URBAN RESILIENCE REPORT ON
LAHORE

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URBAN RESILIENCE REPORT PRINCIPLES

Cities play a crucial role in the world, serving as engines of economic growth, innovation hubs, and centers of cultural diversity. The importance of cities is evident from the statistics: more than half of the world's population currently resides in urban areas, and this number is projected to reach 68% by 2050. Cities generate around 80% of global GDP, attracting investment, creating job opportunities, and driving technological advancements. They also contribute significantly to energy consumption, with cities accounting for approximately 70% of global greenhouse gas emissions. Recognizing the significance of cities, sustainable urban development has become a pressing global priority, emphasizing the need for eco-friendly infrastructure, efficient transportation systems, affordable housing, and inclusive urban planning to ensure a high quality of life for urban dwellers while minimizing environmental impacts.

Cities, as municipal authorities, are significant employers in their own right, with a wide range of departments and services requiring a diverse workforce. However, the impact of cities extends beyond their immediate boundaries. The decisions made by city governments have far-reaching consequences, not only for their own residents but also for people living in other territories.

In our work, we aim to select metrics in a way that cumulatively characterizes the Resilience of a city. We assess cities by 19 categories as well as individual indicators to draw "resilience" portrait of the city highlighting successful policies that are implemented in the city. We also provide policy hints (based on successful examples of different cities) for problematic topics identified during analyses. We provide a city with the Urban Resilience Index as well as with other sub-indexes such as the basic needs index, natural risk exposure index, transport resilience index and urban sentiment index.

The urban Resilience Index (URI) is a comprehensive assessment based on over 130+ indicators. The city rating blends the E, S, and G components for a holistic evaluation. The methodology for the Urban Resilience Index involves evaluating cities based on Environmental (E), Social (S), and Governance (G) components. They are assessed considering the city's current performance (current state) and expectations on the future (ability & willingness). The weighting of these categories is set at 35% for E, 45% for S, and 20% for G due to the perceived larger impact and interaction with social aspects of development in municipal entities, especially in the Global South.

The initial analysis starts with anchors for E, S, and G components set above or at the middle of the assessment scale. Notch downs and caps from these anchors may occur based on material exposure from industries or companies significantly impacting the city's economy. This includes considerations such as industrial output, total employment, or tax contribution. Revision of anchors downwards is also possible based on industry-specific impacts and anchor strength. The assessment involves analyzing the city's current state and its ability & willingness in each E, S, and G component, considering key and supportive indicators. This assessment uses a scale of 'very low', 'low', 'average', 'strong', and 'very strong'.

SUMMARY OF CITY RATING

Lahore is the capital of the Punjab province (Pakistan) and second largest city in Pakistan with 13.1 million people living in urban cluster with the highest density in the province. Considering relatively high population growth rate, its location and industrial attractiveness, it can become the largest city in Pakistan. The city has rich history, as it was the capital of several empires over that last thousand years and was one of the largest cities of the world at the turn of XVI-XVII centuries.

Lahore accounts for more than 10% of Pakistani economy as well as almost 20% of Punjab's GRP. Gross regional product of the city is quite diversified and is currently driven by manufacturing (mostly textiles), chemicals and construction. Moreover, lately IT and telecommunications started to play a significant role in Lahore economy with establishment of a major software producing center and rapidly expanding computer-assembly industry. City has almost a half of the work force employed in service industries: real estate, financ e and banking, cultural services and others.
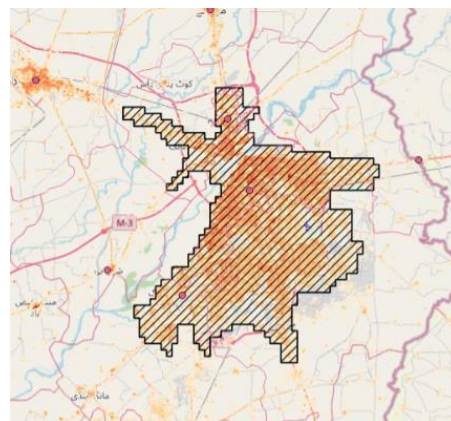
Natural risk exposure of Lahore is very high. Lahore almost annually experiences floods resulting in substantial losses. Moreover number of days with average daily temperature above the threshold for 1990-2010 has increased dramatically (+176).

Lahore has low income levels but tremendous rates of growths boosted by high entrepreneurial activity ($170 per capita per month in 2022 with 5,3% CAGR). Lahore is a city of hope to overcome poverty and address many social and urban development issues in the coming decade.

INTEGRAL RATING

Resilience rating	Basic needs index
C-2	**C-2**

Environmental	Social	Governmental
Very low	**Low**	**Average**

Natural Risk Exposure	Transport Resilience Index
Very high risk	**Strong**

Scales

C-3	C-2	C-1	B-3	B-2	B-1	A-3	A-2	A-1

5 (very low)	4 (low)	3 (average)	2 (strong)	1 (very strong)

LAHORE: KEY FACTORS IMPAIRING URBAN RESILIENCE

Lahore's overall performance is relatively low but 'ability and willingness' for social and government components allow to predict rapid recovery from 2022 floods and higher assessment in the foreseeable future. What it also means is that there are potential areas for further development and improvement that are already being taken care of by the city authorities.

Parameter of city cluster	Performance
Total area, sq. km.	704.4
Build-Up area, % total area	62.9
Area of devastated and degraded land requiring reclamation, % total area (excluding waste deposits)	4.4
Cropland, % total area	14.3
Grassland, % total area	9.4
Tree cover, % total area	8.1
Total population, people	13 077 714
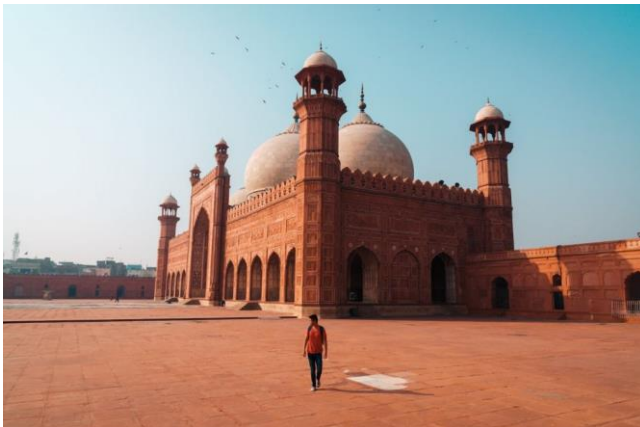
## Population growth: new development

The last 25 years in Lahore were characterised by a stable population growth (3-4% a year) and currently there is no evident reason why situation would change.

Population of Lahore more than doubled in the 21st century and continues to grow rapidly

This means that by 2050 Lahore's population can exceed 35 million people driven by natural population growth only. City's boosting development along with growing employment opportunities will attract migrants which will contribute to ballooning population.

This booming growth requires serious infrastructure development and incremental urban development — which is of vital importance as further flood management is still to be implemented. Satellite images show that currently the city is expanding and absorbs

agricultural lands. Relatively newly built ring road as well as highways and motorways also contribute to Lahore's incremental growth.
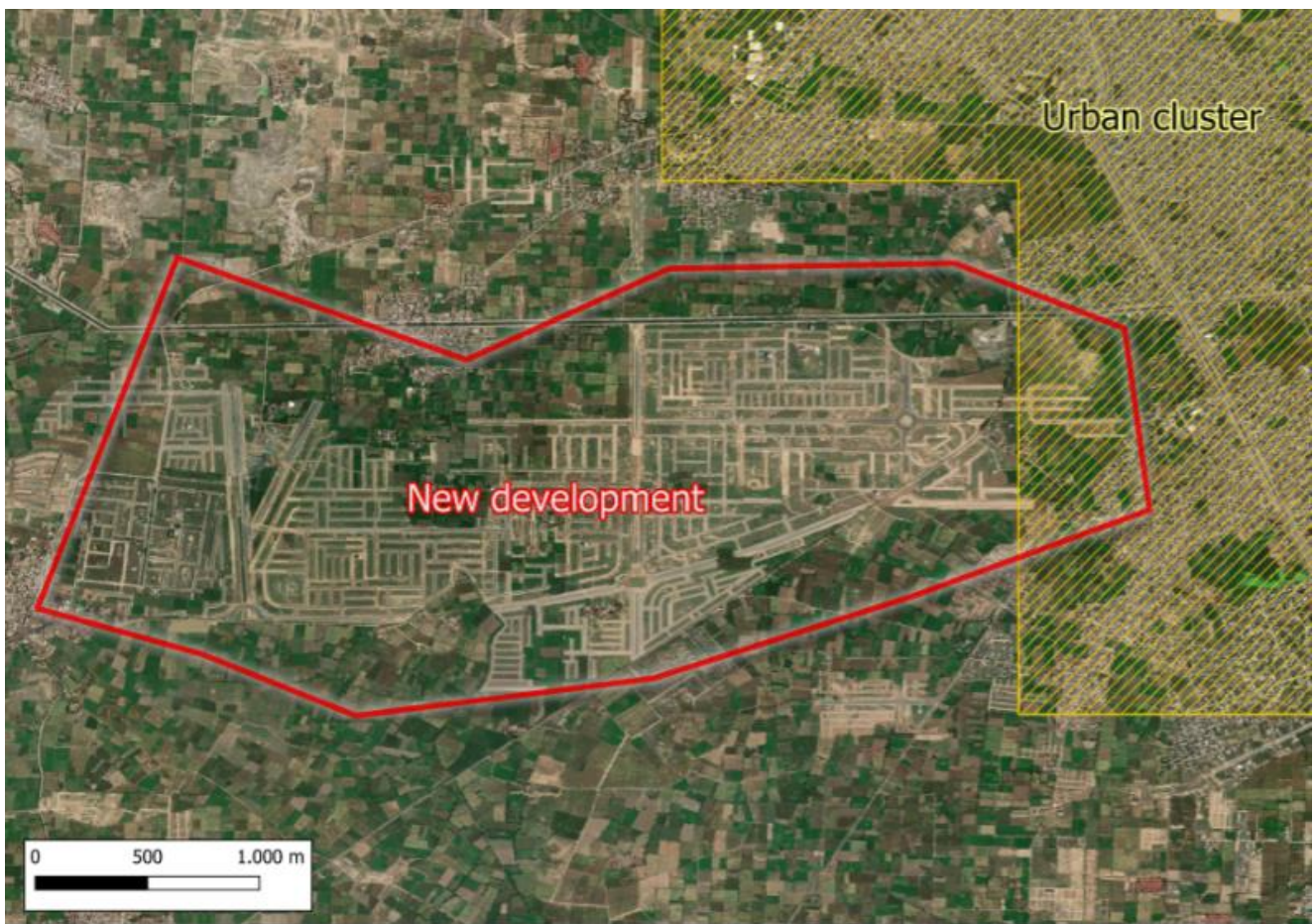
Environmental issues

Lahore, once celebrated as the "City of Gardens" during the Mughal era, has witnessed dramatic environmental and urban transformations over the years. The government's recent green stimulus initiative aims to kickstart a green recovery, responding to Lahore's staggering loss of 70% of its forest cover over the past 15 years, a leading cause of its smog crisis.

The second serious reason for the smog is attributed to transport emissions. In addition to other numerous pollution sources, including industrial activities, aggressive construction of highways and the burning of crop residue during the winter wheat-planting season, a general surge in car sales and many vehicles lacking inspections emitting toxic fumes due to poor fuel quality and its widespread adulteration led to currently catastrophic level of pollution in Lahore.

Smog crises in Lahore: significant rise in paediatric patients due to respiratory issues

Annual average of particulate matter (PM10) concentration in ambient air is at extremely high levels and — unlike in many other polluted cities — continues to grow at 2–2.2% every year mainly due to deforestation of surrounding areas and massive construction works within the city. Annual average of NO_2 Concentration in Ambient Air is at least 4 times as high as recommended by WHO.

Another issue in Lahore that needs to be tackled is fossil fuel power plants and coal being burned by thousands of kilns spattered across the province. Transitioning away from fossil

fuels is crucial for Lahore's future. Annual average of SO_2 concentration in ambient air has not yet reached recommended by WHO yearly maximum but is growing.

Previous Prime Minister Imran Khan has set a goal for Pakistan to generate 30% of its energy from renewable sources by 2030. Yet, regional interests continue to promote fossil fuels, as seen in the coal-fired technology aggressively exported by China under the China-Pakistan Economic Corridor (CPEC). Share of renewable sources in energy consumption was only 0,14% in 2023 without a significant trend to the growth.

Development of renewable energy sources and decentralized energy system in Lahore is of a vital importance

Almost one fifth of the city is covered by green areas (including parks with grasslands and trees). Green spaces are not only parks or massive square forests, but also a street-side trees on the roads or walking areas with deciduous trees.

Green Spaces as a part of 'liveability' assessment reflect citizens' ability to have a park at an

acceptable distance from their home or workplace. Also, high trees downgrade the temperature — it is very important for the areas located in the warm or hot climate. In general, there is sustainable connection between health of the citizens and green spaces availability. In Lahore general issue with green areas and parks is that such areas are hardly accessible due to urban planning matters. Location of parks together with absence of pathways make parks hardly accessible for pedestrians.

Recognizing the need for sustainable growth, the Government of Punjab has initiated updates to the Lahore Master Plan 2040, focusing on environmental pollution control and smart city transformation. Yet, challenges persist — for instance, outdated zoning laws and urban sprawl.
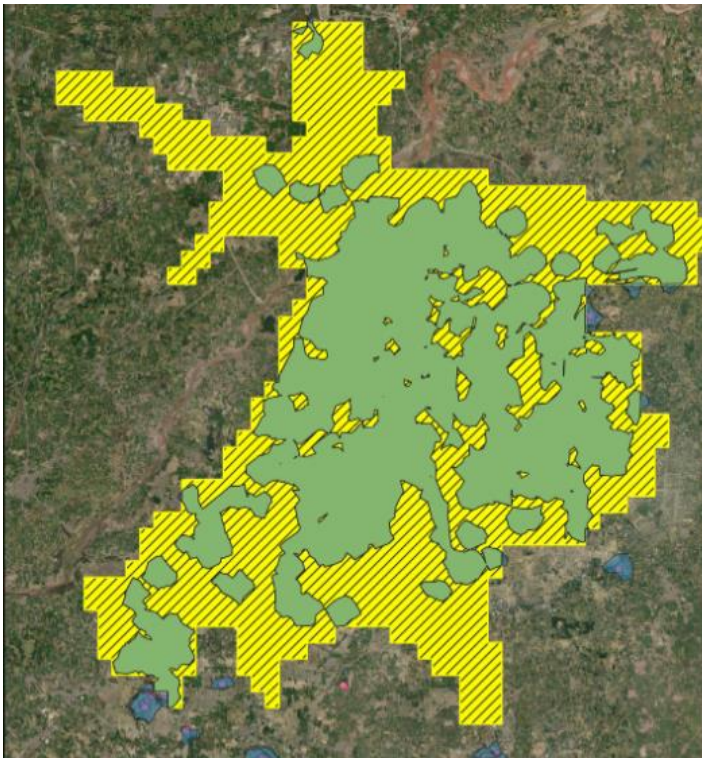
1 km zone from green areas
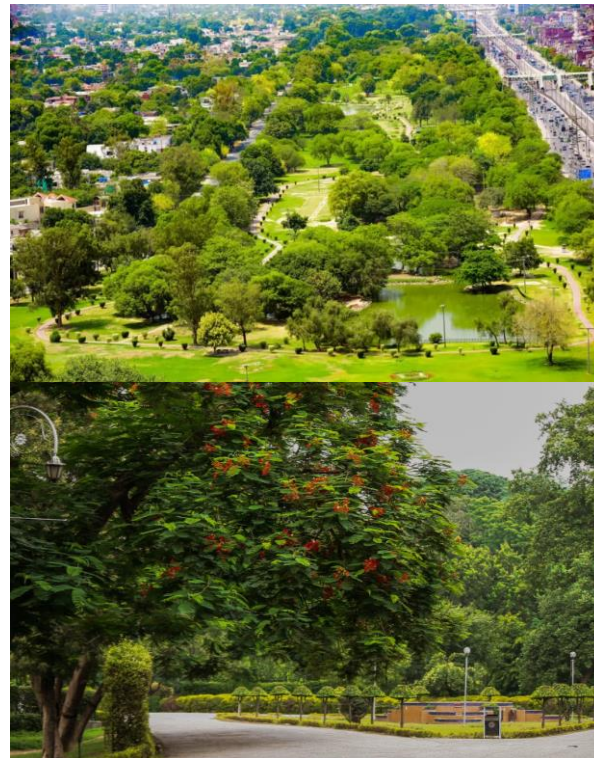
Lahore Waste Management Company grapples with the city's growing waste generation. Waste deposits constitute only 0.1% of total area and were decreasing over last few years. Although there is a massive area for improvement in waste management: especially in construction waste recycling as only 0.4% construction waste was recycled last year.

The city's rapid construction pace is primarily driven by its large population. The increasing construction and demolition waste is predominantly recycled within the informal sector, providing low-income households with opportunities to boost their earnings.

Higher construction standards will lead to lower PM10 concentration in ambient air, better urban planning, higher energy efficiency and construction waste recycling

Parameter of city cluster	Performance
Share of population in 1 km from schools, %	34.9
Share of population in 1 km from transport stops, %	44.7
Share of population in 1 km from green areas (parks), %	66.5

Transportation infrastructure

With an overall rapid ongoing construction works, urban planning has often overlooked pedestrians and cyclists, who make up a significant portion of the city's traffic. The city's transportation infrastructure lacks bike lanes and sidewalks while having made significant investments in metro bus and rail projects.

Parameter of city cluster	Performance
Time loss in traffic, %	9
Ratio of the cost of monthly public transport usage (the cheapest option) to average monthly income, %	3.35
Ratio of the cost of a 1-kilometer taxi ride to average monthly income, %	0.57

Transportation infrastructure also becomes a focal point in the transformation of Lahore. The imminent increase in residents amplifies the urgency for an expanded and efficient transportation network. Addressing the demand for mobility through innovative solutions, augmenting public transit options and designing urban planning strategies will be crucial in ensuring seamless connectivity across the city.

A lack of coordination amongst the various government agencies responsible for transport planning[1]

'Transport' category is assessed "Strong" due to newly built ring road as well as highways. This resulted in substantial changes and overall decrease in time loss in traffic. Traffic jams in rush hours are not as severe as in many other Asian cities.

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[1] Transport planning in Lahore : program design for policy, institutiona land regulatory reform in the city of Lahore

This can be explained by relatively low automobilization levels in Lahore (150 per 1 000 inhabitants) almost 70% of personal transport in the city — motorcycles. Motocycles are affordable for citizens while personal cars are not for most population. This — together with developed road system — leads to relatively light traffic. Moreover, recent implementation of metrobus has also largely contributed to improvement of the transport situation.

Further public transport management decisions should be made with the development of the city in order to maintain current levels of traffic and raise citizens' comfort

Social policies

The city's master plans show implicit consideration for health policies but lack implementation strategies, hindered by political will and funding constraints. Rapid urbanization has led to socio-economic instability, inadequate infrastructure, and the growth of slums, affecting nearly 40% of the city's urban expansion.

Parameter of city cluster	Performance
Life expectancy at birth, years	66.4
Maternal mortality ratio	170.3
Number of hospital beds per 1,000 population	1.28
Number of doctors per 1,000 population	1.15

Basic parameters of healthcare system development — number of hospital beds and doctors per 1,000 population, ambulance arrival speed are at good levels in Lahore. But such indicators as child mortality rate, maternal mortality ratio and life expectancy at birth show profound issues in the city. This is mostly related to "traditional" medicine and low qualification of specialists.

44% children do not survive 5 years

Undernourishment among children is a critical issue in Lahore. Due to poverty, limited access to employment, it is difficult for families to afford an adequate and nutritious diet for at least third of children living in the country. Another reason is the lack of access to proper sanitation facilities which has a negative impact on the health and well-being of its citizens. Moreover, to avoid peak overloads and medical care limitations during seasonal diseases and epidemics, the potential availability of medical care should be increased to at least the world average of 2.7.

Efforts like the Punjab Safe City Project have improved urban security. Violent crime rate is stable and at very low levels. Road fatalities rate was decreasing by more than 10% during last 3 years. Yet problem with non-violent crimes is still extreme: their number increased by almost 20% in last 3 years and continues to grow.

Lahore is still a centre of education and culture in Pakistan. It has the highest number of universities in the country including top tech universities. Moreover, National College of Arts, the oldest art school in Pakistan and second oldest in South Asia, is located in Lahore. Art — and especially filming industry (Lolywood) started to contribute more into city's economy.

Although city can be characterized by educational disparity. Despite high levels of university education development still more than 15% of population is illiterate.

The whole economy of Lahore has been shifting the last decades from manufacturing to services, with major industrial development and a significant workforce in finance and banking, real estate, community, cultural, and social services.

The city appears to have potential for sustainable urban growth but the resolution of current issues lies in institutional reforms, inclusive zoning rules, infrastructure investments, and data-driven urban planning.

Urban planning institutions should play a crucial role in further development of Lahore

Now is the time to make strategic decisions as today Lahore stands at a crossroad, balancing its rich cultural heritage with the pressing need for environmental sustainability and inclusive urban development. As the city continues to grow, addressing these challenges will be pivotal in shaping Lahore's future.

DETAILED ASSESSMENT OF INDICATORS

Indicator	Value	Comment	Source
ENVIRONMENTAL			
Air pollution			
CO_2 concentration	483.6 ppm	Smoke-emitting vehicles like rickshaws, vans, and trucks significantly contribute to high levels of CO2 concentration in Lahore. Slash and burn cultivation is even stronger reason for such levels of emissions.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
CO_2 concentration (change in last 3 years)	0.62%	Carbon dioxide concentration almost does not change due to geographical positioning and persisting levels of emissions.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual average of SO_2 concentration in ambient air	35.79 mg/m3	Burning of fossil fuel from local factories can be one of the main sources of sulfur dioxide emissions, which affects the air quality in Lahore.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of SO_2 Concentration in Ambient Air (change in last 3 years)	0.66%	As factory activities in the nearby communities expand, sulfur dioxide concentrations are gradually rising, exacerbating urban air pollution.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of NO_2 Concentration in Ambient Air	41.29 mg/m3	Low quality fuels together with slash and burn cultivation serve as the primary source of NO2 emissions.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of NO_2 Concentration in Ambient Air (change in last 3 years)	-1.42%	New measures by authorities in Lahore to curb an annual pollution spike are increased each year.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of O_3 Concentration in Ambient Air	76.25 mg/m3	Air quality in Lahore is deteriorated driven by a mixture of low-grade diesel fumes and smoke from seasonal crop burn off, leading to an increase of O_3 Concentration. This type of ozone can be harmful to human health and the urban environment.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of O_3 Concentration in Ambient Air (change in last 3 years)	-1.02%	Officials of the environment department's Anti-Smog Squad tend to control compliance with pollution	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA

Indicator	Value	Comment	Source
		norms in Lahore, that has resulted in a decrease in O_3 Concentration in recent years.	World Cover, 2023
Annual Average of CO Concentration in Ambient Air	1.96 mg/m3	The high concentration of carbon monoxide (CO) in the air at Lahore may be attributed to slash and burn cultivation and industrial burning processes, resulting in high emissions.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of CO Concentration in Ambient Air (change in last 3 years)	1.11%	Carbon monoxide emissions are on the rise due to continuous traffic flow and the ongoing implementation of new urban infrastructure projects.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of Particulate Matter (PM10) Concentration in Ambient Air	272.52	Desertisation and growing construction lead to high PM10 concentration in ambient air	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Annual Average of Particulate Matter (PM10) Concentration in Ambient Air (change in last 3 years)	2.14%	Desertisation and growing construction lead to rising PM10 concentration in ambient air	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Paris Agreement (international agreement on climate change mitigation)	Yes	Lahore is one of the major contributors to various gas emissions in Pakistan, and the Paris Agreement provides a framework for reducing these emissions and mitigating climate change.	
Water pollution			
Annual average of dissolved oxygen (DO) concentration in water	7.2 mg/L	As temperatures increase, water's ability to dissolve oxygen decreases. Thus, a typical hot and arid climate in Pakistan significantly impacts the level of oxygen dissolved in water in the city.	Shavi J. et al. Assessment of Water Quality and Heavy Metals Contamination of River Ravi in Pakistan, 2018[2]
Annual average of pH concentration in water	7.65 pH	Occasionally, water purification methods or the introduction of specific chemicals, like lime (calcium hydroxide), during the treatment process can	Pakistan Bureau of Statistics, Compendium on Environment Statistics, 2015-2017[3]

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[2] Shavi J. et al. Assessment of Water Quality and Heavy Metals Contamination of River Ravi in Pakistan. (2018). https://www.researchgate.net/publication/329976359_Assessment_of_Water_Quality_and_Heavy_Metals_Contamination_of_River_Ravi_in_Pakistan#pf8

[3] Pakistan Bureau of Statistics. Compendium on Environment Statistics. (2015-2017). https://www.pbs.gov.pk/sites/default/files/social_statistics/publications/Compendium_on_Environment_Statistics_2020.pdf

Indicator	Value	Comment	Source
		inadvertently increase the pH levels of the water in the city.	
Annual average dissolved solids in drinking water	70.8 ppm	Contaminants in water significantly poses a threat to environmental and human health. Nowadays the lack of modern filtration systems in Lahore leads to the growth of the concentration of dissolved solids in the city water system and does not guarantee high-quality water for citizens.	Deccan Herald, 2022[4]
Water management strategy in a city	Yes	The city has introduced goals, strategies, and a vision to enhance the resilience of water, sanitation, and hygiene services.	WaterAid Pakistan, 2023[5]
Land use and waste			
Share of devastated and degraded land area requiring reclamation	4.38%	The city is implementing measures to conserve green spaces and areas, which positively impacts the quality of the soil.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Waste deposits, % of total area	0.12%	Lahore Waste Management Company tends to utilize waste with no repercussions over underground water or atmosphere.	Lahore Waste Management Company, 2016[6]
Collected and managed in dumps wastes (hazardous and non-hazardous) (change in last 3 years)	2.29%	Lahore is the only city which has created a proper solid waste management, treatment, and disposal system in Pakistan. Thus, it is challengeable to sustain further growth rates.	Pakistan Bureau of Statistics, Compendium on Environment Statistics, 2017-2019[3]
Total recycled construction waste	0.00404 tons per capita	Due to the vast population and improper waste recycling management system, it is impossible to massively recycle a large amount of waste in the city.	Tribune, 2022[7]
Share of recycled construction and demolish waste in total generated construction and demolish waste	21.2%	The city's rapid construction pace is primarily driven by its large population. The increasing construction and demolition waste is	Batool S. et al.,

[4] Deccan Herald. Ravi in Pakistan is the most polluted river in the world, study says. (2022). https://www.deccanherald.com/world/ravi-in-pakistan-is-the-most-polluted-river-in-the-world-study-says-1082230.html
[5] WaterAid Pakistan. WaterAid Pakistan unveils country programme strategy 2023-2028. (2023). https://www.thenews.com.pk/print/1131585-wateraid-pakistan-unveils-country-programme-strategy-2023-2028
[6] Lahore Waste Management Company. Pakistan's first ever scientific disposal site at Lakhodair gets operational 18 April 2016, Lahore. (2016). https://www.lwmc.com.pk/lwmc-sanitary-landfill.php
[7] Tribune. Building out of waste. (2022). https://tribune.com.pk/story/2431505/building-out-of-waste

Indicator	Value	Comment	Source
		predominantly recycled within the informal sector, providing low-income households with opportunities to boost their earnings.	2008[8]
Total area of impervious surfaces and percentage to total city area	23.12%	The city's high population density and dense buildings result in a significant portion of impervious surfaces within its area.	Shao Z. et al, 2023[9]
Waste management strategy	Yes	Goals and plans regarding waste management are accessible to every citizen.	City District Government, Lahore, 2021[10]
Green spaces, % city area	17.4%	There are some green spaces in the city. However, due to the low air quality, the ratio of green areas to this territory should be increased.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
NDVI (Normalized Difference Vegetation Index)	0.289%	City is characterized by favourable conditions for vegetation.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Natural disaster hazards			
Share of total area with altitude above sea level less than 0,5 meters	1.3%	City is not susceptible to flooding from rising water levels in the world's oceans. However, it suffers from the Ravi's river flooding.	World Bank, 2015[11]
Number of registered heavy rain, flood and thunderbolt (change in last 3 years)	3.97%	Heavy rains lead to devasting floods in the city, damaging the city's systems and preventing citizens from accessing essential services.	TuTiempo, 2020-2023[12]
Environmental/natural disasters' risk mitigation	Yes	The city strategy, considering climate-related risks, should incorporate measures to mitigate adverse impacts. The national strategy includes such measures and offers	Provincial Disaster Management Authority, Government of the Punjab,

[8] Batool S. et al. Economic potential of recycling business in Lahore, Pakistan. (2008). https://pubmed.ncbi.nlm.nih.gov/17475469/

[9] Shao Z. et al. Expansion of Urban Impervious Surfaces in Lahore (1993-2022) Based on GEE and Remote Sensing Data. (2023). https://www.researchgate.net/publication/372807459_Expansion_of_Urban_Impervious_Surfaces_in_Lahore_1993-2022_Based_on_GEE_and_Remote_Sensing_Data

[10] City District Government, Lahore. Lahore Solid Waste Management Master Plan - 2007 - 2021. (2021). https://www.researchgate.net/publication/365561034_Lahore_Solid_Waste_Management_Master_Plan_-_2007_-_2021

[11] World Bank. Land area where elevation is below 5 meters (% of total land area). (2015). https://data.worldbank.org/indicator/AG.LND.EL5M.ZS

[12] TuTiempo. Climate Lahore City. (2023). https://en.tutiempo.net/climate/ws-416400.html

Indicator	Value	Comment	Source
		support to other countries dealing with natural disasters.	2022[13]
Strategy/policy/government officials' statement on environmental issues	Yes	Statements on the most devasting environmental issues and their solutions is accessible to the public. For instance, the Punjab government in Pakistan has declared a four-day public holiday in various districts of the province, including the provincial capital Lahore, to alleviate the impact of smog.	The Hindustan Times, 2023[14]
Total overall losses from natural disaster hazards	30,000 million US$	Lahore annually experiences significant disasters, floods in particular, resulting in substantial material losses.	World Bank, 2022[15]
Number of days with average daily temperature above the threshold for 1990-2010	176	The combustion of fossil fuels for transportation, heating, waste incineration, electricity generation, and other industrial activities has contributed to climate change in the city. Gas emissions may have been one of the influencing factors in surpassing peak temperatures before 2010.	KU Leuven database, 2020-2023[16]
SOCIAL			
Water availability			
Water consumption per capita	0.000000170 mcm	The city as well as the whole country face an inconsistent supply of water, therefore, the ability to sustain abundant water is limited.	Pakistan Bureau of Statistics, Compendium on Environment Statistics, 2017-2019[3]
Water tariff to disposable income ratio	0.00334	The cost of water is affordable for consumers.	Water and Sanitation Agency, Lahore, 2017[17]
Sanitary facilities tariff to disposable income ratio	0.00334	Despite the improper sanitary facilites, its final price becomes affordable enough.	Water and Sanitation Agency, Lahore, 2017[17]

[13] Provincial Disaster Management Authority, Government of the Punjab. DISTRICT DISASTER MANAGEMENT PLAN 2022. (2022). https://pdma.punjab.gov.pk/system/files/DDMP%20Lahore.pdf

[14] The Hindustan Times. Pakistan's Punjab govt declares four-day holiday to mitigate impact of smog. (2023). https://www.hindustantimes.com/world-news/pakistan-punjab-govt-four-day-holiday-impact-smog-101699369351293.html

[15] World Bank. Pakistan. (2022). https://www.worldbank.org/en/news/press-release/2022/10/28/pakistan-flood-damages-and-economic-losses-over-usd-30-billion-and-reconstruction-needs-over-usd-16-billion-new-assessme

[16] KU Leuven database. (2020-2023). https://bib.kuleuven.be/english/pbib/collection/databases

[17] WASA, Lahore. (2020-2023). https://wasa.punjab.gov.pk/system/files/tarrif-2017.pdf

Indicator	Value	Comment	Source
Water consumption per capita (change in last 3 years)	-0.07%	Water consumption decreases because of devasting floods leading to disruption in urban water and sanitary facilities work.	Pakistan Bureau of Statistics, Compendium on Environment Statistics, 2017-2019[3]
Percentage of population with access to drinking water	87.4%	Pakistan is among the most water-stressed countries in the world. Not all citizens have free access to safe drinking water, despite it being a fundamental need.	FAO, 2018-2022[18]
Percentage of population with access to drinking water (change in last 3 years)	0.15%	The access to safe drinking water is still limited. Therefore, more efforts should be made to increase people's access to potable water.	FAO, 2018-2022[18]
Percentage of population with access to sanitary facilities	66.6%	Pakistan ranks among the top ten countries globally with the worst sanitation conditions. The lack of access to proper sanitation facilities has a negative impact on the health and well-being of its citizens.	FAO, 2018-2022[19]
Percentage of population with access to sanitary facilities (change in last 3 years)	1.82%	Pakistan has made significant progress in improving access to sanitation, but more actions are necessary to provide people with sustainable access to sanitation and hygiene.	FAO, 2018-2022[19]
Food availability			
Cereal import dependency ratio (5-years average)	-19%	The region has favorable climatic conditions for cultivating cereals.	FAO, 2016-2020[20]
Cereal import dependency ratio (change in last 3 years)	3.73%	Despite natural disasters damaging the city, Pakistan imports a substantial quantity of cereals.	FAO, 2016-2020[20]
Prevalence of undernourishment	16%	The high prevalence of undernourishment is attributed to several factors, including limited access to food, poverty, inequality, conflict, poor agricultural practices.	FAO, 2020-2022[21]

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[18] FAO. Percentage of population using at least basic drinking water services. (2018-2022). https://www.fao.org/faostat/en/#data/FS
[19] FAO. Percentage of population using at least basic sanitary services. (2018-2022). https://www.fao.org/faostat/en/#data/FS
[20] FAO. Cereal import dependency ratio. (2016-2020). https://www.fao.org/faostat/en/#data/FS
[21] FAO. Prevalence of undernourishment. (2020-2022). https://www.fao.org/faostat/en/#data/FS

Indicator	Value	Comment	Source
Prevalence of undernourishment (change in last 3 years)	12.19%	Despite efforts to improve food security and nutrition, a large number of Pakistanis still suffer from inadequate access to nutritious food.	FAO, 2020-2022[21]
Prevalence of undernourishment children	35%	Undernourishment among children is a critical issue in Pakistan. Due to poverty, limited access to employment, it is difficult for families to afford an adequate and nutritious diet for at least one third of children living in the country.	FAO, 2020-2022[22]
Prevalence of undernourishment children (change in last 3 years)	-1.89%	Pakistan has started taking actions towards enhancing the health and well-being of its youngest citizens thanks to improving city's facilities, providing access to reliable and nutritious food supply.	FAO, 2020-2022[22]
Prevalence of moderate or severe food insecurity in the population	12%	The significant portion of people living in Pakistan do not have consistent access to enough nutritious food. More efforts should be made by the city's government to ensure a healthy and active life of citizens.	FAO, 2018-2022[23]
Share of imports in food resources	-20%	The city, like the country as a whole, does not rely on food imports as the climate and soil conditions are suitable for growing food crops to meet the country's internal needs entirely.	FAO, 2016-2020[24]
Energy availability			
Percentage of urban population with access to electricity	99.6%	Pakistan has made significant progress in extending its electric grid to towns and villages, resulting in a high rate of access to electricity across the country.	World Bank, 2019-2021[25]
Percentage of urban population with access to electricity (change in last 3 years)	0.20%	Despite the achieved progress, population still significantly needs access to electricity.	World Bank, 2019-2021[25]

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[22] FAO. Percentage of children under 5 years of age who are stunned. (2016-2020). https://www.fao.org/faostat/en/#data/FS
[23] FAO. Prevalence of moderate or severe food insecurity in the population. (2016-2020). https://www.fao.org/faostat/en/#data/FS
[24] FAO. Share of imports in food resources. (2016-2020). https://www.fao.org/faostat/en/#data/FS
[25] World Bank. Access to electricity, urban (% of urban population). (2022). https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS

Indicator	Value	Comment	Source
Consumption of electricity per capita	332.89 kWh per capita	In general, citizens have access to an adequate supply of energy. However, power outages and inefficiencies in the urban energy supply system due to natural disasters sometimes lead to shortages in electricity consumption.	Bureau of Statistics, Punjab, 2022[26]
Consumption of electricity per capita (change in last 3 years)	2.77%	The development of urban infrastructure is paralleled by a corresponding increase in electricity consumption.	Bureau of Statistics, Punjab, 2022[26]
Electricity tariff to disposable income ratio	0.08	The government provides subsidies to energy companies to maintain an affordable electricity tariff not only for citizens but also for local businesses.	LESCO, 2024[27]
Share of renewable sources in electricity consumption	0.14%	Most of the primary energy supply in Lahore comes from oil and natural gas. As the city has enough potential to generate solar and wind power, more actions related to utilizing renewable energy sources should be taken.	Pakistan Bureau of Statistics, 2019-2020[28]
Health			
Child mortality rate (under 5 years-old)	44 per 1,000 live births	Lack of access to healthcare services, malnutrition issues, limited access to family planning services increase the risk of child mortality in the city.	Bureau of Statistics, Punjab, 2022[29]
City ambulance	Yes	Immediate city ambulance is available for inhabitants and city's visitors.	The Express Tribune, 2023[30]
Life expectancy at birth, years	66.37	High life expectancy has not been achieved yet due to poor health conditions, inadequate healthcare infrastructure, and limited access to medical services.	World Bank, 2019-2021[31]

[26] Bureau of Statistics, Punjab. Punjab Development Statistics. (2022). https://bos.punjab.gov.pk/system/files/PDS%202022.pdf

[27] LESCO. Tariff. (2024). https://billchecklesco.pk/lesco-tariff/

[28] Pakistan Bureau of Statistics. Pakistan Social and Living Standards Measurement Survey. (2019-2020). https://www.pbs.gov.pk/sites/default/files//pslm/publications/pslm_district_2019-20/PSLM_2019_20_District_Level.pdf

[29] Bureau of Statistics, Punjab. District Profiles. (2022). https://bos.punjab.gov.pk/system/files/PunjubDP.pdf

[30] The Express Tribune. Free rural ambulance service launched. (2023). https://tribune.com.pk/story/2450783/free-rural-ambulance-service-launched#google_vignette

[31] World Bank. Life expectancy at birth, total (years). (2019-2021). https://data.worldbank.org/indicator/SP.DYN.LE00.IN

Indicator	Value	Comment	Source
Life expectancy at birth goals	1. No plans aimed at achieving any of components of Goal 3 or increasing LEaB	Target values for life expectancy should be openly established and published to ensure that all citizens can monitor whether the city is adhering to its short-term and long-term plans.	
Number of hospital beds per 1,000 population	1.19	To avoid peak overloads and medical care limitations during seasonal diseases and epidemics, the potential availability of medical care should be increased to at least the world average of 2.7.	Bureau of Statistics, Punjab, 2020-2022[32]
Number of doctors per 1,000 population	1.01	It is crucial to develop additional financial support and training programs aimed at attracting and retaining **qualified** medical staff in the city.	Bureau of Statistics, Punjab, 2020-2022[32]
Maternal mortality ratio	170.33 deaths per 100,000 live births	The high maternal mortality rate in the city is influenced by various factors, including barriers to healthcare access.	World Bank, 2018-2020[33]
Ambulance arrival speed	7 min	High-speed ambulance arrival enables most citizens to get necessary emergency care, minimizing potential losses.	Emergency Services Department, Government of Punjab, 2024[34]
Education			
Literacy rate among population (15-24 Years)	84.5%	15.5% people living in Lahore are still illiterate. Keeping in view this situation, the city government should establish more specific measures to enhance the literacy rate and support human development.	Bureau of Statistics, Punjab, 2022[29]
Literacy rate among population (15-24 Years) (change in last 3 years)	0%	The educational system of Lahore should develop quicker to provide basic skills for all citizens.	Bureau of Statistics, Punjab, 2022[29]
Primary education engagement	69%	The educational system is weak and fails to provide basic educational services for the majority of citizens, as indicated by the low primary education	Bureau of Statistics, Punjab, 2022[29]

[32] Bureau of Statistics, Punjab. Punjab Health Statistics. (2020-2022). https://bos.punjab.gov.pk/health_statistics
[33] World Bank. Maternal mortality ratio (modeled estimate, per 100,000 live births).(2019-2021). https://data.worldbank.org/indicator/SH.STA.MMRT
[34] Emergency Services Department, Government of Punjab. Ambulance Service. (2024). https://www.rescue.gov.pk/ambulanceservice.aspx

Indicator	Value	Comment	Source
		engagement rate.	
Pupils per teacher rate	45.5	The ratio indicates extremely low access to educational opportunities.	Worldbank, 2016-2018[35]
Proportion of population with post-secondary and higher education	8.7%	The proportion of people who continued their educational path is low, which indicates a low level of general qualifications of the population.	Ourworldindata, 2014-2017[36]
Wealth			
Percentage of population with food expenditure is above 52% of total expenditure	82.57%	The well-being of almost all citizens is poor, and as a result, they cannot afford to meet other basic needs such as food, proper housing and sanitation in the city.	FAO, 2019–2021[37]
Mean monthly salary	170.87 US$	The value of the indicator shows a high level of poverty and insufficient income for a high standard of living.	Numbeo, 2022-2024[38]
Mean monthly salary (CAGR for last 3 years)	16.29%	Despite the low value of the salary indicator, the high rate of its growth demonstrates an improvement in the situation.	
Disposable monthly income	150.76 US$	Disposable income does not allow us to talk about a high level of access to benefits.	Ceicdata, 2014-2016[39]
Disposable monthly income (CAGR for last 3 years)	5.2%	Disposable income growth shows a moderate growth rate.	Ceicdata, 2014-2016[39]
Debt to salary ratio	0.014	A low debt value indicates a low debt burden of the population.	Global Wealth Databook, 2019-2021[40]
Number of mobile phones per 1,000 population	802 per 1,000	Not the entire population has access to modern communication methods.	Worldbank, 2020-2022[41]

[35] Pupil-teacher ratio, primary. (2016-2018). Worldbank. https://data.worldbank.org/indicator/SE.PRM.ENRL.TC.ZS
[36] Share of the population with post-secondary education. (2014-2017). Ourworldindata. https://ourworldindata.org/grapher/share-of-the-population-with-a-completed-post-secondary-education?tab=chart&country=~PAK
[37] FAO.Cost and Affordability of a Healthy Diet (CoAHD). (2019-2021). https://www.fao.org/faostat/en/#data/CAHD
[38] Cost of Living in Lahore. (2022-2024). Numbeo. https://www.numbeo.com/cost-of-living/in/Lahore?displayCurrency=USD
[39] Pakistan Household Income & Exp: Urban: Disposable Income per Household. (2014-2016). Ceicdata. https://www.ceicdata.com/en/pakistan/household-integrated-economic-survey-household-income-and-expenditure/household-income--exp-urban-disposable-income-per-household
[40] Debt to salary. (2019-2021). Global Wealth Databook. https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/global-wealth-databook-2022.pdf
[41] Mobile cellular subscriptions (per 100 people). (2020-2022). Worldbank. https://data.worldbank.org/indicator/IT.CEL.SETS.P2?

Indicator	Value	Comment	Source
Decile income coefficient	6.23	There is no significant stratification of the population by income in the city.	Worldbank, 2013-2018[42]
Decile income coefficient (change in last 3 years)	0.13%	The dynamics of social stratification show that income inequality and distribution of funds are increasing, but the pace cannot be called significant.	Worldbank, 2013-2018[42]
Poverty headcount ratio at national poverty lines	25.23%	The value indicates the prevalence of poverty, but it is not critical relative to the national level.	Worldbank, 2013-2018[43]
Working poverty rate (percentage of employed living below US$1.90 PPP), 15+ age (%)	3.47%	Indicator shows working poverty is present, but prevalence is not universal.	ILO, 2021-2023[44]
Poverty headcount ratio at $2.15 PPP 2017 a day	5.8%	The indicator shows a high level of poverty.	Worldbank, 2013-2018[45]
Living spaces per capita, sq m (change in last 3 years)	0%	The amount of living space is critically low and does not cover the need relative to the population.	Bureau of Statistics, Punjab, 2019-2021
Population living in slums (% of urban population)	57.5%	More than half of people live in places that are not equipped for comfortable living.	Worldbank, 2016-2020[46]
Availability of finance (consumer loans)	15%	The availability of loans indicates a low level of availability, which does not allow improving living standards through financial mechanisms.	ILO, 2021-2023[47]
Safety			
Road fatalities rate per 100,000 population	2.09 per 100,000	In Lahore, there are approximately 150 registered cars per 1 000 inhabitants, which helps prevent urban roads from becoming overcrowded and	Bureau of Statistics, Punjab, 2019-2021[48]

[42] Income share held by highest and lowest 10%. (2013-2018). Worldbank.
https://data.worldbank.org/indicator/SI.DST.10TH.10
[43] Poverty headcount ratio at national poverty lines (% of population). (2013-2018). Worldbank.
https://data.worldbank.org/indicator/SI.POV.NAHC
[44] Working poverty rate (percentage of employed living below US$1.90 PPP), 15+ age (%). (2021-2023). ILO.
https://rshiny.ilo.org/dataexplorer46/?lang=en&id=SDG_0111_SEX_AGE_RT_A
[45] Poverty headcount ratio at $2.15 a day (2017 PPP) (% of population). (2013-2018). Worldbank.
https://data.worldbank.org/indicator/SI.POV.DDAY
[46]Population living in slums (% of urban population). (2016-2020). Worldbank.
https://data.worldbank.org/indicator/EN.POP.SLUM.UR.ZS
[47] Working poverty rate (percentage of employed living below US$1.90 PPP), 15+ age (%). (2021-2023). ILO.
https://rshiny.ilo.org/dataexplorer46/?lang=en&id=SDG_0111_SEX_AGE_RT_A
[48]Punjab development statistics. (2019-2021). Bureau of Statistics, Punjab.
https://bos.punjab.gov.pk/system/files/PDS%202021.pdf

Indicator	Value	Comment	Source
		deteriorating driving conditions.	
Road fatalities rate per 100,000 population (change in last 3 years)	-10.99%	The improvement of road infrastructure and the implementation of higher speed limits have led to a reduction in the road fatality rate in the city.	Bureau of Statistics, Punjab, 2019-2021[48]
Violent crime rate per 100,000 population	3.43 per 100,000	Low performance of police, political instability and even ethnic and sectarian tensions have contributed to the higher murder rate in Lahore.	Bureau of Statistics, Punjab, 2019-2021[48]
Violent crime rate per 100,000 population (change in last 3 years)	0.0032%	Delayed criminal investigation and inadequate prosecution are the primary factors responsible for the growth of the crime rate in Lahore.	Bureau of Statistics, Punjab, 2019-2021[48]
Crime rate per 100,000 population	1139.49 per 100,000	A high crime rate indicates that violence undermines community tolerance and significantly reduces the quality of life for many people in the city.	Bureau of Statistics, Punjab, 2019-2021[48]
Crime rate per 100,000 population (change in last 3 years)	18.05%	Poor performance of police as well as poverty, unemployment, lack of education and social inequality can be attributed the rising crime in the city.	Bureau of Statistics, Punjab, 2019-2021[48]
Police arrival speed	15 min	The police arrival speed is enough high to monitor the urban places, especially in parking lots with motorcycles as vehicles, which are most often stolen.	X (Twitter), 2024[49]
Livability			
Number of LEED certified green buildings	0.0026 certified m2 per capita	Constructed buildings are rarely certified according to the standard of sustainable development, which indicates the lack of a trend towards the construction of buildings that meet high standards.	US Green Building Council, 2023[50]
Number of CEEQUAL certified projects	0 projects	There are no buildings in the city that have received certification under the sustainable civil engineering standard.	BREEAM Infrastructure, 2023[51]

[49] Ahmad_bobak. (2024). X (Twitter). https://twitter.com/ahmad_bobak/status/1782341725417070995
[50] LEED projects. (2020-2023). U.S. Green Building Council. https://www.usgbc.org/projects
[51] Expo 2020 Dubai. (2020-2023). BREEAM Infrastructure. https://bregroup.com/products/ceequal/

Indicator	Value	Comment	Source
Whether or not the city has ISO 37120 certification	No	The city has not been certified as a sustainable city.	WCCD, 2024[52]
Mobile connection coverage	88.5%	Virtually the entire area is covered by cell phone service.	Global Economy, 2014-2016[53]
Internet coverage	75.43%	A significant part of the territory does not have access to modern communications due to lack of coverage.	WTID, 2018-2020
Share of population in 1 km from parks	66.51%	The majority of residents have convenient access to green spaces, which is crucial for their well-being and health, especially in the dusty city.	InfraEconomy's analysis using GHSL, OSM, CAMS, ESA World Cover, 2023
Transport			
Time loss in traffic	9%	Recent transport infrastructure development including new highways and metro successfully unload the traffic.	InfraEconomy's analysis using Google Routes API, 2023
Share of the population in 1 km from public transport stop	44.7%	More efforts should be made by the local government to expand the route network especially to the new developments encouraging the use of public transportation	InfraEconomy's analysis
Ratio of the cost of monthly public transport usage (the cheapest option) to average monthly income	3.35%	Public transport costs may be high for the low income households, but on average transport services remain affordable for the majority of the population.	Numbeo, 2022-2024[54]
Ratio of the cost of a 1-kilometer taxi ride to average monthly income	0.57%	Taxi services are affordable for the vast majority of citizens and do not account for a high share of spending.	Numbeo, 2022-2024[54]
Public transport (excluding subway) operates by schedule	Yes	Public transport has specific operating hours and runs at specific intervals.	Lamudi, 2023[55]
Inclusion			
Homeless people per 1,000 population	8.48 per 1,000	A significant number of unemployed living below the poverty line, especially refugees, struggle to afford	Muslim Aid Media Center, 2021[56]

[52]World Council on City Data. (2024). WCCD. https://www.newurbaninformatics.com/wccd-iso-37120-data-portal
[53]Mobile network coverage (2014-2016). Global Economy. https://www.theglobaleconomy.com/Pakistan/Mobile_network_coverage/
[54]Cost of living. (2022-2024). Numbeo. https://www.numbeo.com/cost-of-living/in/Lahore?displayCurrency=USD
[55]Speedo Bus Routes in Lahore. (2023). Numbeo. https://www.lamudi.pk/blog/speedo-bus-routes-in-lahore-updated-2023/
[56]Pakistan Homeless Statistics. (2021). Muslim Aid Media Center. https://www.muslimaid.org/media-centre/blog/pakistan-homeless-statistics/#:~:text=It's%20estimated%20that%20there%20are,slums%2C%20or%20on%20the%20street

Indicator	Value	Comment	Source
		housing and basic necessities.	
Difference in number of years of schooling between woman and man, woman to man ratio	0.73 years	The disparity in the number of years of schooling between men and women highlights the need for increased efforts to achieve gender equality.	Ourworldindata, 2018-2020[57]
Slavery index	80.3	Jobs with low rights of workers in Pakistan still exists as many citizens living below the poverty line are forced to work to pay off debts.	Walkfree, 2024[58]
Percentage of women aged 25-34 years old that have successfully completed secondary education	41.2%	Women's rights in terms of equal access to education are still not enough empowered in Lahore.	Worldbank, 2018-2021[59]
Regulations for building construction and equipment, public transport for people with disabilities	Yes	Lahore has established regulation for building construction and equipment for people with disabilities.	Daily Pakistan, 2018[60]
GOVERNMENTAL			
Accountability			
City budget execution publication	Yes	City authorities provide data on budget execution in the public domain.	Lahore Development Authority, 2021-2022[61]
City budget publication	Yes	The city makes the budget publicly available.	Metropolitan Corporation Lahore, 2021-2022[62]
Financial transparency on city government companies	No	The city does not provide access to financial statements of controlled companies.	
ISO certification	No	The city is not certified according to ISO standards.	
City council checks and balances	No	No pre-approved budget information is provided.	
Plans to obtain ISO certification	No	The city does not declare plans for ISO certification.	
City budget			

[57]Average years of schooling, males vs females. (2018-2020). Ourworldindata. https://ourworldindata.org/grapher/average-years-of-schooling-males-vs-females?country=~PAK
[58]Global slavery index. (2024). Walkfree. https://www.walkfree.org/global-slavery-index/#mode=DATA:dimension=v:prevalence-unit=absolute:filter=all
[59]Lower secondary completion rate, female (% of relevant age group). (2018-2021). Worldbank. https://data.worldbank.org/indicator/SE.SEC.CMPT.LO.FE.ZS
[60]The resolution to build a ramp. (2018). Daily Pakistan. https://dailypakistan.com.pk/02-Nov-2018/874121?version=amp
[61]Budget Estimates for the fiscal year. (2021-2022). Lahore Development Authority. https://lda.gop.pk/website/page.php?p=TmpVeQ==
[62] Budget. (2021-2022). Metropolitan Corporation Lahore. https://lahore-mc.punjab.gov.pk/budget

Indicator	Value	Comment	Source
Poor financial condition	No	The municipality maintains its solvency.	
Long-term financial planning	No	City officials are not engaged in long-term planning.	
Central/higher level government financial intervention is considered	No	The central government did not interfere in municipal politics.	
Central/higher level government financial intervention taking place	No	The city did not need financial assistance from the state budget.	
Prudent fiscal policy requirements	Yes	The city is creating working groups of managers to ensure smooth financial transactions and financial accounting of economic entities.	The Nation, 2024[63]
Medium-term planning	No	The city does not have an officially published medium-term development plan.	
SME			
Number of SMEs per 100,000 population	1672.8 per 100,000	City favors SMEs development.	Planning & development board, 2017-2019[64]
Number of start-ups	122	The city's business environment is not conducive to the active proliferation of startups, which is reflected in their low number.	Startupblink, 2022-2024[65]
Global Startup Ecosystem Index	1.6105	The coefficient indicates an unfavorable and difficult environment for starting a business.	Startupblink, 2021-2024[66]
Number of SMEs per capita/100 000 population (change in last 3 years)	14.01%	The growth rate of small businesses correlates well with the number of consumers and market capacity.	Planning & development board, 2017-2019[64]
Number of start-ups (change in last 3 years)	45.29%	Despite the low number of startups, their growth rate is very high, which indicates the beginning of the active formation of the business environment and market potential.	Startupblink, 2022-2024[65]

[63]Non-stop borrowing escalates production cost, debt vulnerability: BMP. (2024). The Nation. https://www.nation.com.pk/22-Apr-2024/non-stop-borrowing-escalates-production-cost-debt-vulnerability-bmp
[64]Annual development program. (2017-2019). Planning & development board. https://pnd.punjab.gov.pk/system/files/industrise%202018-19_0.pdf
[65]Startups. (2022-2024). Startupblink. https://www.startupblink.com/startups
[66]The Startup Ecosystem of Lahore. (2021-2024). Startupblink. https://www.startupblink.com/startup-ecosystem/lahore-pk

Indicator	Value	Comment	Source
Public services			
Free phone to call the police, ambulance, firefighters	Yes		
Services for working with citizens' appeals and complaint	Yes	A municipal website for citizens' complaints and appeals is available, creating a closer channel of communication between citizens and the municipal government.	Punjab Police, 2021[67]
E-gov services	Yes	The city provides several areas of government services online.	Federal Board of Revenue, 2024[68]
City ESG reporting	No	The city does not report on ESG metrics.	
City ESG reporting verification	No	Due to the lack of sustainability reporting, the city does not receive additional external verification.	
ESG planning	No	The city does not engage in sustainable development planning.	
Plan with specific targets to develop and implement smart city principles	No	The city does not invest in development according to the principles of smart cities.	
Rollout and status of ESG / UN SDG training across the municipal/asset workforce	No	The city does not provide training and education in the area of sustainable development goals. this has a negative impact on the municipality's ESG policy.	
City municipality involved in network or partnership promoting sustainable development (for example, C40 Cities network)	No	Due to the fact that the city does not have an ESG development policy, it is not a member of the Sustainable Cities Partnership.	

[67]Igp police complaint center. (2021). Punjab Police. https://www.punjabpolice.gov.pk/igp_complaint_center_8787
[68] Online services. (2024). Federal Board of Revenue. https://www.punjabpolice.gov.pk/igp_complaint_center_8787