

- **Health & Safety:**
  - Online reporting of city maintenance problems provides a speedy solution: 45.9
  - A website or App allows residents to easily access unclaimed items: 63.4
  - Free public WiFi has improved access to city services: 58.9
  - CCTV cameras have made residents feel safer: 58.3
  - A website or App allows residents to effectively monitor air pollution: 32.3
  - Arranging medical appointments online has improved access: 52.4

- **Mobility:**
  - Car sharing Apps have reduced congestion: 34.9
  - Apps that direct you to an available parking space have reduced journey time: 37.3
  - Bicycle sharing has reduced congestion: 42.1
  - Online scheduling and ticket sales has made public transport easier to use: 60.2
  - The city provides information on traffic congestion through mobile phones: 50.5

- **Activities:**
  - Online purchasing of tickets to shows and museums has made it easier to attend: 74.1

- **Opportunities (Work & School):**
  - Online access to job listings has made it easier to find work: 69.0
  - IT skills are taught well in schools: 63.0
  - Online services provided by the city has made it easier to start a new business: 52.1
  - The current internet speed and reliability meet connectivity needs: 69.3

- **Governance:**
  - Online public access to city finances has reduced corruption: 38.8
  - Online voting has increased participation: 53.7
  - An online platform where residents can propose ideas has improved city life: 44.3
  - Processing identification documents online has reduced waiting times: 54.7
Online services provided by the city has made it easier to start a new business

Mobility

Governance

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
Online services provided by the city have made it easier to start a new business. Free public Wi-Fi has improved access to city services. IT skills are taught well in schools.

**Government**

- **Opportunities (Work & School)**
  - Businesses are creating new jobs
  - Lifetime learning opportunities are provided by local institutions
  - Most children have access to a good 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
  - Minority feel welcome

- **Health & Safety**
  - Basic sanitation meets the needs of the poorest areas
  - Recyling services are satisfactory
  - 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
  - Arranging medical appointments online has improved access

- **Mobility**
  - Traffic congestion is not a problem
  - Public transport is satisfactory
  - 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**
  - Green spaces are satisfactory
  - Cultural activities (shows, bars, and museums) are satisfactory
  - 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
  - The current internet speed and reliability meet connectivity needs
  - Online public access to city finances has reduced corruption
  - An online platform where residents can propose ideas has improved city life

- **Health & Safety**
  - Online reporting of city maintenance problems provides a speedy solution
  - A website or App allows residents to easily give away unwanted items
  - Online public access to city finances has reduced corruption
  - Processing Identification Documents online has reduced waiting times

**Governance**

- **Opportunities (Work & School)**
  - Online access to job listings has made it easier to find work
  - IT skills are taught well in schools
  - The current internet speed and reliability meet connectivity needs
  - Online public access to city finances has reduced corruption
  - An online platform where residents can propose ideas has improved city life

- **Health & Safety**
  - Online reporting of city maintenance problems provides a speedy solution
  - A website or App allows residents to easily give away unwanted items
  - Online public access to city finances has reduced corruption
  - Processing Identification Documents online has reduced waiting times
Health & Safety
- Basic sanitation meets the needs of the poorest areas (57.2)
- Recycling services are satisfactory (53.4)
- Public safety is not a problem (48.5)
- Air pollution is not a problem (32.5)
- Medical services provision is satisfactory (63.4)
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem (62.0)

Mobility
- Traffic congestion is not a problem (32.0)
- Public transport is satisfactory (54.3)

Activities
- Green spaces are satisfactory (58.8)
- Cultural activities (shows, bars, and museums) are satisfactory (66.5)

Opportunities (Work & School)
- Employment finding services are readily available (58.3)
- Most children have access to a good school (68.4)
- Lifelong learning opportunities are provided by local institutions (57.0)
- Businesses are creating new jobs (76.6)
- Minorities feel welcome (70.2)

Governance
- Information on local government decisions are easily accessible (63.1)
- Corruption of city officials is not an issue of concern (24.1)
- Residents contribute to decision making of local government (54.7)
- Residents provide feedback on local government projects (56.6)

Health & Safety
- Drone reporting of city maintenance problems provides a speedy solution (56.4)
- A website or App allows residents to easily give away unwanted items (58.8)
- Free public WiFi has improved access to city services (40.6)
- CCTV cameras have made residents feel safer (71.9)
- A website or App allows residents to effectively monitor air pollution (60.5)
- Arranging medical appointments online has improved access (76.7)

Mobility
- Car-sharing Apps have reduced congestion (59.7)
- Apps that direct you to an available parking space have reduced journey time (55.0)
- Bicycle hiring has reduced congestion (52.3)
- Online scheduling and ticket sales have made public transport easier to use (75.9)
- Online purchasing of tickets to shows and museums has made it easier to attend (61.1)

Activities
- Online purchasing of tickets to shows and museums has made it easier to attend (71.8)

Opportunities (Work & School)
- Online access to job listings has made it easier to find work (77.5)
- IT skills are taught well in schools (67.1)
- Online services provided by the city has made it easier to start a new business (68.7)
- The current internet speed and reliability meet connectivity needs (68.9)

Governance
- Online public access to city finances has reduced corruption (50.2)
- Online voting has increased participation (59.9)
- An online platform where residents can propose ideas has improved city life (62.0)
- Processing identification documents online has reduced waiting times (71.5)
Online services provided by the city has made it easier to start a new business. Free public wifi has improved access to city services. IT skills are taught well in schools. Finding housing with rent equal to 30% or less of a monthly salary is not a problem. Arranging medical appointments online has improved access. Online scheduling and ticket sales has made public transport easier to use. Bicycle sharing has reduced congestion. Online purchasing of tickets to shows and museums has made it easier to attend. CCTV cameras has made residents feel safer. Residents provide feedback on local government projects. Corruption of city officials is not an issue of concern. Online voting has increased participation. Information on local government decisions are easily accessible. Online public access to city finances has reduced corruption. Online platform where residents can propose ideas has improved city life.
Health & Safety

Online services provided by the city has made it easier to start a new business.

IT skills are taught well in schools.

Governance

Activities

Health & Safety

Online reporting of city maintenance problems provides a speedy solution.

Mobility

Public transport is satisfactory.

Opportunities (Work & School)

Most children have access to a good school.

Activities

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

Opportunities (Work & School)

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

Governance

Information on local government decisions are easily accessible.

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

You are comfortable with face recognition technologies to lower crime.

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

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

You are comfortable with face recognition technologies to lower crime.

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
Mexico City

BACKGROUND INFORMATION

City
Population: 22,085,139
HDI: 0.815
(UN World Urbanisation Prospects 2022 estimate)

Country 2018 2019 2020 2021 1 yr change

HDI 0.767 0.779 0.756 0.758 +0.002
Life expectancy at birth 75.0 75.1 70.1 70.2 +0.1
Expected years of schooling 14.3 14.8 14.9 14.9 +0.0
Mean years of schooling 8.6 8.8 9.2 9.2 +0.0
GNI per capita (PPP $) 17,628 19,160 17,235 17,696 +0.02

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)
The proportion of your day-to-day payment transactions that are non-cash

PRIORITY AREAS

Health & Safety
Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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

Health & Safety
Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily gain unmarked 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
Traffic congestion is not a problem
Public transport is satisfactory

Mobility
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space have reduced journey time
Bicycle sharing 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
Green spaces are satisfactory
Cultural activities (shows, bars, and museums) are satisfactory

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

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

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

TECHNOLOGIES

Structures
\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Factor} & \text{2018} & \text{2019} & \text{2020} & \text{2021} \\
\hline
\text{Health & Safety} & 38.8 & 41.9 & 35.6 & 26.1 \\
\text{Mobility} & 20.1 & 28.9 & \text{N/A} & \text{N/A} \\
\text{Activities} & 57.1 & 56.9 & \text{N/A} & \text{N/A} \\
\text{Opportunities (Work & School)} & 46.8 & 35.9 & 44.7 & 36.6 \\
\text{Governance} & 49.3 & 36.3 & 37.6 & \text{N/A} \\
\hline
\end{array}
\]

Technologies
\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Factor} & \text{2018} & \text{2019} & \text{2020} & \text{2021} \\
\hline
\text{Health & Safety} & 38.8 & 44.0 & 33.3 & 43.8 \\
\text{Mobility} & 41.8 & 42.8 & 52.2 & 56.9 \\
\text{Activities} & 72.1 & \text{N/A} & \text{N/A} & \text{N/A} \\
\text{Opportunities (Work & School)} & 57.3 & 52.2 & 54.3 & 61.7 \\
\text{Governance} & 35.0 & 35.0 & 41.1 & 44.1 \\
\hline
\end{array}
\]
Online services provided by the city have made it easier to start a new business.

Free public wi-fi has improved access to city services.

IT skills are taught well in schools.

Opportunities (Work & School)

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

Medical services provision is satisfactory.

A website or App allows residents to effectively monitor air pollution.

Residents provide feedback on local government projects.

Processing Identification Documents online has reduced waiting times.

STRENGTHS

- Lifelong learning opportunities are provided by local institutions.
- Most children have access to a good school.
- Cultural activities (shows, bars, and museums) are satisfactory.

WEAKNESSES

- Recycling services are satisfactory.
- Basic sanitation meets the needs of the poorest areas.
- Public transport is satisfactory.

IMPROVEMENT AREAS

- Online scheduling and ticket sales have made public transport easier to use.
- Bicycle hiring has reduced congestion.

ACTIVITIES

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

Opportunities (Work & School)

- Employment finding services are readily available.
- 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

- Basic sanitation meets the needs of the poorest areas 63.8
- Recycling services are satisfactory 69.3
- Public safety is not a problem 56.4
- Air pollution is not a problem 42.9
- Medical services provision is satisfactory 47.6
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem 24.6

Mobility

- Traffic congestion is not a problem 18.2
- Public transport is satisfactory 59.2

Activities

- Green spaces are satisfactory 72.3
- Cultural activities (shows, bars, and museums) are satisfactory 80.6

Opportunities (Work & School)

- Employment finding services are readily available 70.7
- Most children have access to a good school 69.5
- Lifelong learning opportunities are provided by local institutions 70.5
- Businesses are creating new jobs 67.1
- Minorities feel welcome 61.8

Governance

- Information on local government decisions are easily accessible 60.3
- Corruption of city officials is not an issue of concern 40.8
- Residents contribute to decision making of local government 44.5
- Residents provide feedback on local government projects 54.1

Technologies

- Online reporting of city maintenance problems provides a speedy solution 55.6
- A website or App allows residents to effectively monitor air pollution 49.9
- Arranging medical appointments online has improved access 52.4
- The city provides information on traffic congestion through mobile phones 54.3
- Online purchasing of tickets to shows and museums has made it easier to attend cultural events 75.6

Attitudes

- You are willing to concede personal data in order to improve traffic congestion 20.0%
- You are comfortable with face recognition technologies to lower crime 23.2%
- You feel the availability of online information has increased your trust in authorities 28.9%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 13.6%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 15.6%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 16.9%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 18.8%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 20.0%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 23.0%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 25.6%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 28.9%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 30.3%
- The proportion of your day-to-day payment transactions that are non-cash (excluding cash) 45.6%
Health & Safety

- Basic sanitation meets the needs of the poor
- Recycling services are satisfactory
- 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
- Traffic congestion is not a problem
- Public transport is 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 is 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

IT skills are taught well in schools
**BACKGROUND INFORMATION**

**City**

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.933</td>
<td>0.947</td>
<td>0.944</td>
<td>0.942</td>
<td>-0.002</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>81.2</td>
<td>81.3</td>
<td>81.2</td>
<td>80.6</td>
<td>-0.5</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>17.1</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>&lt;0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>14.1</td>
<td>14.2</td>
<td>14.1</td>
<td>14.1</td>
<td>+0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>46,946</td>
<td>55,314</td>
<td>53,078</td>
<td>54,524</td>
<td>+1,457</td>
</tr>
</tbody>
</table>

**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**

- 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

**Technologies**

- Online voting has increased participation
- Information on local government decisions are easily accessible
- Online public access to city finances has reduced corruption
- Online access to job listings has made it easier to find work
- Online reporting of city maintenance problems provides a speedy solution

**ATTITUDES**

- 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)

**PRIORITY AREAS**

- Affordable housing
- Road congestion
- Air pollution
- Unemployment
- Security
- Public transport
- Recycling
- Green spaces
- Housing prices
- Social mobility
- Health services
- Basic amenities
- Citizen engagement
- School education
- Corruption
- Online platforms

**Score**

- 0% 20% 40% 60% 80% 100%

**LEGEND:**

- AA
- A
- B
- C
- D

**GNI per capita (PPP $)**

- 13,140,183

**Population HDI**

- (Eurostat)

**Country**

- Munich

**City**

- Population
- HDI
- 13,140,183
- 0.950

**Smart City Rating**

- AA in 2021

**Factor Ratings**

- AA

**Group**

- 1

**All ratings range from AAA to D**
Health & Safety
- Online services provided by the city has made it easier to start a new business
- City provides information on traffic congestion through mobile phones
- Online scheduling and ticket sales has made public transport easier to use
- Bicycle sharing has reduced congestion
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Arranging medical appointments online has improved access
- Medical services provision is satisfactory
- A website or App allows residents to effectively monitor air pollution
- CCTV cameras has made residents feel safer
- Residents provide feedback on local government projects
- Corruption of city officials is not an issue of concern
- Online voting has increased participation
- Online public access to city finances has reduced corruption
- The current internet speed and reliability meet connectivity needs
- Basic sanitation meets the needs of the poorest areas
- Online reporting of city maintenance problems provides a speedy solution
- Lifecycle learning opportunities are provided by local institutions
- Employment finding services are readily available
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Babysitting services are readily available
- Free public wifi has improved access to city services
- You feel the availability of online information has increased your trust in authorities
- You are comfortable with face recognition technologies to lower crime
- 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 (% of transactions)

Labor
- You feel the availability of online information has increased your trust in authorities
- You are comfortable with face recognition technologies to lower crime
- 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 (% of transactions)

Housing
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Arranging medical appointments online has improved access
- Medical services provision is satisfactory
- A website or App allows residents to effectively monitor air pollution
- CCTV cameras has made residents feel safer
- Residents provide feedback on local government projects
- Corruption of city officials is not an issue of concern
- Online voting has increased participation
- Online public access to city finances has reduced corruption
- The current internet speed and reliability meet connectivity needs
- Basic sanitation meets the needs of the poorest areas
- Online reporting of city maintenance problems provides a speedy solution
- Lifecycle learning opportunities are provided by local institutions
- Employment finding services are readily available
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Babysitting services are readily available
- Free public wifi has improved access to city services
- You feel the availability of online information has increased your trust in authorities
- You are comfortable with face recognition technologies to lower crime
- 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 (% of transactions)

Education
- Most children have access to a good school
- Businesses are creating new jobs
- Lifelong learning opportunities are provided by local institutions
- Employment finding services are readily available
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Arranging medical appointments online has improved access
- Medical services provision is satisfactory
- A website or App allows residents to effectively monitor air pollution
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- You feel the availability of online information has increased your trust in authorities
- You are comfortable with face recognition technologies to lower crime
- 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 (% of transactions)
## Nairobi

### Background Information

**City**
- Population: 4,244
- HDI: 0.636

(UN World Urbanization Prospects 2022 estimate)

### Priorities Areas

- **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
- **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**
  - 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

### Technologies

- **Health & Safety**
  - Drone reporting of city maintenance problems provides a speedy solution
  - A website or App allows residents to easily give away unwanted items
  - Free public Wi-Fi has improved access to city services
  - CCTV cameras has made residents feel safer
- **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
- **Activities**
  - Online purchasing of tickets to shows and museums has made it easier to attend
  - The city provides information on traffic congestion through mobile phones
- **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
- **Governance**
  - Online public access to city finances has reduced corruption
  - Online voting has increased participation

### Attitudes

- You are willing to concede personal data in order to improve traffic congestion
- You feel the availability of online information has increased your trust in authorities
- You are willing to concede personal data in order to reduce road congestion

### City Rating

**Smart City Index 2021**
- **Nairobi**
  - Out of 141
  - Smart City Rating: 131

**Factors Ratings**
- **Structures**: C
- **Technologies**: C

**Population HDI**
- **2018**: 0.579
- **2019**: 0.601
- **2020**: 0.578
- **2021**: 0.575
- **1 yr change**: -0.003

**GNI per capita (PPP $)**
- **2018**: 3,052
- **2019**: 4,244
- **2020**: 4,267
- **2021**: 4,244
- **1 yr change**: +207

**Mean years of schooling**
- **2018**: 6.6
- **2019**: 6.6
- **2020**: 6.7
- **2021**: 6.7
- **1 yr change**: +0.0

**Life expectancy at birth**
- **2018**: 66.3
- **2019**: 66.7
- **2020**: 62.7
- **2021**: 61.4
- **1 yr change**: -1.3

**HDI**
- **2018**: 0.579
- **2019**: 0.601
- **2020**: 0.578
- **2021**: 0.575
- **1 yr change**: -0.003

**Country**
- **2018**: 115 out of 118
- **2019**: 115 out of 118
- **2020**: 115 out of 118
- **2021**: 115 out of 118

**Group**
- **4**

All ratings range from AAA to D.
The city's online services have made it easier to start a new business. Mobility and governance have been highly rated in 2021. Online scheduling and ticket sales have made public transport easier to use. Bicycle hire has reduced congestion. Online traffic congestion reporting has increased public trust towards authorities. You are willing to share personal data to improve traffic congestion. The proportion of day-to-day transactions that are non-cash payments is increasing. Online public access to city finances has reduced corruption. Inverness is ranked highly for unemployment. The use of smart technologies has reduced air pollution and improved public safety.
**Health & Safety**

Basic sanitation meets the needs of the poorest areas
- Score: 62.8

Recycling services are satisfactory
- Score: 69.9

Air pollution is not a problem
- Score: 68.7

Medical services provision is satisfactory
- Score: 43.4

**Mobility**

Traffic congestion is not a problem
- Score: 35.0

Public transport is satisfactory
- Score: 56.4

**Activities**

Green spaces are satisfactory
- Score: 69.6

Cultural activities (shows, bars, and museums) are satisfactory
- Score: 77.5

**Opportunities (Work & School)**

Employment finding services are readily available
- Score: 69.5

Most children have access to a good school
- Score: 61.6

Lifelong learning opportunities are provided by local institutions
- Score: 64.2

Businesses are creating new jobs
- Score: 65.0

Minorities feel welcome
- Score: 64.0

**Governance**

Information on local government decisions are easily accessible
- Score: 67.0

Corruption of city officials is not an issue of concern
- Score: 42.5

Residents contribute to decision making of local government
- Score: 56.7

Residents provide feedback on local government projects
- Score: 63.6

**Technologies**

Online reporting of city maintenance problems provides a speedy solution
- Score: 55.8

A website or App allows residents to easily give away unwanted items
- Score: 61.2

Free public wifi has improved access to city services
- Score: 69.0

CCTV cameras have made residents feel safer
- Score: 61.7

A website or App allows residents to effectively monitor air pollution
- Score: 53.0

Arranging medical appointments online has improved access
- Score: 69.8

Car-sharing Apps have reduced congestion
- Score: 55.6

Apps that direct you to an available parking space have reduced journey time
- Score: 60.6

Bicycle hiring has reduced congestion
- Score: 59.6

Online scheduling and ticket sales has made public transport easier to use
- Score: 68.7

The city provides information on traffic congestion through mobile phones
- Score: 69.6

Online purchasing of tickets to shows and museums has made it easier to attend
- Score: 78.3

Online access to city finances has reduced corruption
- Score: 53.4

Online voting has increased participation
- Score: 64.2

An online platform where residents can propose ideas has improved city life
- Score: 56.7

Processing Identification Documents online has reduced waiting times
- Score: 68.7

**Health & Safety**

Crime rates have decreased over the past year
- Score: 62.8

Parking spaces are easily found
- Score: 69.9

Road congestion is not a problem
- Score: 68.7

Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- Score: 43.4

**Smart City Index 2021**

- 

**STRAIGHT AHEAD**
Health & Safety

- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public transport 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
- Arranging medical appointments online has improved access
- Online purchasing of tickets to shows and museums has made it easier to attend
- Online public access to city finances has reduced corruption

Mobility

- Traffic congestion is not a problem
- Public transport is satisfactory
- Bicycle sharing has reduced congestion
- Car-sharing Apps have reduced congestion
- The city provides information on traffic congestion through mobile phones
- Online scheduling and ticket sales has made public transport easier to use
- Car-sharing Apps have reduced congestion

Activities

- Cultural activities (shows, bars, and museums) are satisfactory
- Green spaces are satisfactory
- Public safety is not a problem
- Recycling services are satisfactory
- Basic amenities meet the needs of the poorest areas
- Online reporting of city maintenance problems provides a speedy solution
- Basic sanitation meets the needs of the poorest areas

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
- Employment finding services have made it easier to find work
- The current internet speed and reliability meet connectivity needs
- Most children have access to a good school

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 public access to city finances has reduced corruption
- Online public access to city finances has reduced corruption
- Online public access to city finances has reduced corruption
- Online public access to city finances has reduced corruption
- Online public access to city finances has reduced corruption

The Smart City Index 2021 shows that Newcastle has a rating of 77 out of 118. The city excels in areas such as Health & Safety, Mobility, and Opportunities (Work & School). However, there is room for improvement in Activities and Governance. The city's participation in online voting has increased participation. Online public access to city finances has reduced corruption, and online reporting of city maintenance problems provides a speedy solution.
Health & Safety
Opportunities (Work & School)
15.3
MEAN
MAX
2021
Free public wifi has improved access to city services
Online services provided by the city has made it easier to start a new business
MEAN
Activities
TECHNOLOGIES
Mobility
GROUP
Governance
City Rating
All ratings range not out of 118 in 2021

Nicosia
SMART CITY RANKING
117
Out of 141

BACKGROUND INFORMATION
City
Population
HDI
896,007
0.896

2018
2019
2020
2021
1 yr change
Country

HDI
0.892
0.897
0.894
0.896
+0.002
Life expectancy at birth
81.4
81.4
81.4
81.2
-0.2
Expected years of schooling
15.4
15.7
15.7
15.7
+0.0
Mean years of schooling
12.3
12.4
12.4
12.4
+0.0
GNI per capita (PPP $)
38,544
39,568
36,519
38,188
+1,669

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

SMART CITY INDEX 2021
Health & Safety
- Free public WiFi has improved access to city services.
- A website or app allows residents to effectively monitor air pollution.
- CCTV cameras have made residents feel safer.

Opportunities (Work & School)
- Employment finding services are readily available.
- Lifelong learning opportunities are provided by local institutions.
- Businesses are creating new jobs.

Government
- 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
Free public wifi has improved access to city services
Activities
GROUP
MEAN
Mobility
MAX
Online services provided by the city has made it easier to start a new business
Governance
Opportunities (Work & School)
TECHNOLOGIES
CITY
MEAN
IT skills are taught well in schools
68.7
24x499
CITY RATING
AAA
AAA in 2021
All ratings range from AAA to D
STRUCTURES
RANKING
RATINGS
AAA in 2018
0.980
AAA
2018
2019
2020
2021
1 yr change
Population
HDI
693,494
0.954
66,494
0.957
64,660
0.959
62,573
0.961
66,059
+0.002
 victorious
 triumphs
in
2019
2020
2021
1 yr change
Country
HDI
67.8
64.9
65.3
64.7
0.002
Life expectancy at birth
82.3
82.4
83.2
83.2
0.0
Expected years of schooling
18.1
18.1
18.0
18.0
0.0
Mean years of schooling
12.6
12.9
13.0
13.0
0.0
GNI per capita (PPP $)
68,059
66,494
62,573
64,660
2,087

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)

You are willing to concede personal data in order to improve traffic congestion
You are comfortable with face recognition technologies to lower crime
The city provides information on traffic congestion through mobile phones
Online scheduling and ticket sales has made public transport easier to use
Bicycle hiring has reduced congestion

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A higher the percentage of responses per area, the greater the priority for the city.

The right-hand, light blue section of each bar shows the Benefit, i.e. the proportion of those respondents who marked on high priority. A higher the percentage of responses per area, the more 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 proportion of your day-to-day payment transactions that are non-cash (% of transactions)
**Health & Safety**

Basic sanitation meets the needs of the poorest areas
- 45.0

Air pollution is not a problem
- 29.9

Medical services provision is satisfactory
- 60.7

Finding housing with rent equal to 30% or less of a monthly salary is not a problem
- 32.1

**Mobility**

Traffic congestion is not a problem
- 22.0

Public transport is satisfactory
- 49.8

**Activities**

Green spaces are satisfactory
- 51.4

Cultural activities (shows, bars, and museums) are satisfactory
- 74.8

**Opportunities (Work & School)**

Employment finding services are readily available
- 58.3

Most children have access to a good school
- 38.6

Lifelong learning opportunities are provided by local institutions
- 50.1

Businesses are creating new jobs
- 54.4

Minorities feel welcome
- 51.7

**Governance**

Information on local government decisions are easily accessible
- 55.0

Corruption of city officials is not an issue of concern
- 34.2

Residents contribute to decision making of local government
- 45.2

Residents provide feedback on local government projects
- 51.3

**Technologies**

Online reporting of city maintenance problems provides a speedy solution
- 38.7

A website or App allows residents to easily give away unwanted items
- 56.7

Free public wifi has improved access to city services
- 47.1

CCTV cameras have made residents feel safer
- 46.5

A website or App allows residents to effectively monitor air pollution
- 35.2

Arranging medical appointments online has improved access
- 60.3

Car-sharing Apps have reduced congestion
- 43.8

Apps that direct you to an available parking space have reduced journey time
- 46.7

Bicycle sharing has reduced congestion
- 44.1

Online scheduling and ticket sales has made public transport easier to use
- 57.6

The city provides information on traffic congestion through mobile phones
- 54.2

Online purchasing of tickets to shows and museums has made it easier to attend
- 73.3

Online access to job listings has made it easier to find work
- 65.4

IT skills are taught well in schools
- 43.9

Online services provided by the city has made it easier to start a new business
- 44.3

The current internet speed and reliability meet connectivity needs
- 61.4

Online public access to city finances has reduced corruption
- 36.9

Online voting has increased participation
- 39.1

An online platform where residents can propose ideas has improved city life
- 43.5

Processing Identification Documents online has reduced waiting times
- 52.4
Health & Safety

Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
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 services provided by the city has made it easier to start a new business
Free public wifi has improved access to city services

Opportunities (Work & School)

You feel the availability of online information has increased your trust in authorities
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 (% of transactions)

Health & Safety

Online reporting of city maintenance problems provides a speedy solution
A website or App allows residents to easily give away unwanted items
CCTV cameras has made residents feel safer

Recycling services are satisfactory
Basic amenities are of a high quality
Public safety is not a problem

The city provides information on traffic congestion through mobile phones
Bicycle hiring has reduced congestion

Government

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

Corruption of city officials is not an issue of concern

CCTV cameras has made residents feel safer

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

Health & Safety
Free public wifi has improved access to city services
68.5
TECHNOLOGIES
Online services provided by the city has made it easier to start a new business
2021
MAX
Mobility
Opportunities (Work & School)
Governance
IT skills are taught well in schools
Activities
MEAN
GROUP
CITY
MEAN
CITY RATING
All ratings range from AAA to D

SMART CITY RANKING
14
Out of 141
10 out of 118 in 2021
SMART CITY RATING
AA
A in 2021
FACTOR RATINGS
A
STRUCTURES
A
TECHNOLOGIES
GROUP 1
All ratings range from AAA to D

BACKGROUND INFORMATION
City
Population HDI 1,335,084 0.960

Country 2018 2019 2020 2021 1 yr change

Health & Safety
Basic sanitation meets the needs of the poorest areas
68.6
Recycling services are satisfactory
69.2
Public safety is not a problem
61.8
Air pollution is not a problem
43.3
Medical services provision is satisfactory

Mobility
Traffic congestion is not a problem
19.5
Public transport is satisfactory
68.5

Activities
Green spaces are satisfactory
49.3
Cultural activities (shows, bars, and museums) are satisfactory
81.6

Opportunities (Work & School)
Employment finding services are readily available
75.1
Most children have access to a good school
74.3
Lifelong learning opportunities are provided by local institutions
70.0
Businesses are creating new jobs
59.8
Minorities feel welcome
58.4

Governance
Information on local government decisions are easily accessible
63.7
Corruption of city officials is not an issue of concern
36.2
Residents contribute to decision making of local government
50.5
Residents provide feedback on local government projects
58.4

Health & Safety
Online reporting of city maintenance problems provides a speedy solution
52.6
A website or App allows residents to easily give away unwanted items
64.1
Free public wifi has improved access to city services
56.4
CCTV cameras has made residents feel safer
62.7
A website or App allows residents to effectively monitor air pollution
46.1
Arranging medical appointments online has improved access
63.5

Mobility
Car-sharing Apps have reduced congestion
35.0
Apps that direct you to an available parking space have reduced journey time
47.1
Bicycle hiring has reduced congestion
42.3
Online scheduling and ticket sales has made public transport easier to use
72.2
The city provides information on traffic congestion through mobile phones
44.6

Activities
Online purchasing of tickets to shows and museums has made it easier to attend
80.2

Opportunities (Work & School)
Online access to job listings has made it easier to find work
74.2
If skills are taught well in schools
53.3
Online services provided by the city has made it easier to start a new business
49.0
The current internet speed and reliability meet connectivity needs
69.2

Governance
Online public access to city finances has reduced corruption
35.4
Online voting has increased participation
46.7
An online platform where residents can propose ideas has improved city life
52.1
Processing Identification Documents online has reduced waiting times
63.6

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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)

Score 0% 20% 40% 60% 80% 100%
Health & Safety
- Basic sanitation meets the needs of the poorest areas: 45.8
- Recycling services are satisfactory: 44.8
- Public safety is not a problem: 43.7
- Air pollution is not a problem: 34.9
- Medical services provision is satisfactory: 44.5
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 38.5

Mobility
- Traffic congestion is not a problem: 29.1
- Public transport is satisfactory: 53.1

Activities
- Green spaces are satisfactory: 70.9
- Cultural activities (shows, bars, and museums) are satisfactory: 69.5

Opportunities (Work & School)
- Employment finding services are readily available: 38.9
- Most children have access to a good school: 44.3
- Lifelong learning opportunities are provided by local institutions: 46.3
- Businesses are creating new jobs: 42.0
- Minorities feel welcome: 60.9

Governance
- Information on local government decisions are easily accessible: 52.2
- Corruption of city officials is not an issue of concern: 24.0
- Residents contribute to decision-making of local government: 29.4
- Residents provide feedback on local government projects: 42.0

Online services provided by the city have made it easier to start a new business: 53.1
IT skills are taught well in schools: 39.8
Free public wifi has improved access to city services: 20.2
Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 38.5
Arranging medical appointments online has improved access: 36.4
A website or App allows residents to effectively monitor air pollution: 56.6
Corruption of city officials is not an issue of concern: 66.0
Online voting has increased participation: 65.4
Information on local government decisions are easily accessible: 65.4
Online public access to city finances has reduced corruption: 64.2

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 52.1
You feel the availability of online information has increased your trust in authorities: 56.6
You are comfortable with face recognition technologies to lower crime: 59.6
You are willing to concede personal data in order to improve traffic congestion: 39.3

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Online purchasing of tickets to shows and museums has made it easier to attend: 72.5
Online access to job listings has made it easier to find work: 63.5
Online services provided by the city have made it easier to start a new business: 55.6
Online scheduling and ticket sales has made public transport easier to use: 66.5
The current internet speed and reliability meet connectivity needs: 63.5

 domains range from AAA to D
Online services provided by the city has made it easier to start a new business. IT skills are taught well in schools.

Finding housing with rent equal to 30% or less of a monthly salary is not a problem. Arranging medical appointments online has improved access. Medical services provision is satisfactory. A website or App allows residents to effectively monitor air pollution.

Residents contribute to decision making of local government. An online platform where residents can propose ideas has improved city life. Corruption of city officials is not an issue of concern. Online voting has increased participation. Information on local government decisions are easily accessible. Online public access to city finances has reduced corruption.

Lifelong learning opportunities are provided by local institutions. Most children have access to a good school. Employment finding services are readily available. Online access to job listings has made it easier to find work. The current internet speed and reliability meet connectivity needs. Cultural activities (shows, bars, and museums) are satisfactory. Online purchasing of tickets to shows and museums has made it easier to attend. Green spaces are satisfactory. Online purchasing of tickets to shows and museums has made it easier to attend.

Public transport is satisfactory. Apps that direct you to an available parking space have reduced journey time. Traffic congestion is not a problem. Car-sharing Apps have reduced congestion. Public safety is not a problem. Recycling services are satisfactory. A website or App allows residents to easily give away unwanted items.

GNI per capita (PPP $) 644,619
Mean years of schooling 13.2
Expected years of schooling 16.2
Life expectancy at birth 75.5
HDI 0.929

Riga
SMART CITY RATING
83 Out of 141

not out of 118 in 2021

SMART CITY RANKING
83

not in 2019

Background Information

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.866</td>
<td>0.871</td>
<td>0.871</td>
<td>0.863</td>
<td>-0.008</td>
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<tr>
<td>Life expectancy at birth</td>
<td>75.0</td>
<td>75.5</td>
<td>75.6</td>
<td>73.6</td>
<td>-2.0</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>16.2</td>
<td>16.2</td>
<td>16.2</td>
<td>16.2</td>
<td>0.0</td>
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<tr>
<td>Mean years of schooling</td>
<td>13.2</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>29,885</td>
<td>31,059</td>
<td>31,102</td>
<td>32,803</td>
<td>+1,701</td>
</tr>
</tbody>
</table>

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

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

Technologies

Affordable housing
Corruption
Road congestion
Unemployment
School education
Public transport
Security
Citizen engagement
Air pollution
Basic amenities
Green spaces
Social mobility
Fulfilling employment
Health services
Recycling

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)

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, dark blue section of each bar shows the Priority, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. The higher the percentage of responses per area, the higher the percentage of respondents who chose the Priority Area.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, dark blue section of each bar shows the Priority, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. The higher the percentage of responses per area, the higher the percentage of respondents who chose the Priority Area.

The left-hand, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, dark blue section of each bar shows the Priority, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. The higher the percentage of responses per area, the higher the percentage of respondents who chose the Priority Area.
Rio de Janeiro

SMART CITY RANKING
136
Out of 141

SMART CITY RATING
D
D in 2021

BACKGROUND INFORMATION
City
Population 13,634,274
HDI 0.783

(UN World Urbanisation Prospects 2022 estimate)

Country 2018 2019 2020 2021 1 yr change
HDI 0.764 0.765 0.758 0.754 -0.004
Life expectancy at birth 75.1 75.3 74.0 72.8 -1.3
Expected years of schooling 15.7 15.6 15.6 15.6 +0.0
Mean years of schooling 8.0 10.6 10.9 10.9 +0.0
GNI per capita (PPP $) 21,972 23,261 22,386 24,563 +2,277

TECHNOLOGIES

Free public wifi has improved access to city services
Online services provided by the city has made it easier to start a new business

GROUP

Mobility

Activities

Opportunities (Work & School)

Governance

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
Traffic congestion is not a problem
Public transport is satisfactory
Green spaces are satisfactory
Cultural activities (shows, bars, and museums) are satisfactory
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
Information on local government decisions are easily accessible
Corruption of city official 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 have made residents feel safer
A website or App allows residents to effectively monitor air pollution
Arranging medical appointments online has improved access
Car-sharing Apps have reduced congestion
Apps that direct you to an available parking space has 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
Online purchasing of tickets to shows and museums has 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 business
The current internet speed and reliability meet connectivity needs
Online public access to city finances has reduced corruption
Online voting has increased participation
Information on local government decisions are easily accessible
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

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)

HEALTH & SAFETY

14.9

TECHNOLOGIES

Free public wifi has improved access to city services
Online services provided by the city has made it easier to start a new business

GROUP

Mobility

Activities

Opportunities (Work & School)

Governance

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
Traffic congestion is not a problem
Public transport is satisfactory
Green spaces are satisfactory
Cultural activities (shows, bars, and museums) are satisfactory
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
Information on local government decisions are easily accessible
Corruption of city official 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
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Processing Identification Documents online has reduced waiting times

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, dark blue section of each bar shows the ALIGNMENT, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong ALIGNMENT (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

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)
Health & Safety

Online services provided by the city have made it easier to start a new business.

CITY IT skills are taught well in schools.

Opportunities (Work & School)

Most children have access to a good school.

Activities

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

Opportunities (Work & School)

Employment finding services are readily available.

Government

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

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from closer observation.

You are willing to concede personal data in order to improve traffic congestion.

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)

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions)

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions)

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions)

You are comfortable with face recognition technologies to lower crime.
Health & Safety
- IT skills are taught well in schools
- Opportunities (Work & School)
  - Most children have access to a good school

Governance
- Information on local government decisions are easily accessible
- Opportunities (Work & School)
  - Employment finding services are readily available

Mobility
- Traffic congestion is not a problem
- Public transport is satisfactory
- Activities (shows, bars, and museums) are satisfactory

Activities
- Green spaces are satisfactory
- Employment finding services are readily available
- Lifelong learning opportunities are provided by local institutions

Opportunities (Work & School)
- Lifelong learning opportunities are provided by local institutions
- Businesses are creating new jobs
- Minorities feel welcome

Opportunities (Work & School)
- Businesses are creating new jobs
- Minorities feel welcome

Health & Safety
- Online reporting of city maintenance problems provides a speedy solution
- A website or App allows residents to effectively monitor air pollution

Online services provided by the city has made it easier to start a new business
- CCTV cameras has made residents feel safer

Activities
- Online purchasing of tickets to shows and museums has made it easier to attend
- Online scheduling and ticket sales has made public transport easier to use

Opportunities (Work & School)
- Online access to job listings has made it easier to find work
- Online voting has increased participation

Governance
- Online public access to city finances has reduced corruption
- Online platform where residents can propose ideas has improved city life

ATITUDES
- You feel the availability of online information has increased your trust in authorities
- You are comfortable with face recognition technologies to lower crime
- 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 (% of transactions)

SMART CITY RANKING
122
Out of 214

BACKGROUND INFORMATION
City
- Population HDI 5,730,396 0.917

Country
- 2018 2019 2020 2021 1 yr change
  - Gini per capita (PPP $)
    - 2018 38,141
    - 2019 42,776
    - 2020 39,301
    - 2021 42,840
    - +2,939

}-
Health & Safety

Country | 2018 | 2019 | 2020 | 2021 | 1 yr change |
---|---|---|---|---|---|
HDI | 0.920 | 0.926 | 0.920 | 0.921 | +0.001 |
Life expectancy at birth | 78.9 | 78.9 | 77.4 | 77.2 | -0.2 |
Expected years of schooling | 16.3 | 16.3 | 16.3 | 16.3 | 0.0 |
Mean years of schooling | 13.4 | 13.4 | 13.7 | 13.7 | 0.0 |
GNI per capita (PPP $) | 56,140 | 63,826 | 61,462 | 64,785 | +3,304 |

Mobility

Traffic congestion is not a problem | 21.7 |
Public transport is satisfactory | 49.1 |

Activities

Green spaces are satisfactory | 63.3 |
Cultural activities (shows, bars, and museums) are satisfactory | 76.2 |

Opportunities (Work & School)

Employment finding services are readily available | 59.2 |
Most children have access to a good school | 52.6 |
Lifelong learning opportunities are provided by local institutions | 60.5 |
Businesses are creating new jobs | 60.0 |
Minorities feel welcome | 59.3 |

Governance

Information on local government decisions are easily accessible | 63.5 |
Corruption of city official is not an issue of concern | 38.1 |
Residents contribute to decision making of local government | 52.9 |
Residents provide feedback on local government projects | 62.1 |

San Francisco

BACKGROUND INFORMATION

City

Population | HDI | 873,965 | 0.931 |

SMART CITY RATING

BB
B in 2021

SMART CITY RANKING

68
Out of 141

54 out of 118
in 2021

TECHNOLOGIES

CITY

Free public wifi has improved access to city services | 61.5 |
Online scheduling and ticket sales has made public transport easier to use | 43.1 |
Bicycle hiring has reduced congestion | 58.5 |
CCTV cameras has made residents feel safer | 20.5 |
A website or App allows residents to effectively monitor air pollution | 49.1 |
The city provides information on traffic congestion through mobile phones | 21.7 |

Asking respondents 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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, light blue section of each bar shows the higher the percentage of responses per area, the greater the priority for the city.

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

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

You feel the availability of online information has increased your trust in authorities | 22.2 |
You are comfortable with face recognition technologies to lower crime | 27.3 |
The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

You are willing to concede personal data in order to improve traffic congestion | 18.1 |
You feel the availability of online information has increased your trust in authorities | 52.6 |
You are willing to concede personal data in order to improve traffic congestion | 51.0 |
You feel the availability of online information has increased your trust in authorities | 43.5 |
You are willing to concede personal data in order to improve traffic congestion | 48.0 |
You feel the availability of online information has increased your trust in authorities | 64.9 |

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.
Online services provided by the city has made it easier to start a new business.

Free public wifi has improved access to city services.

IT skills are taught well in schools.

San José is out of 118 in 2021.

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

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

You are comfortable with face recognition technologies to lower crime.

You are willing to concede personal data in order to improve traffic congestion.

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

The city provides information on traffic congestion through mobile phones.

The proportion of respondents who also answered the survey on the topic of the Alignment, i.e. the proportion of those who agree or strongly agree with the statement.

The proportion of respondents who chose the Priority Area.

The proportion of respondents who agree or strongly agree with the statement.

The proportion of respondents who agree or strongly agree with the statement.

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

Opportunities (Work & School)

Residents contribute to decision making of local government.

Residents provide feedback on local government projects.

Citizen engagement

Air pollution

Public transport

Security

Unemployment

Social mobility

Health services

Social services

GDP per capita (PPP $)

Mean years of schooling

Expected years of schooling

Life expectancy at birth

HDI

Country

2018

2019

2020

2021

1 yr change

HDI

0.811

0.819

0.815

0.809

-0.007

Life expectancy at birth

79.5

79.4

79.3

77.0

-2.3

Expected years of schooling

15.9

15.6

15.6

16.6

<0.0

Mean years of schooling

8.7

12.8

12.9

12.9

<0.0

GNI per capita (PPP $)

41,779

48,511

47,946

49,452

+1,506

Minorities feel welcome

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

Arranging medical appointments online has improved access.

A website or App allows residents to effectively monitor air pollution.

CCTV cameras has made residents feel safer.

 Residents contribute to decision making of local government.

Residents provide feedback on local government projects.

Processing Identification Documents online has reduced waiting times.

An online platform where residents can propose ideas has improved city life.

Corruption of city officials is not an issue of concern.

Online voting has increased participation.

Lifelong learning opportunities are provided by local institutions.

Most children have access to a good 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.

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.

Public safety is not a problem.

Recycling services are satisfactory.

A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas.

Online reporting of city maintenance problems provides a speedy solution.

GNI per capita (PPP $)

Mean years of schooling

Expected years of schooling

Life expectancy at birth

HDI

Country

Background Information

Health & Safety

Mobility

Activities

Opportunities (Work & School)

Governance
Health & Safety

- Basic sanitation meets the needs of the poorest areas: 38.5
- Recycling services are satisfactory: 34.4
- Public safety is not a problem: 34.1
- Air pollution is not a problem: 16.2
- Medical services provision is satisfactory: 22.6
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 28.1

Mobility

- Traffic congestion is not a problem: 19.3
- Public transport is satisfactory: 35.7

Activities

- Green spaces are satisfactory: 29.9
- Cultural activities (shows, bars, and museums) are satisfactory: 33.6

Opportunities (Work & School)

- Employment finding services are readily available: 19.6
- Most children have access to a good school: 25.1
- Lifelong learning opportunities are provided by local institutions: 19.3
- Businesses are creating new jobs: 23.2
- Minorities feel welcome: 45.4

Governance

- Information on local government decisions are easily accessible: 28.1
- Corruption of city officials is not an issue of concern: 16.8
- Residents contribute to decision making of local government: 23.7
- Residents provide feedback on local government projects: 22.6

Technologies

- Online reporting of city maintenance problems provides a speedy solution: 24.6
- A website or App allows residents to easily give away unwanted items: 27.5
- Free public wifi has improved access to city services: 34.8
- CCTV cameras have made residents feel safer: 69.2
- A website or App allows residents to effectively monitor air pollution: 29.6
- Arranging medical appointments online has improved access: 42.9

Health & Safety

- Online access to job listings has made it easier to find work: 52.1
- IT skills are taught well in schools: 31.7
- Online services provided by the city have made it easier to start a new business: 33.8
- The current internet speed and reliability meet connectivity needs: 48.1

Opportunities (Work & School)

- Online public access to city finances has reduced corruption: 24.7
- Crime reporting has increased participation: 31.4
- An online platform where residents can propose ideas has improved city life: 28.3
- Processing Identification Documents online has reduced waiting times: 32.0

ACTITUDES

- You are willing to concede personal data in order to improve traffic congestion: 33.9%
- You are comfortable with face recognition technologies to lower crime: 83.0%
- You feel the availability of online information has increased your trust in authorities: 39.5%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 50.0%
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 0.0%

smart city index 2021

- Sana'a
- 140
- Out of 141
- not out of 118
- in 2021

Smart City Rankings

- BACKGROUND INFORMATION
- City
- Population: 3,181,655
- HDI: 0.521
- (UN World Urbanisation Prospects 2022 estimate)

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.459</td>
<td>0.461</td>
<td>0.460</td>
<td>0.455</td>
<td>-0.005</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>64.6</td>
<td>65.1</td>
<td>64.7</td>
<td>63.8</td>
<td>-0.9</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>1,342</td>
<td>1,350</td>
<td>1,371</td>
<td>1,314</td>
<td>-56</td>
</tr>
</tbody>
</table>

GNI per capita (PPP $)

- 1,342
- 1,350
- 1,371
- 1,314
- -56
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: Score 36.1
- Recycling services are satisfactory: Score 40.9
- Public safety is not a problem: Score 17.3
- Air pollution is not a problem: Score 15.8
- Medical services provision is satisfactory: Score 36.2
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: Score 14.9

**Mobility**

- Traffic congestion is not a problem: Score 17.4
- Public transport is satisfactory: Score 37.3

**Activities**

- Green spaces are satisfactory: Score 49.7
- Cultural activities (shows, bars, and museums) are satisfactory: Score 57.0

**Opportunities (Work & School)**

- Employment finding services are readily available: Score 56.1
- Most children have access to a good school: Score 31.4
- Lifelong learning opportunities are provided by local institutions: Score 35.4
- Businesses are creating new jobs: Score 38.8
- Minorities feel welcome: Score 29.2

**Governance**

- Information on local government decisions are easily accessible: Score 43.6
- Corruption of city officials is not an issue of concern: Score 29.1
- Residents contribute to decision-making of local government: Score 23.8
- Residents provide feedback on local government projects: Score 35.6

**Health & Safety**

- Online reporting of city maintenance problems provides a speedy solution: Score 40.0
- A website or App allows residents to easily give away unwanted items: Score 48.5
- Free public wifi has improved access to city services: Score 46.7
- CCTV cameras have made residents feel safer: Score 47.1
- A website or App allows residents to effectively monitor air pollution: Score 36.5
- Arranging medical appointments online has improved access: Score 68.8

**Mobility**

- Car-sharing Apps have reduced congestion: Score 36.0
- Apps that direct you to an available parking space have reduced journey times: Score 34.5
- Bicycle hiring has reduced congestion: Score 47.9
- Online scheduling and ticket sales has made public transport easier to use: Score 48.2
- The city provides information on traffic congestion through mobile phones: Score 57.2

**Activities**

- Online purchasing of tickets to shows and museums has made it easier to attend: Score 72.3

**Opportunities (Work & School)**

- Online access to job listings has made it easier to find work: Score 64.8
- IT skills are taught well in schools: Score 39.2
- Online services provided by the city has made it easier to start a new business: Score 54.5
- The current internet speed and reliability meet connectivity needs: Score 66.9

**Governance**

- Online public access to city finances has reduced corruption: Score 30.0
- Online voting has increased participation: Score 27.9
- An online platform where residents can propose ideas has improved city life: Score 35.4
- Processing identification documents online has reduced waiting times: Score 58.1
Health & Safety
- Basic sanitation meets the needs of the poorest areas: 38.1%
- Recycling services are satisfactory: 45.0%
- Public safety is not a problem: 16.4%
- Air pollution is not a problem: 33.2%
- Medical services provision is satisfactory: 21.8%

Mobility
- Traffic congestion is not a problem: 13.2%
- Public transport is satisfactory: 25.1%

Activities
- Green spaces are satisfactory: 49.3%
- Cultural activities (shows, bars, and museums) are satisfactory: 66.9%

Opportunities (Work & School)
- Employment finding services are readily available: 51.8%
- Most children have access to a good school: 26.2%
- Lifelong learning opportunities are provided by local institutions: 41.6%
- Businesses are creating new jobs: 40.9%
- Minorities feel welcome: 24.2%

Governance
- Information on local government decisions are easily accessible: 40.4%
- Corruption of city officials is not an issue of concern: 17.6%
- Residents contribute to decision making of local government: 26.5%
- Residents provide feedback on local government projects: 32.2%

Technologies
- Online reporting of city maintenance problems provides a speedy solution: 33.8%
- A website or App allows residents to easily give away unwanted items: 45.9%
- Free public wifi has improved access to city services: 43.8%
- CCTV cameras have made residents feel safer: 44.4%
- A website or App allows residents to effectively monitor air pollution: 34.8%
- Arranging medical appointments online has improved access: 50.3%

ATTITUDES
You are willing to concede personal data in order to improve traffic congestion.
- Yes: 51.0%
- No: 49.0%

You feel the availability of online information has increased your trust in authorities.
- Agree: 68.3%
- Strongly agree: 79.4%

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
- 0-20%: 5.3%
- 20-40%: 11.3%
- 40-60%: 13.0%
- 60-80%: 15.8%
- 80-100%: 26.5%

$GNI per capita (PPP $)
- Mean: 22,429
- Median: 23,261
- Minimum: 21,972
- Maximum: 24,563
- 1 yr change: +2,277

Population HDI
- 2018: 0.764
- 2019: 0.765
- 2020: 0.758
- 2021: 0.754
- 1 yr change: -0.004
Health & Safety
Free public wifi has improved access to city services

Governance
Mobility
IT skills are taught well in schools

Activities
MEAN
TECHNOLOGIES
Online services provided by the city has made it easier to start a new business

GROUP
54.4
MEAN

All ratings range from AAA to D

Seattle SMART CITY RATING
55
Out of 141

SMART CITY RANKING
38 out of 118 in 2021

BACKGROUND INFORMATION
City
Population 737,015 HDI 0.940
(UN Data)

Country 2018 2019 2020 2021 1 yr change
HDI 0.920 0.926 0.920 0.921 +0.001
Life expectancy at birth 78.9 78.9 77.4 77.2 -0.2
Expected years of schooling 16.3 16.3 16.3 16.3 +0.0
Mean years of schooling 13.4 13.4 13.7 13.7 +0.0
GNI per capita (PPP $) 56,140 63,826 61,462 64,785 +3,304

Health & Safety
Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
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
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 city life
Processing Identification Documents online has reduced waiting times
Online services provided by the city have made it easier to start a new business. IT skills are taught well in schools. Free public Wi-Fi has improved access to city services.

- City Rating: AAA
- All ratings range from AAA to D
- Smart City Ranking: 16 out of 141
- Smart City Rating: AA in 2021

**Health & Safety**
- Basic sanitation meets the needs of the poorest areas.
- Recycling services are satisfactory.
- Air pollution is not a problem.
- Public safety 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.
- 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.
- A website or App allows residents to effectively monitor air pollution.

**Mobility**
- Car-sharing Apps have reduced congestion.
- Apps that direct you to an available parking space have reduced journey time.
- Online purchasing of tickets to shows and museums has made it easier to attend.

**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.
- Online voting has increased participation.
- An online platform where residents can propose ideas has improved city life.

**Governance**
- Online public access to city finances has reduced corruption.
- Online public access to city finances has reduced corruption.
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.

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)

You are willing to concede personal data in order to improve traffic congestion
The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The city provides information on traffic congestion through mobile phones
A website or App allows residents to easily give away unwanted items

Bicycle hiring has reduced congestion
Basic sanitation meets the needs of the poorest areas

Corruption of city officials is not an issue of concern
Online public access to city finances has reduced corruption

Online voting has increased participation
You feel the availability of online information has increased your trust in authorities
**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

**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
Arranging medical appointments online has improved access to health services

**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 cultural events

**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 city life
Processing Identification Documents online has reduced waiting times
Online services provided by the city have made it easier to start a new business.

Governance
- Free public WiFi has improved access to city services.

Mobility
- Activities
  - 2021
  - IT skills are taught well in schools.

Health & Safety
- Opportunities (Work & School)
  - Employment finding services are readily available.
  - Most children have access to a good school.

Health & Safety
- 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.
Smart City Index 2021

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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Country 2018 2019 2020 2021 1 yr change
HDI 0.816 0.816 0.802 0.795 -0.007
Life expectancy at birth 74.9 75.1 73.7 71.8 -1.9
Expected years of schooling 14.8 14.4 13.9 13.9 -0.0
Mean years of schooling 11.8 11.4 11.4 11.4 -0.0
GNI per capita (PPP $) 19,646 23,325 22,020 23,079 +1,058

Population HDI

Health & Safety
- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public transport is satisfactory
- Green spaces are satisfactory
- Social mobility is satisfactory

Health & Safety
- Online reporting of city maintenance problems provides a speedy solution
- A website or App allows residents to easily access government information
- CCTV cameras have made residents feel safer
- Arranging medical appointments online has improved access
- The city provides information on traffic congestion through mobile phones

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

Opportunities (Work & School)
- Online access to job listings has made it easier to find work
- IT skills are taught well in schools
- Online scheduling and ticket sales has made public transport easier to use
- The city provides information on traffic congestion through mobile phones
- The current internet speed and reliability meet connectivity needs

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
- All ratings range from AAA to D

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
- E-government services provided by the city have improved

ATTITUDES
- You are willing to share personal data in order to improve traffic congestion
- You are comfortable with face recognition technologies to lower crime
- The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

Background Information

Sofia

Smart City Rating

111
Out of 141
In 2021
103 out of 118

111 Out of 141

0% 20% 40% 60% 80% 100%

% of respondents who chose the Priority Area

0% 20% 40% 60% 80% 100%

% of respondents who agree or strongly agree with the statement

0% 20% 40% 60% 80% 100%
### HEALTH & SAFETY

**Basic sanitation meets the needs of the poorest areas**  
63.6  

**Recycling services are satisfactory**  
70.4  

**Air pollution is not a problem**  
44.2  

**Medical services provision is satisfactory**  
53.0  

Finding housing with rent equal to 30% or less of a monthly salary is not a problem  
60.8  

Traffic congestion is not a problem  
26.2  

### ACTIVITIES

**Green spaces are satisfactory**  
73.6  

**Cultural activities (shows, bars, and museums) are satisfactory**  
78.8  

### OPPORTUNITIES (WORK & SCHOOL)

**Employment finding services are readily available**  
69.4  

**Most children have access to a good school**  
72.2  

**Lifelong learning opportunities are provided by local institutions**  
67.1  

**Businesses are creating new jobs**  
66.3  

### GOVERNANCE

**Information on local government decisions are easily accessible**  
65.0  

**Corruption of city officials is not an issue of concern**  
59.2  

**Residents contribute to decision making of local government**  
50.7  

**Residents provide feedback on local government projects**  
56.0  

### TECHNOLOGIES

**Online access to city finances has reduced corruption**  
68.5  

**Online voting has increased participation**  
62.8  

**Processing identification documents online has reduced waiting times**  
58.9  

**Online public access to city finances has reduced corruption**  
31.2  

**Online voting has increased participation**  
31.1  

**Processing identification documents online has reduced waiting times**  
26.6  

**Online public access to city finances has reduced corruption**  
22.5  

**Online voting has increased participation**  
22.2  

**Processing identification documents online has reduced waiting times**  
19.2  

**Online public access to city finances has reduced corruption**  
17.8  

**Online voting has increased participation**  
14.4  

**Processing identification documents online has reduced waiting times**  
17.4  

**Online public access to city finances has reduced corruption**  
14.0  

**Online voting has increased participation**  
10.2  

**Processing identification documents online has reduced waiting times**  
8.8  

**Online public access to city finances has reduced corruption**  
0.0  

**Online voting has increased participation**  
0.0  

**Processing identification documents online has reduced waiting times**  
0.0  

**Online public access to city finances has reduced corruption**  
0.0  

**Online voting has increased participation**  
0.0  

**Processing identification documents online has reduced waiting times**  
0.0
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas: Score 72.9
- Recycling services are satisfactory: Score 74.4
- Public safety is not a problem: Score 78.2
- Air pollution is not a problem: Score 71.8
- Medical services provision is satisfactory: Score 73.3
- Finding housing with rent equal to 30% or less of a monthly salary is not a problem: Score 32.4

**Mobility**

- Traffic congestion is not a problem: Score 28.1
- Public transport is satisfactory: Score 72.6

**Activities**

- Green spaces are satisfactory: Score 75.0
- Cultural activities (shows, bars, and museums) are satisfactory: Score 85.1

**Opportunities (Work & School)**

- Employment finding services are readily available: Score 79.5
- Most children have access to a good school: Score 72.6
- Lifelong learning opportunities are provided by local institutions: Score 65.4
- Businesses are creating new jobs: Score 67.4
- Minorities feel welcome: Score 52.5

**Governance**

- Information on local government decisions are easily accessible: Score 67.5
- Corruption of city officials is not an issue of concern: Score 33.9
- Residents contribute to decision making of local government: Score 41.8
- Residents provide feedback on local government projects: Score 53.6

**Opportunities (Work & School)**

- Online access to job listings has made it easier to find work: Score 79.7
- IT skills are taught well in schools: Score 59.7
- Online services provided by the city has made it easier to start a new business: Score 58.3
- The current internet speed and reliability meet connectivity needs: Score 73.3

**Health & Safety**

- Online reporting of city maintenance problems provides a speedy solution: Score 54.3
- A website or App allows residents to easily give away unwanted items: Score 55.9
- Free public wifi has improved access to city services: Score 62.5
- CCTV cameras have made residents feel safer: Score 64.0
- A website or App allows residents to effectively monitor air pollution: Score 38.5
- Arranging medical appointments online has improved access: Score 69.7

**Mobility**

- Car-sharing Apps have reduced congestion: Score 34.5
- Apps that direct you to an available parking space have reduced journey time: Score 36.8
- Bicycle sharing has reduced congestion: Score 37.6
- Online scheduling and ticket sales has made public transport easier to use: Score 76.8
- The city provides information on traffic congestion through mobile phones: Score 25.9

**Activities**

- Online purchasing of tickets to shows and museums has made it easier to attend: Score 84.4

**Opportunities (Work & School)**

- Online public access to city finances has reduced corruption: Score 37.1
- Online voting has increased participation: Score 73.2
- An online platform where residents can propose ideas has improved city life: Score 52.3
- Processing Identification Documents online has reduced waiting times: Score 76.7

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**BACKGROUND INFORMATION**

**City**

Population: 613,158
HDI: 0.932

**SMART CITY RATING**

2018: BBB
2019: BBB
2020: BBB
2021: BBB

**SMART CITY RANKING**

32 out of 141 in 2021

**ATTITUDES**

- You are willing to concede personal data in order to improve traffic congestion: Score 54.3
- You are comfortable with face recognition technologies to lower crime: Score 55.9
- You feel the availability of online information has increased your trust in authorities: Score 62.5
- The proportion of your day-to-day payment transactions that are non-cash: Score 64.0
- The proportion of those who chose the Priority Area: Score 38.5
- The proportion of those who agree or strongly agree with the statement: Score 69.7

**LEGEND:**

- MIN (BBB in 2021)
- MED (BBB in 2019)
- MAX (BBB in 2018)

**TECHNOLOGIES**

- Affordability of housing: Score 79.7
- Corruption: Score 59.7
- Health services: Score 58.3
- Employment: Score 73.3
- Information on local government decisions: Score 76.8
- Corruption of city officials: Score 79.7
- Residents contribute to decision making: Score 58.3
- Residents provide feedback on projects: Score 73.3
- Online public access: Score 76.8
- Processing Identification Documents: Score 58.3

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**SMART CITY INDEX 2021**

**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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**GROUP CITY MEAN**

**IT skills are taught well in schools:**

- Opportunities (Work & School)
- Online services provided by the city has made it easier to start a new business
- Free public wifi has improved access to city services
- Online scheduling and ticket sales has made public transport easier to use
- The city provides information on traffic congestion through mobile phones

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**GROUP 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 have made residents feel safer
- A website or App allows residents to effectively monitor air pollution
- Arranging medical appointments online has improved access

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**GROUP CITY MEAN**

**Mobility**

- Car-sharing Apps have reduced congestion
- Apps that direct you to an available parking space have reduced journey time
- Bicycle sharing 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

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**GROUP CITY MEAN**

**Activities**

- Online purchasing of tickets to shows and museums has 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 business
- The current internet speed and reliability meet connectivity needs

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**GROUP CITY MEAN**

**Opportunities (Work & School)**

- 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

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**GROUP CITY MEAN**

**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

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**GROUP CITY MEAN**

**Opportunities (Work & School)**

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**GROUP CITY MEAN**

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**GROUP CITY MEAN**

**Activities**

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**GROUP CITY MEAN**

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**GROUP CITY MEAN**

**Activities**

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**GROUP CITY MEAN**

**Opportunities (Work & School)**

- 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
Health & Safety
- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- Public transport is satisfactory
- Public safety is not a problem
- Public health is not a problem
- Air pollution is not a problem
- Waste management is effective
- Water resources are adequate
- Electric power is adequate
- Reliable public services
- Health services provision is satisfactory
- Medical services provision is satisfactory
- Mental health services provision is satisfactory
- Psychosocial support services provision is satisfactory

Opportunities (Work & School)
- Employment finding services are readily available
- Lifelong learning opportunities are provided by local institutions
- Businesses are creating new jobs
- Most children have access to a good school
- Most children have access to a good school
- Basic amenities
- Employment finding services are readily available
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- Basic amenities
- Employment finding services are ready...
The proportion of your day-to-day payment transactions that are non-cash (% of transactions)

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

The proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

Atti tudes

You are willing to concede personal data in order to improve traffic congestion

You feel comfortable with face recognition technologies to lower crime

The city provides information on traffic congestion through mobile phones

Bicycle hiring has reduced congestion

App that direct you to an available parking space has reduced journey time

Bicycle sharing 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

Online purchases of tickets to shows and museums has 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 business

The current internet speed and reliability meet connectivity needs

Online public access to city finances has reduced corruption

An online platform where residents can propose ideas has improved city life

Processing Identification Documents online has reduced waiting times
Health & Safety

Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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

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

SMART CITY RANKING

Country 2018 2019 2020 2021 1 yr change
HDI 0.758 0.761 0.764 0.768 +0.004
Life expectancy at birth 76.7 76.9 78.1 78.2 +0.1
Expected years of schooling 13.9 14.0 14.2 14.2 +0.0
Mean years of schooling 7.9 8.1 7.6 7.6 -0.0
GNI per capita (PPP $) 16,127 16,057 16,191 17,504 +1,303

GNI per capita (PPP $)

Expected years of schooling

Life expectancy at birth

Country

Population HDI

(UN World Urbanisation Prospects 2022

Country
demand)

Population HDI

(UN World Urbanisation Prospects 2022

Country
demand)

Population HDI

(UN World Urbanisation Prospects 2022

Country
demand)

Population HDI

(UN World Urbanisation Prospects 2022

Country
demand)
Activities
- Green spaces are satisfactory: 39.4%
- Cultural activities (shows, bars, and museums) are satisfactory: 61.5%

Opportunities (Work & School)
- Employment finding services are readily available: 57.5%
- Most children have access to a good school: 54.4%
- Lifelong learning opportunities are provided by local institutions: 55.8%
- Businesses are creating new jobs: 49.2%
- Minorities feel welcome: 37.7%

Health & Safety
- Basic sanitation meets the needs of the poorest areas: 70.9%
- Recycling services are satisfactory: 64.0%
- Public safety is not a problem: 60.1%
- Air pollution is not a problem: 40.8%
- Medical services provision is satisfactory: 67.0%

Finding housing with rent equal to 30% or less of a monthly salary is not a problem: 42.1%

Mobility
- Traffic congestion is not a problem: 31.5%
- Public transport is satisfactory: 69.8%

Health & Safety
- Online reporting of city maintenance problems provides a speedy solution: 43.0%
- A website or App allows residents to easily give away unwanted items: 59.2%
- Free public wifi has improved access to city services: 49.6%
- CCTV cameras have made residents feel safer: 54.8%
- A website or App allows residents to effectively monitor air pollution: 35.7%
- Arranging medical appointments online has improved access: 53.1%

Activities
- Online purchasing of tickets to shows and museums has made it easier to attend: 57.8%
### Health & Safety

<table>
<thead>
<tr>
<th>Health &amp; Safety</th>
<th>Score</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic sanitation meets the needs of the poorest areas</td>
<td>63.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycling services are satisfactory</td>
<td>69.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public safety is not a problem</td>
<td>42.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air pollution is not a problem</td>
<td>44.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical services provision is satisfactory</td>
<td>56.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding housing with rent equal to 30% or less of a monthly salary is not a problem</td>
<td>18.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Mobility

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Score</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic congestion is not a problem</td>
<td>17.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public transport is satisfactory</td>
<td>47.8</td>
<td></td>
<td></td>
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</table>

### Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Score</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green spaces are satisfactory</td>
<td>65.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural activities (shows, bars, and museums) are satisfactory</td>
<td>79.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Opportunities (Work & School)

<table>
<thead>
<tr>
<th>Opportunities (Work &amp; School)</th>
<th>Score</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment finding services are readily available</td>
<td>60.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most children have access to a good school</td>
<td>67.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifelong learning opportunities are provided by local institutions</td>
<td>65.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Businesses are creating new jobs</td>
<td>56.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minorities feel welcome</td>
<td>66.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Governance

<table>
<thead>
<tr>
<th>Governance</th>
<th>Score</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on local government decisions are easily accessible</td>
<td>61.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corruption of city officials is not an issue of concern</td>
<td>48.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residents contribute to decision making of local government</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residents provide feedback on local government projects</td>
<td>55.2</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### ATTITUDES

#### You are willing to receive personal data in order to improve traffic congestion

<table>
<thead>
<tr>
<th>ATTITUDES</th>
<th>% of respondents who agree or strongly agree with the statement</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are comfortable with face recognition technologies to lower crime</td>
<td>55.6%</td>
<td>55.6%</td>
<td>57.7%</td>
<td>57.7%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>You feel the availability of online information has increased your trust in authorities</td>
<td>54.1%</td>
<td>54.1%</td>
<td>78.7%</td>
<td>78.7%</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PRIORITY AREAS</th>
<th>% of respondents who chose the Priority Area</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1 yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>49.6%</td>
<td>51.1%</td>
<td>54.0%</td>
<td>54.0%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td>48.2%</td>
<td>48.2%</td>
<td>48.2%</td>
<td>48.2%</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

### Smart City Index 2021

#### Toronto

- **Population HDI:** 0.943
- **Country:** 2,731,570
- **City:** 0.943
- **BACKGROUND INFORMATION**
  - Minorities feel welcome
  - Businesses are creating new jobs
  - The current internet speed and reliability meet connectivity needs
  - Finding housing with rent equal to 30% or less of a monthly salary is not a problem
  - Arranging medical appointments online has improved access
  - Air pollution is not a problem
  - CCTV cameras has made residents feel safer
  - Residents contribute to decision making of local government
  - Online platform where residents can propose ideas has improved city life
  - Corruption of city officials is not an issue of concern
  - Online voting has increased participation
  - Information on local government decisions are easily accessible
  - Online public access to city finances has reduced corruption
  - GNI per capita (PPP $): 2,731,570
  - Mean years of schooling: 13.8
  - Expected years of schooling: 16.4
  - Life expectancy at birth: 82.1
  - Mean years of schooling: 18.7
  - GNI per capita (PPP $): 18,754

#### Toronto Smart City Index 2021

- **Score:** 48 out of 141
- **Country:** 48
- **GROUP:** 1
- **ATTITUDES**
  - Trust in authorities: 70.8%
  - You are comfortable with face recognition technologies to lower crime: 54.8%
  - You are willing to receive personal data in order to improve traffic congestion: 49.6%
  - You feel the availability of online information has increased your trust in authorities: 45.4%
  - The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 77.1%

#### Toronto Smart City Index 2021

- **Score:** 48 out of 141
- **Country:** 48
- **GROUP:** 1
- **ATTITUDES**
  - Trust in authorities: 70.8%
  - You are comfortable with face recognition technologies to lower crime: 54.8%
  - You are willing to receive personal data in order to improve traffic congestion: 49.6%
  - You feel the availability of online information has increased your trust in authorities: 45.4%
  - The proportion of your day-to-day payment transactions that are non-cash (% of transactions): 77.1%
Online services provided by the city has made it easier to start a new business.

Free public wifi has improved access to city services.

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

Online voting has increased participation.

The proportion of your day-to-day payment transactions that are non-cash (% of transactions) is 55.0%.

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

You are willing to concede personal data in order to improve traffic congestion.

The city provides information on traffic congestion through mobile phones.

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

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

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

Online public access to city finances has reduced corruption.

You are comfortable with face recognition technologies to lower crime.

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 (% of transactions) is 62.5%.

The availability of online information has increased your trust in authorities.

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 (% of transactions) is 62.5%.

You are comfortable with face recognition technologies to lower crime.
Free public wifi has improved access to city services.

Online services provided by the city has made it easier to start a new business.

Traffic congestion is not a problem. Car-sharing Apps have reduced congestion.

Public transport is satisfactory. Apps that direct you to an available parking space have reduced journey time.

Public safety is not a problem. CCTV cameras have made residents feel safer.

Recycling services are satisfactory. A website or App allows residents to easily give away unwanted items.

Basic sanitation meets the needs of the poorest areas. Online reporting of city maintenance problems provides a speedy solution.

GNI per capita (PPP $) expected years of schooling Life expectancy at birth HDI (Eurostat)

Country City Population HDI 2018 2019 2020 2021 1 yr change

Vilnius 829,983 0.913

Health & Safety
Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
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
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

2021 Opportunities (Work & School) Free public wifi has improved access to city services. Online services provided by the city has made it easier to start a new business. Traffic congestion is not a problem. Car-sharing Apps have reduced congestion. Public transport is satisfactory. Apps that direct you to an available parking space have reduced journey time. Public safety is not a problem. CCTV cameras have made residents feel safer. Recycling services are satisfactory. A website or App allows residents to easily give away unwanted items. Basic sanitation meets the needs of the poorest areas. Online reporting of city maintenance problems provides a speedy solution. GNI per capita (PPP $) expected years of schooling Life expectancy at birth HDI (Eurostat)
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, dark blue section of each bar shows the Alignment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

**ATTITUDES**

You are willing to concede personal data in order to improve traffic congestion.

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)

---

**PRIORITY AREAS**

**TECHNOLOGIES**

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
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</thead>
<tbody>
<tr>
<td><strong>Health &amp; Safety</strong></td>
<td>64.1</td>
<td>61.3</td>
<td>36.1</td>
<td>46.3</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td>31.4</td>
<td>63.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>63.0</td>
<td>77.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opportunities (Work &amp; School)</strong></td>
<td>65.4</td>
<td>68.4</td>
<td>70.4</td>
<td>69.3</td>
<td>58.3</td>
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</tr>
<tr>
<td><strong>Governance</strong></td>
<td>62.1</td>
<td>40.7</td>
<td>54.7</td>
<td>63.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**SMART CITY RATING**

![Map of Warsaw with Smart City Index 2021 ratings](image_url)

**BACKGROUND INFORMATION**

Country: Warsaw
Population: 1,065,025
HDI: 0.926

<table>
<thead>
<tr>
<th>Year</th>
<th>HDI</th>
<th>Life expectancy at birth</th>
<th>Mean years of schooling</th>
<th>GNI per capita (PPP $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>0.872</td>
<td>78.5</td>
<td>12.3</td>
<td>27,626</td>
</tr>
<tr>
<td>2019</td>
<td>0.880</td>
<td>78.7</td>
<td>12.5</td>
<td>31,623</td>
</tr>
<tr>
<td>2020</td>
<td>0.876</td>
<td>76.9</td>
<td>13.2</td>
<td>31,564</td>
</tr>
<tr>
<td>2021</td>
<td>0.876</td>
<td>76.5</td>
<td>13.2</td>
<td>33,034</td>
</tr>
<tr>
<td>1 yr change</td>
<td>0.000</td>
<td>-0.5</td>
<td>0.0</td>
<td>1,489</td>
</tr>
</tbody>
</table>

---

**FREE PUBLIC WIFI**

Free public wifi has improved access to city services.

**IT SKILLS**

IT skills are taught well in schools.

**ONLINE PLATFORMS**

An online platform where residents can propose ideas has improved city life.
Health & Safety

Basic sanitation meets the needs of the poorest areas
- 68.3

Recycling services are satisfactory
- 69.0

Public safety is not a problem
- 63.3

Air pollution is not a problem
- 52.9

Medical services provision is satisfactory
- 19.2

Mobility

Traffic congestion is not a problem
- 32.5

Public transport is satisfactory
- 47.2

Activities

Green spaces are satisfactory
- 73.0

Cultural activities (shows, bars, and museums) are satisfactory
- 75.1

Opportunities (Work & School)

Employment finding services are readily available
- 68.6

Most children have access to a good school
- 69.7

Lifelong learning opportunities are provided by local institutions
- 69.6

Businesses are creating new jobs
- 60.4

Minorities feel welcome
- 61.6

Governance

Information on local government decisions are easily accessible
- 53.1

Corruption of city officials is not an issue of concern
- 53.2

Residents contribute to decision making of local government
- 51.8

Residents provide feedback on local government projects
- 59.8

Health & Safety

Online reporting of city maintenance problems provides a speedy solution
- 44.3

A website or App allows residents to easily give away unwanted items
- 61.9

Free public wifi has improved access to city services
- 61.2

CCTV cameras have made residents feel safer
- 50.1

A website or App allows residents to effectively monitor air pollution
- 33.3

Arranging medical appointments online has improved access
- 57.3

Mobility

Car-sharing Apps have reduced congestion
- 30.0

Apps that direct you to an available parking space have reduced journey time
- 36.1

Bicycle hiring has reduced congestion
- 58.8

Online scheduling and ticket sales has made public transport easier to use
- 51.7

The city provides information on traffic congestion through mobile phones
- 48.0

Activities

Online purchasing of tickets to shows and museums has made it easier to attend
- 73.7

Opportunities (Work & School)

Online access to job listings has made it easier to find work
- 74.2

IT skills are taught well in schools
- 48.6

Online services provided by the city has made it easier to start a new business
- 41.3

The current internet speed and reliability meet connectivity needs
- 68.5

Governance

Online public access to city finances has reduced corruption
- 38.7

Online voting has increased participation
- 43.7

An online platform where residents can propose ideas has improved city life
- 40.8

Processing Identification Documents online has reduced waiting times
- 51.8
Health & Safety

Basic sanitation meets the needs of the poorest areas
Recycling services are satisfactory
Public safety is a problem
Air pollution is a problem
Medical services provision is satisfactory
Finding housing with rent equal to 30% or less of a monthly salary is 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
Minorities feel welcome

Governance

Information on local government decisions is 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
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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 have 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 public access to city finances has increased participation
An online platform where residents can propose ideas has improved city life
Processing Identification Documents online has reduced waiting times
Online services provided by the city has made it easier to start a new business

Free public wifi has improved access to city services

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

A website or App allows residents to effectively monitor air pollution

CCTV cameras has made residents feel safer

A website or App allows residents to easily give away unwanted items

Processing Identification Documents online has reduced waiting times

Online public access to city finances has reduced corruption

Corruption of city officials is not an issue of concern

An online platform where residents can propose ideas has improved city life

Lifelong learning opportunities are provided by local institutions

Basic sanitation meets the needs of the poorest areas

Public safety is not a problem

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

Health & Safety

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

You are comfortable with face recognition technologies to lower crime

You are willing to concede personal data in order to improve traffic congestion

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

The city provides information on traffic congestion through mobile phones

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

The left-hand, dark blue section of each bar shows the proportion of respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, light blue section shows the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. A large Disalignment (i.e. inconsistency across both areas explained) means that these areas are probably not prioritized.

The left-hand, dark blue section of each bar shows the proportion of respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

The right-hand, light blue section shows the proportion of those respondents who also answered the survey on the corresponding area by giving it high priority. A large Disalignment (i.e. inconsistency across both areas explained) means that these areas are probably not prioritized.
**BACKGROUND INFORMATION**

City

Population: 1,847,411
HDI: 0.799

(U.N. World Urbanisation Prospects 2022 estimate)

<table>
<thead>
<tr>
<th>Country</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>1yr change</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0.758</td>
<td>0.768</td>
<td>0.764</td>
<td>0.778</td>
<td>+0.004</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>76.7</td>
<td>76.9</td>
<td>78.1</td>
<td>78.2</td>
<td>+0.1</td>
</tr>
<tr>
<td>Expected years of schooling</td>
<td>13.9</td>
<td>14.0</td>
<td>14.2</td>
<td>14.2</td>
<td>+0.0</td>
</tr>
<tr>
<td>Mean years of schooling</td>
<td>7.9</td>
<td>8.1</td>
<td>7.6</td>
<td>7.6</td>
<td>+0.0</td>
</tr>
<tr>
<td>GNI per capita (PPP $)</td>
<td>16,127</td>
<td>16,057</td>
<td>16,201</td>
<td>17,504</td>
<td>+1,303</td>
</tr>
</tbody>
</table>

**ATTITUDES**

You are willing to concede personal data in order to improve traffic congestion
- 26.8% Agree
- 19.6% Strongly agree

You are comfortable with face recognition technologies to lower crime
- 32.7% Agree
- 27.6% Strongly agree

You feel the availability of online information has increased your trust in authorities
- 39.5% Agree
- 37.5% Strongly agree

The proportion of your day-to-day payment transactions that are non-cash (% of transactions)
- 44.7% Agree
- 45.8% Strongly agree

**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, dark blue section of each bar shows the Aligment, i.e. the proportion of those respondents who also answered the survey on the corresponding area by giving it low priority. A strong Alignment (i.e. consistency across both areas explained) means that these areas may benefit from close observation.

**STRENGTHS**

- 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

**WEAKNESSES**

- Basic sanitation meets the needs of the poor areas
- Recycling services are satisfactory
- Public safety is not a problem
- Air pollution is not a problem
- Medical services provision is satisfactory

**OCCUPATIONAL OPPORTUNITIES**

- Green spaces are satisfactory
- Cultural activities (shows, bars, and museums) are satisfactory
- Employment finding services are readily available
- Most children have access to a good school
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- 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 public access to city finances has reduced corruption
- An online platform where residents can propose ideas has improved city life
- Processing Identification Documents online has reduced waiting times
**Health & Safety**

- Basic sanitation meets the needs of the poorest areas
- Recycling services are satisfactory
- 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
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**Governance**

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**Health & Safety**

- Online reporting of city maintenance problems provides a speedy solution
- A website or App allows residents to easily give away unwanted items
- CCTV cameras have made residents feel safer
- A website or App allows residents to effectively monitor air pollution

**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 voting has increased participation
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**Health & Safety**

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

**Mobility**

- You feel that the proportion of your day-to-day non-cash payment transactions has increased
- You feel your day-to-day payment transactions are non-cash

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**Governance**

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