WorldWide Observatory for Attractive Cities

2025 Edition

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Foreword

To my beloved cities, magical places for human social development and solid foundations for mankind's future dreams.

Note to reader: If you had the chance to read the WW Observatory for Attractive Cities 2020 (handle), Edition 2021 (handle) or 2022 (handle), or 2023 (handle), or Edition 2024 (handle), then you can skip the model description and go directly to chapter 6, City Attractiveness Ranking 2025

All related info at Web: http://attractivecities.com
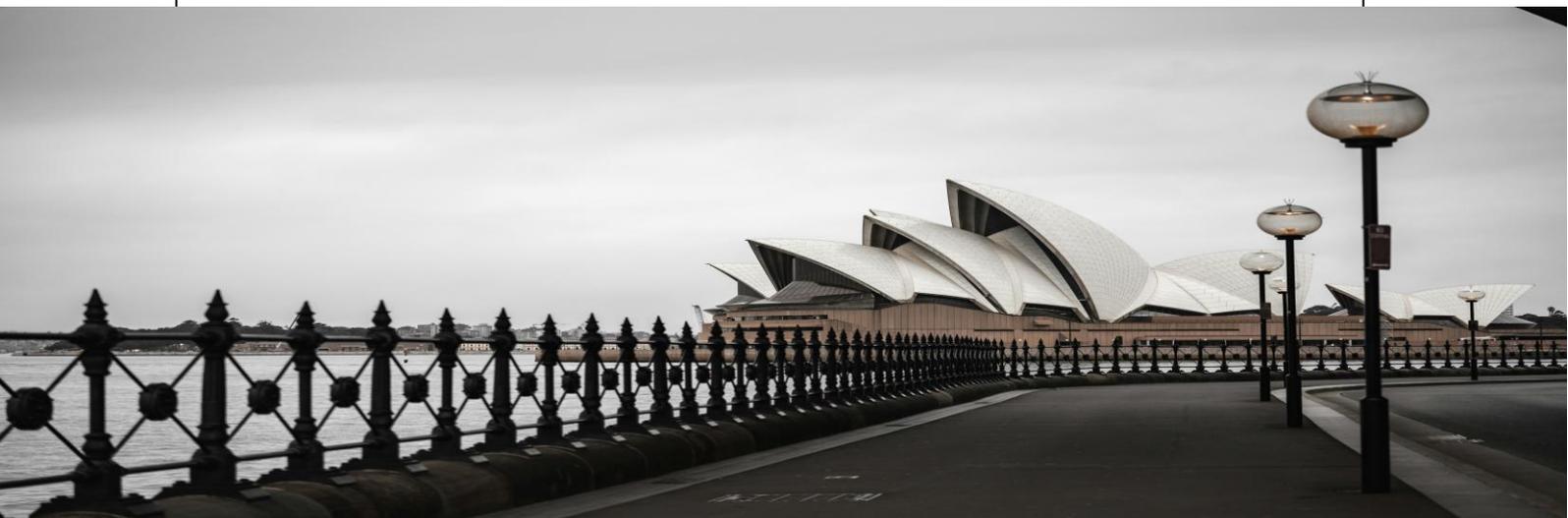
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1.Introduction. Cities Attractiveness Model

1.1 Why cities Attractiveness. The competition for talent

Cities are the epicenter of human activity, the central nervous system of economic growth, social interaction and innovation. In the current context of relatively complete global stability (both in economy and peace), cities are the hotbed for creativity and human development. We live, indisputably, at the best moment in the history of mankind. Technology allows us to increasingly dominate our environment and enjoy a longer and more comfortable life, yet we must not make an idol of it: it's an enabler and catalyzer, not a destiny.

The main challenge for modern cities is how to become A*ttractive* enough to both retain brilliant brains and draw talented citizens and investors. This will be fundamental for cities that want to play a role in the 4th Industrial Revolution. All the most prosperous cities have undergone a profound social transformation due to the past industrial revolutions. A surge of new disruptive technology affecting the way we work, manufacture, trade, and develop human activity has attracted talented citizens. In addition, this new technology fosters the creation of highly qualified and well-paid jobs, which then, pushes any given city's attractiveness to new heights. With rampant new AI technology in place and talented people developing it, we must provide them with a place to connect, engage and encounter each other: THE CITY.

Talent is the key to the city's economic development. Without sufficient talent, the city is not innovative, it does not generate enough wealth or employment, it is not a leader in powerful new initiatives. Even worse, the talent attraction has a positive acceleration feedback: talent calls talent but also the opposite, the lack of attractiveness makes talent migrate, so the chances of being attractive are reduced. It is therefore a fierce competition to achieve this resource: talented citizens.

One of the main factors in making this happen is the exercise of tolerance, the door opening to anyone who demonstrates talent and a willingness to contribute to the city's development while respecting local laws and customs. Thus, we can say that the recipe for prosperity of most advanced cities has been determined by the rule of the 3 T's: Technology, Talent and Tolerance (Florida, 2007), with technology being the lynchpin of each industrial revolution and its main enabler.

Western cities need additional human capital. Eastern and emerging countries are working on building up their own human capital (their young populations) and retaining it to serve as the cornerstone of their prosperity.

The main aim of this research is to understand what is being done and what is needed to make a city the most attractive for these talented citizens. There are many partial studies about employment, safety, happiness, expat treatment, economy, cost of living, etc. but none has attempted to give talented citizens an integrated vision of this new world of cities. Let's try to cover that need.

1.2 WHAT. SCOPE

The main objective here is to answer how, within a 4th Industrial Revolution framework, the city is competing to become more attractive for talent, and furthermore to define which elements enhance attractiveness, and what options exist for cities to do so. The practical consequences are twofold:

1.- Help citizens choose the best city in the world for them to realize their full potential, their goals as a citizen and as a person, and make the greatest possible contribution to society.

2.- Advise mayors and city managers on how to create the most attractive city possible in order to retain and attract talented citizens, and furthermore build a more prosperous, innovative, fair, inclusive and human city. Help them design, prioritize and implement a:

✓ Long-term Transformational Plan (with main focus on physical conditions and social trends)

✓ Short/Mid-term Improvement/Integrated Plan (with main focus on citizen needs and leveraging technology for a digital transformation)

1.3. Methodology. City Attractiveness = City Magnetism x City Profitability

By how cities are prepared and presented to talented citizens and investors, and on the other side, how citizens decide whether to move to another city or not, we can conclude that we are in front of a similar human decision process to a marriage or to a purchase. It looks like a marriage because there is a certain compromise between the parties, some love is necessary, or at least attraction, and it is not a decision that lasts a short time. It is not exactly a marriage because one part, the city, simply offer the conditions for the talent to stay or come, but without talent, city will languish then disappear. It is more like a purchase. The talented citizen "buys in" to live in a city and contribute to its economic and human development, and the city "sells" its attractions, advantages, and even offers special advantages, as incentives. There is no economic transaction, although it is clear that a price is paid due to differences in purchasing capacity (net-purchasing power) for the same citizen with the same kind of job but done in different cities. We have, therefore, that it is a human decision process among many alternatives, where mercantilist/trading benefits are involved, but also aesthetic and ethical questions about the possible destination cities. Do I like that city? And what about that city's lifestyle? These seem to be previous questions to those related to terms & conditions (wage, safety, taxes, environmental care, services.)

Like any human decision involving a compromise between two parties, the motivation to settle in a city due to its attractiveness responds to two main drivers: the emotional and the rational. (Tybout & Calder, 2010) We will call the emotional component City Magnetism ('I like it, I feel comfortable, it enriches me, it inspires me'); and we will label the rational component City Profitability ('it is a good deal, with good city services, well-being is high, cost of living is affordable, conditions match my circumstances, preferences and lifestyle'). In the rational sphere there are no emotions, only purely functional and economic facts. But humans are emotional beings, so the emotional component is very relevant, often the most.

Magnetism   **x**   **Profitability**

OUR
DEFINED 7 POSTULATES:

☑ Cities are taking the key role as Centers for Human Development. There is a hidden, bloodless, but **fierce competition to attract the creative class** people, those who will rule the Innovation led by 4th Industrial Revolution.

☑ **City Prosperity Recipe = 3T's (Technology, Talent, Tolerance)**

☑ 4th Industrial Revolution is about Artificial Intelligence/Robotics. **Artificial Intelligence (AI)** is made of: **Massive Data** (from IoT world, social networks) + **Computing Power** (from large Cloud Datacenters) + **Algorithms (made by Talent**). No single city leads this revolution, but no one wants to be left behind, so competition for talented citizens is even more crucial.

☑ **SmartCities** approach uses technology to transform/improve Cities and **makes them more attractive for talented citizens.**

☑ **City Attractiveness = City Magnetism x City Profitability (yield)**
A human decision, like a purchase. Left brain, emotional component (Magnetism) + Right brain, rational component (Profitability)

☑ **City Magnetism = Conditions that make you like/love the City**. Mostly permanent, slowly evolving conditions that impact people emotionally. To significantly change them → invest in a 10+y City Transformation Plan

☑ **City Profitability (Yield) = Services that you receive from the City compared to the Cost associated with Living in that City = CITIZENSHIP CONTRACT**. Cities invest on a 2+y Improvement / Quick Transformation Plan (Mostly Virtual)
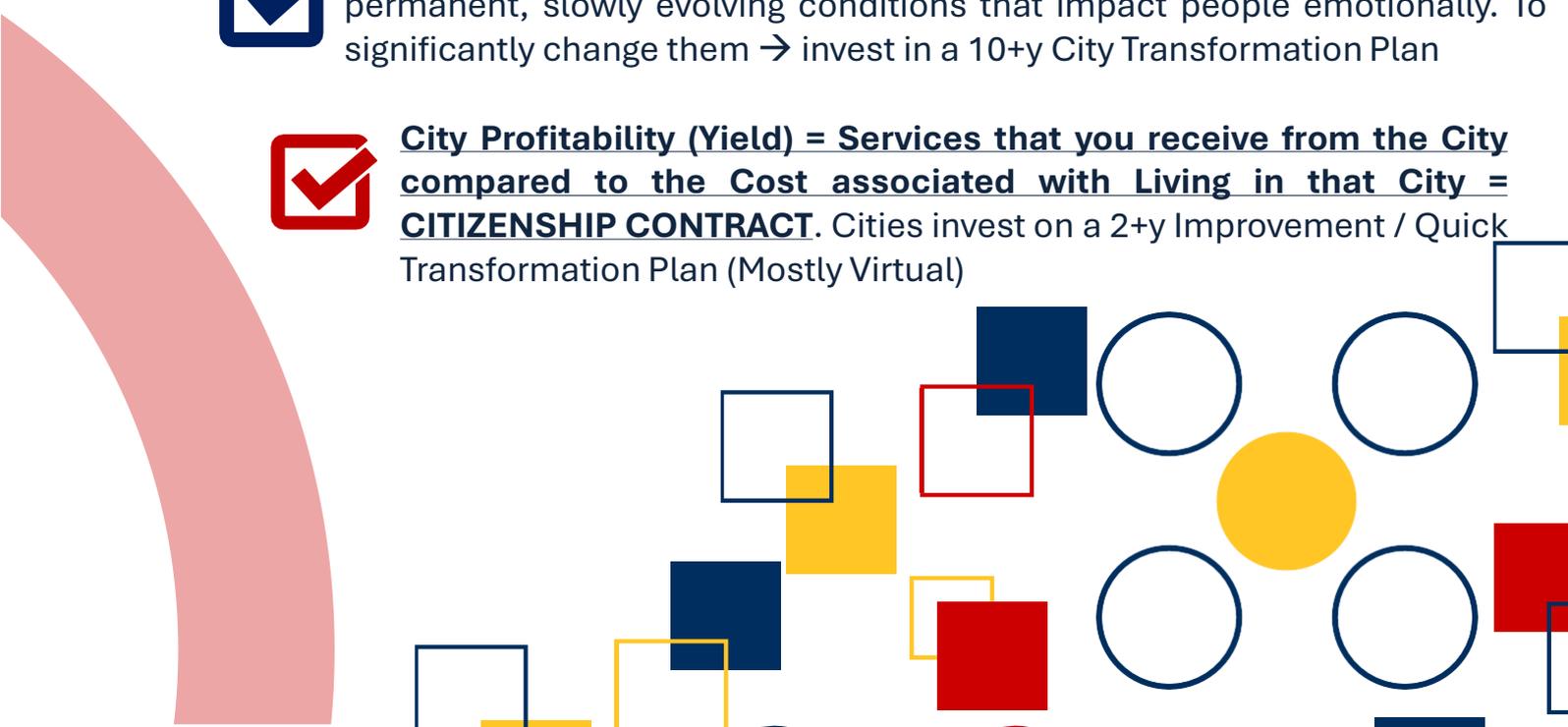
2. City Magnetism

It's the magnetic part that attracts us to a specific city. In essence, a city is a sum of the collective past and present experiences (Marias, Ridruejo, Chueca, 1983) that make up the city's past identity and present dynamism. This emotional component has a lot to do with our tastes, preferences and feelings, and must match up perfectly with the city's aesthetic and ethical facets.

If we humanize the concept of cities, as a live ecosystem, clearly this emotional component would be the city's soul, while the rational part would be its physical aspects, its body. Cities are not just places and spaces that you can live in, they are living entities with emotional components, they have a 'soul' (Alcalde, 2017). This concept of the soul is part of their DNA, a series of emotional, intangible, and qualitative elements that make them stand out and distinguish them from the rest. It has to do with the environment and, above all, with the people who live there and their lifestyle. The opposite of a Magnetic city is the 'Generic' city (Koolhaas, 1997). An empty city, without history, superficial, sedated, as if it were drugged and numb. A city where the street has died because it is not walked and life happens vertically or in shacks, where the edges are marks of disruption (vertical – horizontal) leaving no opportunity for meeting up, for creative density. A city of fractal repetition where everything that is not strictly useful or functional has no place. A city whose center features formally directed architecture and where the wealth is concentrated leaving a diffuse wide stain of low-income areas around it, accentuating inequality.

2.1 Components of City Magnetism.

City Magnetism can be assessed through some preconditions and three main city components which are driven by the permanent creation of living history.

PreConditions: Language, Landscape, Religion. A main spoken language or the ability to be understood and talk to locals is a major primary enabler/blocker. Landscape (seashore, mountains, both) is also a strong personal preference. And finally, our personal divine dimension, our own confessions need to match or tolerate those found (Religions) on a local level.

Historical methodology can offer us an accurate analysis of any hypothesis about a city, because in itself, it is a repository of history. (Rossi, 1978). Cities are living history. The city must respect and balance the preservation and retention of its historical heritage with modern development. (Pinto, 2009). Therefore, City Magnetism is the result of human action, and covers three moments in time: Past, Present and Future, in an ascending line during progress and prosperity and a descending line during destruction and decline, following the human cycles in a perfect and infinite helix. We could say that to the city "nothing human is alien". (Terence, 163 BC).

Then, we can conclude that a model for City Magnetism can be approached by studying these three major areas:

- Identity (Past)

- Dynamism (Present)

- Strategy (Future)

City Identity (Past): The past marks, defines and writes the city identity in stone. It is like its DNA, the addition of collective contributions from its former dwellers, all adding parts of that DNA, evolving, constantly recombining itself. It can evolve, albeit slowly. It can be transformed, but through a long, complex process.

A city's identity is thus defined by those elements that make up its essence and that have been defined throughout its history, such as its culture, customs, gastronomy, and type of society and government. Also fixed determinants such as geographic location, climate and environment, green spaces, density or the risk of natural disasters come into play. Additionally, a city has to nurture its reputation (Reputation Institute, 2017), its external or projected image, its branding, through the impacts it makes on media, often by organizing cultural or sporting events.

A city needs its own projected image, an advertising claim that is highly imageable (apparent, readable, visible). The goal is to become a city with a high chance of evoking a strong image in an external observer (Lynch, 1960). To approximate a model of measurable variables for a city's projected image, we turn to the different specialization areas that UNESCO attributes to a creative city: "Crafts & Folk Art, Design, Film, Gastronomy, Literature, Music and Media Arts" (UNESCO Creative Cities, 2019). All those areas are studied and included into City Branding component.

City Dynamism (Present): *"What is the City but the people?"* (Shakespeare, 1609) This aspect describes a city's psychology and ethics, how people make a living, and what the relationships among its inhabitants are like… The present represents City Dynamism. If identity lays the foundations of Magnetism, Dynamism marks the actions. A city attracts me because of its identity. When I arrive it delights me, welcomes me, motivates me, encourages me, moves me, helps me, or it does just the opposite all based on its Dynamism or lack thereof. The identity of a city is like a travel agent's brochure; Dynamism is the excursions that I can take at the destination.

We divide City Dynamism into four different indicators. First, competitiveness: those elements that measure the action, relationships, city creativity and motion, those elements which turn it into a social and economic hotbed creating complex interrelations of human development. Second, we measure how a city treats those who come, the expatriate, how easy or difficult social integration is in that city. Third, we also measure the city's ethical principles and social equity, inclusiveness and justice. And fourth, we evaluate equality.

City Strategy (Future): How can the future become a driver for a city's attractiveness? What do we expect from a city with a future? We expect it to have a solid plan (a SmartCity Plan), which includes strategies to cope with city challenges.

What makes that plan work? The rule of city prosperity, the 3 T's (Technology, Talent, Tolerance). We need investment in innovation as a fundamental and permanent driver and, of course, talent (human capital), too.
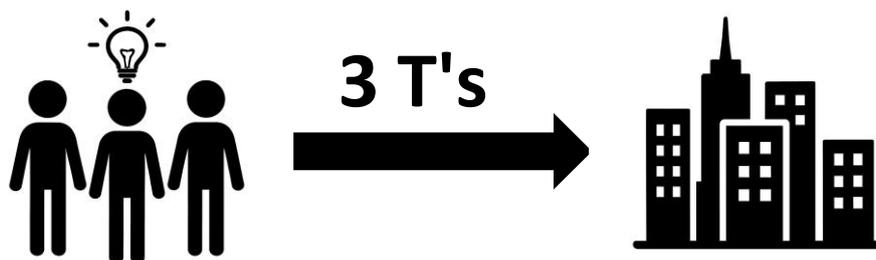
City Identity (Past)

History
Govern Basics
Reputation
GeoLocation Conditions
    Space/Density
    Climate
    GeoRisk
    GeoEconomics
Food/Gastronomy
Branding. External Image

City Dynamism (Present)

Competitiveness
Quality of Life
Expats Experience
Ethics. Well-being
Equality

City Strategy (Future)

Human Capital
SmartCity Plan
Innovation

3. City Profitability

The world is a marketplace of cities where citizens, depending on their preferences at that moment, decide to 'buy' a city and move there to live, and in this light, it makes sense that they give more value to employability when leaving the University, or to social services when they reach retirement age. Priorities vary based on their family dependencies (children or seniors) as well.

City Profitability is associated with the concept of 'is moving there a good deal to me?'. This is the non-emotional part, more related to a city's pure merits (economic and performance indicators).

City Profitability consists of a city performance component (functions, services, variable elements that a city provides to the citizens and that are tangible and valuable) and an economic component (citizens' ability to acquire things or the net purchasing power that a citizen will attain in that city compared to others). It is, in short, a deal. So, City Profitability (yield) is made up of the combination of services offered by a city and the cost of living in that city. We name this implicit, virtual agreement between you and your city the Citizenship Contract.

3.1 Citizenship Contract

Modern cities increasingly resemble Greek city-states. Despite the differences that social achievements have brought to our society during these 25 centuries, cities want to and must redefine the terms of their agreement with their citizens: the citizenship contract. It is a virtual contract that we all implicitly hold with our city. It is the value proposition that our city offers both to us and to the possible talent who wants to become established in our city. It is the list of gives and takes that our city has, like a billboard of city's offerings. It is a contract because the city offers us a series of services, benefits and development opportunities in competition with other cities in the world, in exchange for our contribution to the city's common project. This contribution has many facets, not only our taxes, but our generation of wealth, ideas, creativity, competitiveness, values, experience, co-creation, city development and drive to achieve its future goals. This is what millennials are evaluating now, and what local talented citizens weigh before deciding to emigrate in search of better opportunities.

3.2 Components of City Profitability.

To define the citizenship contract, we must detail the series of benefits and services the city offers us. This is the list of performance indicators to evaluate in which we group all the quantifiable services that a city can offer us into 10 areas:

- DIGITAL GOVERNMENT: A democratic, efficient, transparent, participatory, digitalized city government. Digital government as a service.
- EDUCATION: Lifelong training. Quality business schools, professional training and development.
- EMPLOYABILITY: The demand for talent. Easiness to find a job.
- CONNECTIVITY: Internet infrastructure. 4G / 5G deployment. Mobile Connectivity
- HEALTHCARE / SOCIAL SERVICES
- ENVIRONMENTAL SUSTAINABILITY: Water and energy efficiency. Air quality. Carbon emissions reduction, carbon neutral plans. Circular city.
- CULTURE-TOURISM: Culture as a city service, not traditions or emotions, but valuable services.
- URBAN MOBILITY: Traffic, public transportation. Mobility as a service. Time in traffic.
- URBAN PLANNING: Urbanism as a city service.
- SAFETY: Physical and virtual safety

Then, we have to weigh these aspects against the cost of living in that city, or, in other words, the final net purchasing power (amount of things that I could buy with my final, after-tax income). Therefore, it is about comparing (multiplying) what I get from the city with what I get from my professional activity. The higher the result, the more profitable it will be for me to move to live in that city.
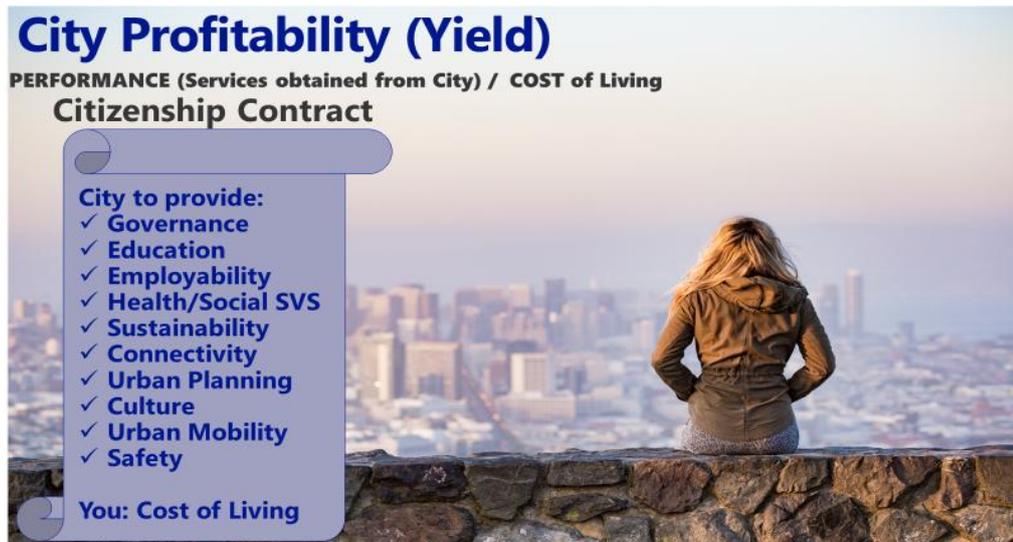
4. City Attractiveness Model

4.1 Cities Selection Criteria

We decided to increase our initial 2020 Analysis (made of 140 Cities), up to the world's top 175 most attractive cities according to international studies in a model made up of more than 100 indicators.

City selection criteria: Top cities in the Quality of Living Ranking (Mercer, 2019) and IESE's Cities in Motion (Berrone & Ricard, 2020) and cities scoring over 50 (no personal risk or severe living restrictions) on the Global Liveability Index (The Economist, 2021). The first two are superior quality reports featuring a wealth of details and indicators, coming from very well-known, highly reputable sources, while the Liveability Index's minimal threshold corresponds to a basic fact: nobody wants to go and live in a city where their life will be threatened, or basic living conditions are severely restricted.

4.2 Set of Indicators.

30 Indicators for Magnetism-Identity, 17 for Magnetism-Dynamism, 23 for Magnetism-Strategy, totalizing 70 indicators for City Magnetism, selected from international bodies, previously published key studies/analysis, and our own work are used for this research. Each of the 175 cities selected is also analyzed with data taken from city websites and their published SmartCity plans.

34 indicators make up the model for City Profitability (selected from international bodies, already published studies/analysis, and the author's own work).

The total number of evaluated indicators is 104, but many of them include a large number of subindicators, raising the total number of analyzed city dimensions to around 500. The selection of indicators to use follows the metanalysis methodology: researching all available indexes, then choosing those best matching previous criteria while avoiding biases. See the full list of used indicators and components in Figure 1a,1b.

Our objective is not to create yet another ranking of cities. Cities hate rankings, unless they come out on top. As the concept of attractiveness is quite personal, the most attractive city for me may not be as attractive for another person depending on the different scale of values we use to weigh a city's performance indicators, different aesthetic, personal preferences (mountains or seashore or both, spoken languages, religion...), and personal status (family dependencies, children, elder people in their care…). The model we present allows for comparisons between cities in the same geo cluster, and obtains each city's "attractiveness radiography" which helps prioritize areas that are in need of improvement, and also provides a list of cities that best fit a particular citizen's values and preferences.

Area	Subarea	Class	Indicator	Subindicator	Entity
Magnetism	Identity	History. Culture	Age	Foundation	Wikipedia
			UNESCO	World Heritage	UNESCO
			Top Museums		Wikipedia
		Government Basics	Democracy Index		The Economist
			Crime City Index		NUMBEO
		Reputation	Contribution to World	The Good Country Index	Anholt & Co
			Finantial Reputation	Brand Finance Global City Index	Brand Finance
		Space. Density	% Natural Space	Better Life Index	OECD
			Density (inh/km2)		Demographia
		Climate	Avge. Temperature Desviation	Gradient	Climate-Data.org, Climatemps
			Avge. Precipitation Desviation	Gradient	Climate-Data.org, Climatemps
			Avge. Daily Sunshine		Climate-Data.org, Climatemps
		Geo Risk	Natural Disaster Risk		World Risk Index
		GeoEconomics	GDP Proximity	%WW	World Bank
		Gastronomy	Food Security Index		The Economist
			Cost Food		Numbeo
			Guru Restaurant		Guru Restaurant
			Michelin Guide and Guru	#Rest/Minh	Via Michelin
		Branding. External Image	Music	Own work	Own work (Wikipedia and Youtube)
			Movies	Own work	Movie-locations, Scene locations
			Street ART	Artwork/10k Inh	Street Art Cities
			CITY BLOGGERS	SM Reach	Brand24
			Sports	Soccer / Basketball / Other Sports Events, Marathons	Football Database / NBA / Topendsports
			Main Events	Olympics	Olympics org
				Universal Expos	Bureau International des Expositions
				Cultural Events	Day Zero Project
	Dynamism	Competitiveness	Global Competitivenes	Economic	IMD
			Global Talent Competitiveness	Talent	IMD
		Development. Quality of Life	Cities in Motion	Cities facing Challenges	IESE Cities Motion
			Quality of life	Quality of life	Numbeo
			World Best Cities	Cities Marketing	BestCities.Org
		Expat Social Experience	Quality of Life for EXPATS	Best Cities for Expats	InterNations
		Ethics. Well-being	Happiness	Happiness Report	UN
			World Giving Score		Charities Aid Foundation
			Civic Engagement		World Bank
			Work-Life Balance		REMOTE
		Equality	GINI Index		WorldBank
			Gender	Economic Empowerment of women	INSEAD - GTCI
				Global Gender Gap Index	WE FORUM
				Leadership opportunities for women	WE FORUM
			Tolerance	Tolerance Minorities	FRAGILE STATES INDEX
				Tolerance Immigrants	WORLD POPULATION REVIEW
			Poverty	Pop < 6,85$/d	World Bank
	Strategy	Human Capital	Population Age Average Per Country		World Population Review
			Ranking Human Capital	Cities in Motion	IESE
		Smart Cities Plan	Plan Smart Cities	18 Areas	Own Work + IMD
		Innovation	R&D (% GDP)		INSEAD - GTCI
			Global AI		Tortoise
			Innovation Cities / Global Innovation Index		Innovation Cities

ADDITIONAL PRE-CONDITIONS:		Landscapes		Own Work
		Language		Infoplease
		Religion		Own Work

Figure 1a. City Attractiveness Indicators. Magnetism. Source: Author

Profitability	Services	Digital Government			
			Digitalization of Government	eGovernment Survey	United Nations
			eParticipation Index	eGovernment Survey	United Nations
		Education. LifeLong Training	University Rankings in the subject Business and Economics		INSEAD - GTCI
			Employee Development		INSEAD - GTCI
		Employability	LinkedIn Talent Hiring Demand	Talent Insights	LinkedIN
			Employability		WORLD BANK GROUP
		Connected City	MOBILE	Mobile Connectivity index	GSMA
			Internet Speed	Broadband Speed	WORLD POPULATION REVIEW
			ICT Infraestructure		WORLD POPULATION REVIEW
		Health/Social SVS	Social Expenditure (% GDP)		OECD
			Life Expectancy	WHO	World Health Organization
			Physicians density		INSEAD - GTCI
			Public Health Expenditure per Capita		World Bank
		Environmental Sustainability	Carbon Neutrality Plan	A-List	Own Work + CDP
			Environmental Performance		INSEAD - GTCI
			The Green Future Index		MIT
			Environmental Performance Index	EPI	Yale
		Culture-Tourism	Culture Creative Jobs %		World Cities Culture Jobs OECD. Eurostat
			City Destination		FORBES
		Urban Mobility	Traffic Index		NUMBEO
			Time in Traffic	Time in rush hour/y	INRIX
		Urban Planning	Urban Planning		IESE Cities Motion
		Safety	Safe Cities Index		GRI
			Safest Cities		CEO World Magazine
			Crime by City		Numbeo
	Cost Of Living. Net Purchase Power	Net Real Income	Avg Wages/month	SINGLE, No CHILD	UNECE, ILOSTAT
			Direct Tax + Social Contributions		OECD
			Indirect Tax		Sales Tax Institute
		Cost Of Life	Purchase Power Parity Plus Rent (NY=1)		Numbeo

Figure 1b. City Attractiveness Indicators. Profitability. Source: Author

Main data sources updates vs 2024 Edition
Added Indicators:

• Magnetism.Identity. Reputation.Finantial Reputation
• Profitability.Services.Safety.Safe Cities Index

Changed sources at:

• Magnetism.Identity.branding External Image. Movies
• Magnetism.Dynamism.Competitiveness.Global Talent. Competitiveness
• Magnetism.Dynamism.Ethics Well-being. Work-life balance
• Magnetism.Dynamism.Equality. Gender. Leadership opportunities for women
• Magnetism.Dynamism.Equality. Tolerance. Tolerance Minorities
• Magnetism.Dynamism.Equality. Tolerance. Tolerance Immigrants
• Profitability.Services. Employability. Employability
• Profitability.Services. Connected City. ICT Infrastructure
• Profitability.Services. Health/Social SVS. Public Health Expenditure per Capita
• Profitability.Services. Safety. Safe City Index
• Profitability.Services. Safety. Safety Index by City

5. City Attractiveness Research

5.1. Surveys

To prove that the model works and that all its components are relevant, we carried out three surveys at SmartCities events, so our audience brought twofold advantages: they are quite familiar with the concept of city performance, and we can consider them all as talented citizens.

- •Survey of 4,500 participants at an event (NordicEdge, 2018), Stavanger (Norway). Sep2018 attendees. The largest SmartCities event in the Nordic countries.

- •Survey of 21,334 participants (SmartCity Expo & WW Congress, 2024), Barcelona (Spain). Nov2018 attendees, updated at Dec2024 to 25.771 attendees. The largest SmartCities event in the world. Due to the large response (n=1550), the data obtained will be used to fine tune weights on Magnetism and Performance for global analytics and main ranking reference / chapter 6.1 Honors Board.

5.2 Surveys results. Comparing 2018 vs 2024 surveys.

On audience, both surveys are very similar. Our target average respondent-age was 43 years old, half of them with children (51%) and a quarter of them with elder people in their care (25%). It is an unbalanced gender sample with 67% male, however that is consistent with the very male-driven technology market.

On Magnetism: Identity (past) rules, then come Dynamism (present) and then Strategy (future). Identity and Dynamism are significantly more important than Strategy, confirming the trend that a city's future and potential are less valued than its present facts or its experience gained from Identity. This result is easily associated with the Southern European lifestyle, which is most interested in the present moment, with a loving eye for the past and less emphasis on the future. However, the differences are not so large as to consider Strategy (future) as irrelevant seeing as this survey was world-wide in nature. Identity (past) becomes more and more appreciated as people get older (the over-50 crowd). And in terms of gender, men and women agree on Magnetism, which means they have essentially the same preferences for aesthetics, education and customs.

On Profitability. In city services (see figure 2), we can very clearly identify three zones: high (positions 1 through 4) scoring more than 7.70, then mid (positions 5 & 6), then low (7 through 10). There are appreciable changes among the different age ranges studied, but these services always fall within these general zones. All 10 areas studied are relevant, as all scored a minimum of 3.42 out of 5 on average in our original survey on importance, meaning that we can say that none are irrelevant, and none have a much higher score when compared to the rest.

When comparing 2018 vs 2024 results we can very clearly appreciate two significant movements: Safety moving from 4 to top1 position, showing the relevance it is reaching due to current social unstability in many cities; Environmental dropping from 3 to 6 showing the de-hype of the Green City concept (mainly after the Trump recent decisions). Urban Mobility comes from top to 3 but remains very key component (I would say essential). As such, we have named it the 'city bloodstream'. Since we define a city as a point in space/time where people meet with and encounter each other, and this service makes that possible, we are not surprised that it is the most appreciated. Health/SocSVS, maintains second position as it keeps its relevance along time. Safety is the top factor for those over 60. After those come the Education and Employability group, moving slightly up due to Environmental drop. In any case, Education jumps up to position 3 for younger citizens, which seems reasonable. Employability falls to the bottom position for those aged more than 60, as they are about to retire. Urban Planning, Governance, Cultural Services, and Connected City occupy the lowest positions. I was personally expecting to see Connected City finish higher; maybe the audience did not understand the concept and the disruptive implications that 5G/6G will bring, or maybe they consider this as a static, obvious utility service like water or energy, and see little to no difference among cities. Governance and Urban Planning are not perceived as star city services, but rather as business as usual, as regular tasks that must be guaranteed, not as brilliant services that citizens perceive as new, innovative or disruptive.

CITY SERVICES -	2018 SURVEY					CITY SERVICES -	2024 SURVEY			
SCALE OF VALUES	RK	1-10	Over 100	INPUT		SCALE OF VALUES	RK	1-10	Over 100	INPUT
URBAN MOBILITY / TRANSP	1	10,00	13,54	4,44		SAFETY (PHYSICAL/VIRTUAL)	1	10,00	11,13	4,57
SOCSERVICES / HEALTH	2	9,04	12,66	4,35		SOCSERVICES / HEALTH	2	9,57	11,00	4,52
ENV. SUSTAINABILITY	3	8,95	12,57	4,34		URBAN MOBILITY / TRANSP	3	8,94	10,80	4,44
SAFETY (PHYSICAL/VIRTUAL)	4	8,37	12,04	4,28		EDUCATION	4	7,73	10,42	4,28
EDUCATION	5	7,67	11,40	4,21		EMPLOYABILITY	5	7,34	10,30	4,23
EMPLOYABILITY	6	7,11	10,87	4,16		ENV. SUSTAINABILITY	6	6,87	10,16	4,17
URBAN PLANNING	7	4,78	8,72	3,93		URBAN PLANNING	7	5,66	9,78	4,02
GOVERNANCE	8	2,85	6,95	3,74		GOVERNANCE	8	3,93	9,24	3,79
CONNECTED CITY	9	1,83	6,01	3,64		CULTURAL SVS / TOURISM	9	2,68	8,85	3,63
CULTURAL SVS / TOURISM	10	1,00	5,24	3,56		CONNECTED CITY	10	1,00	8,32	3,42

Figure 2. City Performance/Services Ranking for SmartCityExpo Attendees. Source: Author

By gender, we find almost the same rankings with only a few differences near the top, for instance, women position Health/SocSVS at number 1 and men situate Safety. Those with children give more consideration to EnvSustainability (from 6 to 5) (thinking about the planet we leave for them, perhaps); those without follow the average. People with someone elderly in their care put Health/Social Svs, Safety and Mobility on top, as expected, because those are the three areas to improve in any age-friendly city. Finally, and sadly, Culture/Tourism is moving from bottom, one position up. While this is promising, it is clearly a major pending issue for most of our cities: how to serve as a kind of permanent university for citizens by constantly offering, incentivizing and promoting cultural services. A more skilled society is always a more prosperous one, and the opposite is true, too.

5.3 Model Reliability

- Medium on City Magnetism. High on City Profitability.
- Again, plan is not to create another Cities ranking. A personal tool (App) is provided at website, so the main topics will be weighted based on individual citizen input. Results will vary from citizen-to-citizen preferences or different life status (age, family dependents).
- Model obtained from the three surveys conducted with: 95% Confidence, <2% Error

6.Cities By Numbers. Benchmarked Cities.

6.1 City Attractiveness Ranking 2025

If we apply these survey scores to our model, (see figure 3 with full list of top175 cities) we find the Top 30 positions lead by cities from UAE (Abu Dhabi, Dubai), Nordics (Norway, Denmark), Central Europe (Germany, Netherlands, Luxemburg, main cities from Switzerland, Austria), Canada (Toronto, Montreal), Spain (with 3 main cities), JPN, AUS and UK with two each. Spanish Cities are maintaining with a slight decline very good positions (Madrid at 12 till Santander at 80). Following this area, we immediately find the 4 Asian tigers from 30 to 73. USA cities are not present till positions 54 (NYC) and most mainly found at 67-84 with a slight decline vs 2024. That way, we see UK (21-72), or AUS (14-65). A traditional winner, Finland has dropped till 40-60 and Sweden (44-66). We can see Lovability (Magnetism) and Affordability (Net Purchase Power) as main drivers for most movements up, and Liveability (Performance) as main reason for movements down. We can see the impact of QUALITY OF LIFE as main driver.
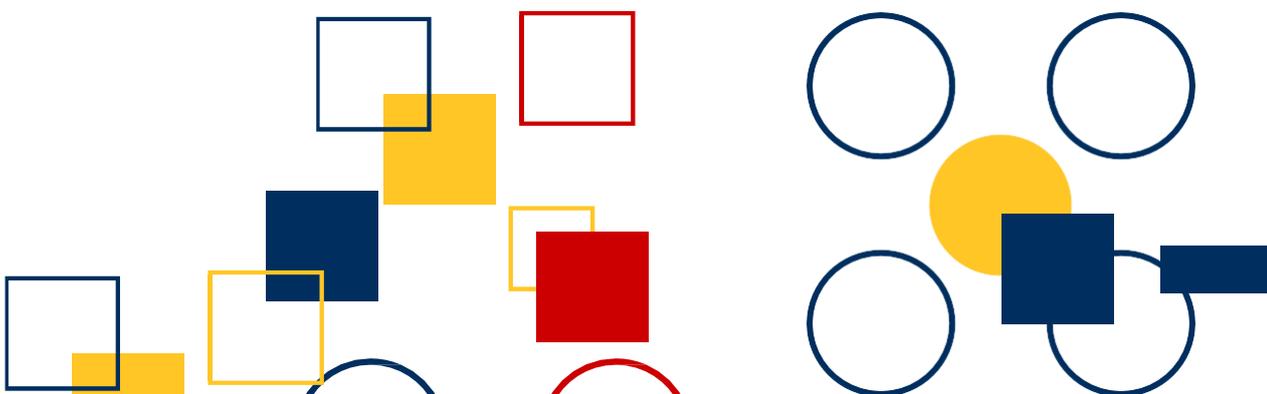
QUALITY OF LIFE

Magnetism   Performance   Net Purchase Power

WW OBSERVATORY FOR ATTRACTIVE CITIES

City	Country	MAGNETISM	IDENTITY	DYNAMISM	STRATEGY	PROFITABILITY	PERFORMANCE	NetPurchase Power	ATTRACTIVENESS
Dubai	United Arab Emira	72	100	23	86	1	63	2	1
Oslo	Norway	12	18	12	22	6	20	12	2
Amsterdam	Netherlands	1	6	3	11	25	3	67	3
Abu Dhabi	United Arab Emira	99	127	16	101	2	99	1	4
Copenhagen	Denmark	4	12	2	15	16	1	73	5
Zurich	Switzerland	6	42	1	7	14	7	45	6
Berlin	Germany	9	8	34	17	10	4	44	7
Stavanger	Norway	31	64	11	62	5	28	7	8
Rotterdam	Netherlands	11	30	24	4	18	15	41	9
Den Haag	Netherlands	19	46	14	33	11	18	23	10
Bergen	Norway	44	84	13	73	7	30	8	11
Madrid	Spain	3	3	19	50	54	20	76	12
Munich	Germany	16	22	28	37	21	2	74	13
Melbourne	Australia	21	49	20	24	17	48	15	14
Aarhus	Denmark	14	38	4	35	29	19	53	15
Vienna	Austria	10	9	10	64	36	22	63	16
Tokyo	Japan	26	19	57	39	19	8	47	17
Toronto	Canada	43	63	38	38	9	35	13	18
Eindhoven	Netherlands	40	61	21	57	12	14	34	19
Hamburg	Germany	27	43	47	12	22	5	64	20
London	United Kingdom	2	1	62	13	66	8	93	21
Edinburgh	United Kingdom	15	17	60	8	47	24	69	22
Luxembourg	Luxembourg	28	35	9	84	28	33	33	23
Sydney	Australia	23	49	22	34	32	41	30	24
Osaka	Japan	102	98	94	87	4	10	11	25
Barcelona	Spain	8	5	36	48	64	22	83	26
Geneva	Switzerland	17	32	5	69	48	52	39	27
Montreal	Canada	68	90	44	72	8	51	9	28
Frankfurt	Germany	29	34	39	41	34	24	59	29
Seoul	South Korea	30	29	103	3	33	45	26	30
Valencia	Spain	22	27	15	76	45	47	40	31
Taipei	Taiwan	113	144	110	61	3	77	4	32
Bern	Switzerland	53	81	8	89	27	36	20	33
Manchester	United Kingdom	33	22	84	27	42	30	56	34
Stuttgart	Germany	45	39	53	70	30	27	46	35
Basel	Switzerland	56	57	6	111	26	29	31	36
Singapore	Singapore	48	117	35	5	31	17	62	37
Zaragoza	Spain	42	20	49	83	43	59	27	38
Liverpool	United Kingdom	46	35	65	71	37	44	35	39
Helsinki	Finland	25	68	26	16	57	6	92	40
Cologne	Germany	41	52	51	31	50	39	54	41
Dusseldorf	Germany	76	76	45	90	23	12	50	42
Vancouver	Canada	87	97	37	91	13	41	14	43
Stockholm	Sweden	13	21	7	28	76	26	95	44
Tampere	Finland	52	113	29	10	46	11	77	45
Yokohama	Japan	80	101	89	31	24	55	18	46
Paris	France	5	2	48	40	84	39	99	47
Glasgow	United Kingdom	60	72	64	53	39	34	49	48
Belfast	United Kingdom	70	72	67	77	35	57	22	49
Ottawa	Canada	100	127	41	79	15	64	10	50
Antwerp	Belgium	34	37	56	29	69	77	51	51
Dublin	Ireland	37	33	42	51	70	82	48	52
Birmingham	United Kingdom	69	76	80	65	41	56	32	53
New York City	United States	7	7	77	2	86	30	108	54
Los Angeles	United States	18	15	92	9	78	70	75	55
Bristol	United Kingdom	64	71	75	53	52	43	55	56
Brussels	Belgium	39	27	43	67	73	85	57	57
Malmo	Sweden	36	68	18	46	74	37	86	58

Figure 3. Full list of 2025 top 175 Attractive Cities. Source: Author

City	Country	MAGNETISM	IDENTITY	DYNAMISM	STRATEGY	PROFITABILITY	PERFORMANCE	NetPurchase Power	ATTRACTIVENESS
Oulu	Finland	65	103	32	43	56	16	80	59
Espoo	Finland	51	87	31	43	71	13	94	60
Linz	Austria	78	66	27	116	55	45	58	61
Nagoya	Japan	106	117	83	92	20	49	16	62
Málaga	Spain	63	53	25	102	68	84	42	63
Adelaide	Australia	89	131	30	68	49	90	17	64
Canberra	Australia	73	125	33	25	63	87	24	65
Gothenburg	Sweden	24	79	17	18	83	37	100	66
Las Vegas	United States	94	106	87	66	44	53	36	67
Boston	United States	20	55	69	1	87	76	88	68
Dallas	United States	74	90	73	58	65	79	38	69
Houston	United States	79	99	82	42	58	92	19	70
Washington, D	United States	47	67	72	21	75	59	78	71
Nottingham	United Kingdom	71	87	74	55	67	53	69	72
Hong Kong	Hong Kong	92	85	108	47	53	71	29	73
Seville	Spain	83	25	54	128	59	66	43	74
Miami	United States	55	61	86	36	77	87	66	75
Phoenix	United States	97	137	93	19	51	72	25	76
Kansas City	United States	91	112	85	45	61	89	21	77
Chicago	United States	32	24	81	26	90	104	68	78
San Francisco	United States	35	58	70	6	91	57	98	79
Santander	Spain	77	51	40	109	72	79	60	80
Denver	United States	95	124	78	49	62	61	52	81
Seattle	United States	61	96	63	20	79	74	79	82
Atlanta	United States	54	74	71	23	82	103	61	83
Baltimore	United States	103	108	88	80	60	74	37	84
Prague	Czech Republic	38	26	46	59	95	61	103	85
Marseille	France	58	13	76	100	88	82	89	86
Lyon	France	49	41	66	63	96	91	91	87
Rome	Italy	62	4	100	119	92	94	84	88
Lisbon	Portugal	50	10	50	114	98	64	104	89
Bilbao	Spain	82	60	55	102	81	92	72	90
Philadelphia	United States	59	70	90	30	97	108	71	91
Nice	France	75	45	68	94	89	86	87	92
Bordeaux	France	66	31	58	99	99	68	105	93
Milan	Italy	57	11	104	81	103	79	109	94
Doha	Qatar	116	145	96	112	40	112	5	95
Florence	Italy	67	13	105	85	101	96	96	96
Auckland	New Zealand	96	107	52	88	94	101	81	97
Wellington	New Zealand	101	121	59	78	93	98	82	98
Tallinn	Estonia	85	89	97	60	102	49	115	99
Lille	France	84	78	61	93	104	97	102	100
Torino	Italy	104	47	107	98	100	105	85	101
Porto	Portugal	81	40	79	105	105	99	107	102
Honolulu	United States	112	165	91	56	85	68	90	103
Ljubljana	Slovenia	107	95	99	115	106	101	111	104
Jerusalem	Israel	88	58	106	75	113	119	110	105
Istanbul	Turkey	108	47	151	82	107	132	65	106
Tel Aviv	Israel	105	115	102	74	112	107	118	107
Warsaw	Poland	98	56	95	113	115	66	131	108
Riga	Latvia	110	102	109	95	109	106	114	109
Athens	Greece	114	54	116	127	108	112	101	110
Kuwait City	Kuwait	150	174	121	139	38	139	3	111
Budapest	Hungary	90	15	115	97	119	111	129	112
Wroclaw	Poland	109	94	98	117	116	95	127	113
Manama	Bahrain	142	159	117	148	80	126	6	114
Shanghai	China	86	65	126	14	127	114	140	115
Beijing	China	93	44	128	52	126	117	134	116
Santiago	Chile	123	117	119	120	114	130	97	117
Chengdu	China	119	111	129	106	117	122	120	118

Figure 3. Full list of 2025 top 175 Attractive Cities. Source: Author

City	Country	MAGNETISM	IDENTITY	DYNAMISM	STRATEGY	PROFITABILITY	PERFORMANCE	NetPurchase Power	ATTRACTIVENESS
Vilnius	Lithuania	111	104	101	110	129	72	159	119
Zagreb	Croatia	115	80	114	131	133	120	143	120
Shenzhen	China	126	151	127	96	120	110	133	121
Riyadh	Saudi Arabia	144	168	112	154	111	116	106	122
Wuhan	China	130	154	134	104	118	121	122	123
Chongqing	China	121	116	125	106	132	124	137	124
Ankara	Turkey	149	126	156	161	110	141	28	125
Suzhou	China	124	134	130	106	128	118	141	126
Tianjin	China	131	132	141	124	121	128	123	127
Guangzhou	China	129	140	133	118	123	115	132	128
Bratislava	Slovakia	118	92	118	132	137	109	152	129
Sofia	Bulgaria	120	82	140	123	139	127	145	130
Moscow	Russia	132	120	155	121	124	135	121	131
Mexico City	Mexico	117	93	122	125	142	148	128	132
Bucharest	Romania	127	86	136	151	134	129	139	133
Harbin	China	138	159	142	122	122	125	125	134
Shenyang	China	135	136	135	129	131	123	137	135
Belgrade	Serbia	122	83	132	133	147	131	156	136
Kuala Lumpur	Malaysia	136	168	113	135	130	136	126	137
Montevideo	Uruguay	125	114	120	130	149	138	154	138
St Petersburg	Russia	146	145	162	138	125	144	117	139
Rio de Janeiro	Brazil	134	110	152	134	144	146	136	140
Guadalajara	Mexico	139	152	123	144	135	147	124	141
Sao Paulo	Brazil	141	139	145	140	140	133	142	142
Bangkok	Thailand	133	142	111	147	148	144	148	143
Buenos Aires	Argentina	128	121	139	126	151	137	163	144
Monterrey	Mexico	145	165	124	143	138	140	130	145
Bogota	Colombia	140	133	164	136	145	162	113	146
San José	Costa Rica	151	156	137	155	146	157	119	147
Brasilia	Brazil	156	162	143	149	143	142	135	148
Minsk	Belarus	160	141	146	170	136	152	112	149
Kiev	Ukraine	143	104	147	166	150	134	164	150
Cape Town	South Africa	137	123	148	142	157	161	150	151
Medellín	Colombia	165	171	153	153	141	154	116	152
Córdoba	Argentina	148	148	138	159	152	142	160	153
Jakarta	Indonesia	147	153	144	146	158	153	161	154
Johannesburg	South Africa	153	137	161	158	155	156	151	155
Tbilisi	Georgia	155	129	149	169	156	149	166	156
Durban	South Africa	162	164	154	150	153	151	147	157
Panama City	Panama	161	170	131	163	154	159	146	158
Quito	Ecuador	159	155	157	157	159	158	155	159
Lima	Peru	164	149	160	164	160	160	153	160
Tunis	Tunisia	152	75	172	171	168	163	173	161
Hanoi	Vietnam	166	167	158	156	161	150	169	162
Casablanca	Morocco	163	109	173	167	165	171	158	163
Bangalore	India	157	149	168	145	172	168	174	164
New Delhi	India	154	147	169	137	175	173	172	165
Ho Chi Minh Ci	Vietnam	168	175	165	141	163	154	170	166
Asuncion	Paraguay	170	158	150	172	162	164	149	167
Mumbai	India	158	143	171	152	174	172	175	168
Rabat	Morocco	169	130	170	174	164	165	157	169
Hyderabad	India	167	157	167	160	171	169	171	170
Cairo	Egypt	171	135	175	162	166	170	162	171
Santo Domingo	Dominican Repub	173	161	163	173	167	166	167	172
Manila	Philippines	174	173	159	168	169	166	168	173
La Paz	Bolivia	172	172	166	165	173	174	165	174
Accra	Ghana	175	163	174	175	170	175	144	175

Figure 3. Full list of 2025 top 175 Attractive Cities. Source: Author

Honors Board. Magnetism IDENTITY

HISTORY/CULTURE

1	Florence
2	Paris
3	London
4	Madrid
5	Tunis
6	Rome
7	Seoul
8	Beijing
9	Mexico City
10	Vienna

GOV-BASICS

1	Nagoya
2	Espoo
3	Stavanger
4	Bergen
5	Aarhus
6	Tampere
7	Taipei
8	Bern
9	Yokohama
10	Zurich

REPUTATION

1	London
2	Paris
3	Berlin
4	Toronto
5	Munich
6	Frankfurt
7	Copenhagen
8	Stockholm
9	Vienna
10	Sydney

SPACE/DENSITY

1	Riga
2	Oslo
3	Linz
4	Ottawa
5	Las Vegas
6	Chongqing
7	Gothenburg
8	Sofia
9	Tampere
10	Bordeaux

CLIMATE

1	Nice
2	Florence
3	Rome
4	Washington, D.C.
5	Montevideo
6	Jerusalem
7	Lisbon
8	San Francisco
9	Johannesburg
10	Barcelona

GeoRISK

1	Luxembourg
2	Minsk
3	Singapore
4	Manama
5	Budapest
6	Doha
7	Aarhus
8	Copenhagen
9	Geneva
10	Bratislava

GeoECONOMICS

1	Atlanta
2	Miami
3	Prague
4	Baltimore
5	Chicago
6	Washington, D.C.
7	Vienna
8	Linz
9	Wroclaw
10	Warsaw

GASTRONOMY

1	Nice
2	Bilbao
3	Antwerp
4	Espoo
5	Malmo
6	Luxembourg
7	Málaga
8	Valencia
9	Santander
10	Lisbon

BRANDING

1	New York City
2	London
3	Los Angeles
4	Paris
5	Chicago
6	Barcelona
7	Philadelphia
8	Madrid
9	Atlanta
10	Amsterdam

Honors Board. Magnetism

Magnetism DYNAMISM

COMPETITIVENESS

1	Zurich
2	Geneva
3	Bern
4	Basel
5	Singapore
6	Copenhagen
7	Aarhus
8	Stockholm
9	Gothenburg
10	Malmo

QUALITY OF LIFE

1	Amsterdam
2	Den Haag
3	Luxembourg
4	Copenhagen
5	Basel
6	Bern
7	Stavanger
8	Helsinki
9	Eindhoven
10	Vienna

EXPAT EXPERIENCE

1	Valencia
2	Málaga
3	Madrid
4	Abu Dhabi
5	Dubai
6	Zurich
7	Barcelona
8	Tokyo
9	Doha
10	Lisbon

ETHICS WELL-BEING

1	Oslo
2	Bergen
3	Stavanger
4	Helsinki
5	Tampere
6	Espoo
7	Oulu
8	Copenhagen
9	Aarhus
10	Auckland

EQUALITY

1	Tampere
2	Espoo
3	Oulu
4	Helsinki
5	Bergen
6	Stavanger
7	Oslo
8	Copenhagen
9	Aarhus
10	Malmo

Magnetism STRATEGY

HUMAN CAPITAL

1	New York City
2	London
3	Boston
4	Sydney
5	Los Angeles
6	Paris
7	Washington, D.C.
8	Melbourne
9	Adelaide
10	Canberra

SMARTCITY

1	Rotterdam
2	Singapore
3	Tampere
4	Valencia
5	Edinburgh
6	Helsinki
7	Antwerp
8	Dubai
9	Seoul
10	Amsterdam

INNOVATION

1	Boston
2	New York City
3	San Francisco
4	Phoenix
5	Seattle
6	Atlanta
7	Los Angeles
8	Houston
9	Kansas City
10	Miami

Honors Board. Profitability. Performance

DIGITAL GOV.

#	
1	Copenhagen
2	Aarhus
3	Seoul
4	Tallinn
5	Singapore
6	London
7	Edinburgh
8	Birmingham
9	Liverpool
10	Manchester

EDUCATION. LIFELONG TRAINING

#	
1	San Francisco
2	Boston
3	New York City
4	Washington, D.C.
5	Chicago
6	Seattle
7	Los Angeles
8	Baltimore
9	Philadelphia
10	Dallas

EMPLOYABILITY

#	
1	Dusseldorf
2	Luxembourg
3	Hamburg
4	Osaka
5	Berlin
6	Singapore
7	Munich
8	Dallas
9	Bangalore
10	Basel

CONNECTED CITY

#	
1	Copenhagen
2	Aarhus
3	Eindhoven
4	Amsterdam
5	Rotterdam
6	Den Haag
7	Dallas
8	Denver
9	Houston
10	Las Vegas

HLC / SOCIAL SVS

#	
1	Linz
2	Vienna
3	Antwerp
4	Brussels
5	Stavanger
6	Oslo
7	Bergen
8	Dusseldorf
9	Hamburg
10	Berlin

ENV.SUSTAINABILITY

#	
1	Copenhagen
2	Glasgow
3	London
4	Edinburgh
5	Birmingham
6	Malmo
7	Manchester
8	Oslo
9	Rotterdam
10	Stockholm

CULTURE/TOURISM

#	
1	Barcelona
2	Madrid
3	London
4	Tokyo
5	Amsterdam
6	Rome
7	Los Angeles
8	Paris
9	Milan
10	Osaka

URBAN MOBILITY

#	
1	Zaragoza
2	Oulu
3	Tampere
4	Santander
5	Malmo
6	Málaga
7	Valencia
8	Bergen
9	Stavanger
10	Helsinki

URBAN PLANNING

#	
1	Tokyo
2	London
3	Montreal
4	Toronto
5	New York City
6	Berlin
7	Hamburg
8	Amsterdam
9	Rotterdam
10	Vienna

SAFETY

#	
1	Abu Dhabi
2	Doha
3	Dubai
4	Taipei
5	Hong Kong
6	Bern
7	Munich
8	Zurich
9	Nagoya
10	Espoo

Honors Board.
Profitability. Net Purchase Power

MONTHLY WAGE (AVG)

1	Oslo
2	Bergen
3	Stavanger
4	Dubai
5	Abu Dhabi
6	Zurich
7	Geneva
8	Bern
9	Basel
10	Luxembourg

INCOME AFTER DIR TAXES

1	Dubai
2	Abu Dhabi
3	Oslo
4	Bergen
5	Stavanger
6	Zurich
7	Geneva
8	Bern
9	Basel
10	Taipei

NET REAL INCOME

1	Dubai
2	Abu Dhabi
3	Zurich
4	Geneva
5	Bern
6	Basel
7	Oslo
8	Bergen
9	Stavanger
10	Taipei

COST OF LIFE

1	Cairo
2	Hyderabad
3	New Delhi
4	Asuncion
5	Bangalore
6	La Paz
7	Mumbai
8	St Petersburg
9	Minsk
10	Bogota

Figure 4. Honors Board. Source: Author

IDENTITY

1	London
2	Paris
3	Madrid
4	Rome
5	Barcelona
6	Amsterdam
7	New York City
8	Berlin
9	Vienna
10	Lisbon

DYNAMISM

1	Zurich
2	Copenhagen
3	Amsterdam
4	Aarhus
5	Geneva
6	Basel
7	Stockholm
8	Bern
9	Luxembourg
10	Vienna

Honors Board. ATTRACTIVENESS

STRATEGY

1	Boston
2	New York City
3	Seoul
4	Rotterdam
5	Singapore
6	San Francisco
7	Zurich
8	Edinburgh
9	Los Angeles
10	Tampere

PROFITABILITY

1	Dubai
2	Abu Dhabi
3	Taipei
4	Stavanger
5	Osaka
6	Oslo
7	Bergen
8	Montreal
9	Berlin
10	Den Haag

MAGNETISM

1	Amsterdam
2	London
3	Madrid
4	Copenhagen
5	Paris
6	Zurich
7	New York City
8	Barcelona
9	Berlin
10	Vienna

ATTRACTIVENESS

1	Dubai
2	Oslo
3	Amsterdam
4	Abu Dhabi
5	Copenhagen
6	Zurich
7	Berlin
8	Stavanger
9	Rotterdam
10	Bergen
11	Den Haag
12	Madrid
13	Munich
14	Aarhus
15	Vienna

PERFORMANCE

1	Copenhagen
2	Munich
3	Amsterdam
4	Berlin
5	Hamburg
6	Helsinki
7	Zurich
8	Osaka
9	Tokyo
10	Tampere

NET PURCHASE POWER

1	Abu Dhabi
2	Dubai
3	Kuwait City
4	Taipei
5	Doha
6	Manama
7	Stavanger
8	Bergen
9	Montreal
10	Ottawa

Figure 4. Honors Board. Source: Author

6.2 Cities Segments & Grouping

WINNERS (in order): UAE, NOR, NED, DK, SWI, GE, SPA, AUS, JPN, UK, CAN, 4 Asian Tigers, EU Main Capitals. South Europe (FR, ITA, POR) slight improvement due to EU funding investment. Main reasons are: Increase on Dynamism due to Quality of Life and Expat Experience, on Strategy due to SmartCity Plan, and on Profitability due to better NetPurchase Power. We can highlight the gaining positions from UAE (Dubai repeating 1st and AbuDhabi climbing to 4th), 4 Asian Tigers (starting at position 30), JPN recovering from stalled past years, now with Tokyo at 17th and Osaka at 25th due to the Universal Exhibition. UK (from 21) and SWI (from 6) are also recovering from poor last years. Long-term growth is shown from UAE (from 1), JPN (from 17), SPA (from 12) and 4 Asian tigers (from 30). CHN is growing slightly every year (now from 115).

LOSERS: USA, AUS, SWE, FIN, NZ due to late recovery actions and inflation impact, increase on cost of living (SWE, FIN) and decrease on Quality of Live, also worsening of Inequality (Gini Index). Reduction or stalling on investments (mainly those from Environmental) has impacted on the quality of services (performance) (USA (from 54), with most US cities from 69 to 84). Gap with LatAm and all Asia increased a little due to economy impact (except CHN). After most Western Cities, we can see Middle East starting at 105 with Jerusalem, Istanbul at 106, mixed with Central & Eastern Europe. China is entering this challenger's area with Shanghai at 115. Latam starts at 132 (Mexico City), SouthAfrica at 151 (Cape Town), Africa at 161 (Tunis) and India at 164 (Bangalore). This area of emerging cities is stalled or even worsening the distance with challengers.

Main segments. ADVANCED: Top105. (Western Europe, UAE, AUS, US, CAN, JPN, 4 Asian tigers). Here we can split in three groups. 1-30 Quality of Life & Profitability (Nordics, GE, NED, SPA, UAE, JPN), 30-85 Mainly Economy driven (US, UK, SWI, CAN, 4 Asian tigers), and 85-100 Attractive mainly because of Magnetism, facing problems in Profitabilty (FR, SouthEurope, NZ). CHALLENGERS: 105-114. (ME, CEE, ISR). EMERGING: 114-160. (with CHN leading 115-135, then LatAm (from 132), RUS (from 131), SouthEast Asia, SouthAfrica (from 151)). STARTERS: 165-175. (IND, Africa).

ADVANCED: From position 1 to 105, we find the most advanced, Western civilization cities, with the greatest Quality of Life, and Magnetism attractiveness. The position of NOR is especially noteworthy with the 3 cities studied in the top 11 positions. UAE (Dubai (1) and Abu Dhabi (4) have finally reached these top positions due to extraordinary Profitability and consistent improvement on technology adoption and quality of life. DK, NED, LUX, GER, SPA, CAN, JPN accompany UAE, NOR in these top 30, all countries investing strong on technologies with covid-recovery funds and gaining new levels of quality of live, some from lovability, all from livability (performance of provided services). 4 Asian Tigers: Seoul (30), Taipei (32), Singapore (37) and Hong-Kong (73) maintain good positions due to technology investment, social stability and trust building. CAN improved its profitability and jumped into these top30 with two cities (TOR, MON). JPN places Tokyo (17) and Osaka (25) in this top list dur to technology (Universal Exhibition) and social improvements with its economic reform and with problems in social equality (HRW 2022)

From position 30 to 85 we find most USA, UK, all suffering strong economic impact. They are not so Attractive from Magnetism due to social inequity and decrease on quality of living. FIN dropped due to cost of living. BEL, IRE are here improving due to technology adoption. Next, and from positions 70 to 100, we find FR, ITA, all of them with a strong Magnetism and trying to maximize the recovery funds to compensate the recession, and the four Asian tigers (SIN, SEO, TAI, HK) climbing from Challenger's area. SEO (30), TAI (32) and SIN (37) leading this level, and HK (73) showing a steady progress forward. Closing this group (85-100) we find ITA, FR, and POR with problems due to high taxes, but they remain here due to high magnetism (Lovability), although at risk of falling to the next group. NZ is at same situation, struggling to keep this segment.

CHALLENGERS: In this area, we group cities from positions 105 to 114 which are progressing rapidly, competing to join the leading group, following the example from Asian tigers. Here, we find the Middle East, led by Israel and Central/Eastern Europe. Any of these cities can join the top-tier group as soon as they gain prestige and consolidate the interesting advances they have made in recent years.

EMERGING: Positions 114-160. First, we find China growing slightly (115-135), then most LatinAmerica led by Santiago (117) then Mexico (132) till 160. And finally, Russia (131-139), South Africa (150s) and SouthEast Asia. It's like a BRIC group, but without India, replaced by Thailand, Malaysia although with different dimensions. These cities have plans, recognize this global competition, and are making rapid progress.

STARTERS: Positions 165-175. Among the Starters are Indians and Africans. These cities are beginning to plan their strategies for the global competition for talent although they continue to be burdened by unresolved, basic social and economic issues. Bolivia, Paraguay, Philippines, Dominican Republic are falling into this segment as well.

6.3. City Attractiveness Findings

City Attractiveness is influenced by several key trends that affect the quality of life in urban areas. These trends are shaped by factors such as economic conditions, environmental sustainability, safety, healthcare, education, infrastructure, and more. To study all those components, let's split the approach into three areas, matching our Quality of Life model concepts with the current trends of Lovability, Liveability and Affordability:

City Magnetism → City Lovability

City Profitability. Performance → City Liveability

City Profitability. Net Purchase Power → City Affordability

If we had to highlight which of these drivers is the main at the moment, we would clearly think about Lovability. Why? Because this is human-centric, and every time we focus on placing the citizen front and center of what we do in the city, happiness is improved, and this is the main perception of quality of life. Liveability is quite good in most of studied cities (most from first world because, by default, a city that implies a risk for your life is not attractive, period). Ok, Prosperity helps, and Affordability is super important, but new generations are not so much driven by profitability but quality of life. So, cities trend to make them more human, fostering inclusion, people connection and attachment, stimulating creativity, ruling by freedom and respect, encouraging empowerment, making human-centric cities with happier people. And happier and empowered people make more resilient cities eager to drive economic growth. Good approach to this concept has been developed by Singapore (Kulasooriya & Wee, 2021)

City Magnetism → City Lovability

Although Magnetism mainly includes Identity (Branding), Dynamism (Social Experience) and Strategy (Technology and Innovation), City Lovability is based on that all but goes beyond, above all the lived experience, the moment, the emotions associated with living a wonderful experience, the Greek *'kairos'* as a definition of the present time as enjoyment of the moment, as a small explosion of happiness, of good feeling, charming. Lovability is identified with Prosperity.

Below are some of the main trends that are shaping city lovability in 2024 and beyond:

Social and Cultural Vibrancy. Social City:
- **Cultural Offerings and Lifestyle**
- **Sustainable Tourism**
- **Diversity and Inclusivity**
- **Civic Participation. Playground City**
- **Engaging Citizens in Decision-Making**

Brand Recognition. Soft Power. Stand out from crowd
- **Cultural Events. Exhibitions**
- **Worls main Sports Events**
- **Arts (Music, Movies,StreetArt..) set at City**
- **Gastronomy**
- **Social networks impact (Bloggers, etc)**
- **Nightlife, Public social physical life**

New workstyles (Hybrid, Remote, Nomad)
- **Green Spaces and Outdoor Living**
- **Hybrid Work Environments**
- **Remote Work-Friendly Cities**
- **Gig Economy Growth**
- **Platforms for Local Businesses Development**

Global vs. Local/Regional Disparities. Intermediate Cities
- **Differences Between Global Cities and Intermediate Cities**
- **More Affordable same high quality of life standards non-iconic cities**
- **Rebalancing Urban Density**

City Profitability. Performance → City Liveability

Best liveability is associated with top city services quality (City Performance). Main services 10 groups are: Digital Government and technology use, Lifelong-Training (Education), Employability (abundant offers and qualified demand), Communications Connectivity (5G/6G, fiber), HealthCare and Social Services, Environmental Sustainability (Carbon neutral, Circular City), Culture/Tourism, Urban Mobility (Sustainable, Autonomous, Shared), Urban Planning and Safety. All of them in a stable, peaceful and risk-free geopolitical environment.

Sustainability and Climate Change Adaptation:
- **Climate Adaptation. Decarbonization**
- **Sustainable Transportation**
- **Energy Efficiency**
- **Sustainable Urban Tech**
- **Circular Economy Innovations**

Public Health and Safety:
- **Healthcare Infrastructure**
- **Telemedicine and Healthtech**
- **Smart Hospitals**
- **Mental Health Focus**
- **Safety and Crime Rates**

Digital Infrastructure and Smart City Initiatives.
- **Artificial Intelligence and Automation Investments**
- **Digital Connectivity**
- **Investment in Smart Infrastructure**
- **Smart City Solutions**
- **Data-Driven Governance**
- **AI in Urban Management. Digital Twins**
- **Automation and Robotics in Public Services**
- **Tech Hub Cities**
- **Innovation (AI) in Public Services**

Mobility and Transportation Innovations:
- **Public Transport Efficiency**
- **Walkability and Cycling Infrastructure**.
- **Autonomous Vehicles and Mobility-as-a-Service (MaaS)**
- **Electric and Micro-Mobility Investments. EV Chargers**
- **New fuels**

Geopolitical Stability, Global Trade Shifts and Governance:
- **Political Stability as a Key Factor**
- **Public Trust in Institutions**
- **Geopolitical Risk Management**
- **Trade Hubs and Supply Chains**

Reshaping the physical City. Resiliency:
- **Well-being due to Built environment**
- **Nature rewildering**
- **Age-friendly City**
- **Resiliency due to Preparedness**
  - **Trees, Shades, Climate shelters**
  - **Household stock retrofitting**
  - **Sponge City**
  - **Social & Economic Resilience**

Quality of Education. Lifelong Training. ReSkilling

- **Access to Quality Education**
- **Tech Talent and Digital Literacy Initiatives**

- **Civil Servants ReSkilling**

Cybersecurity Investments:

- **Cybersecurity in Info Systems**
- **Cybersecurity at Urban Management (IoT Security)**

City Profitability. Net Purchase Power → City Affordability

And finally, the economic terms for the best Quality of Life. Those cities with good wages, low taxes and affordable cost of life multiply their attractiveness. But best quality and top performer cities trend to become expensive. Especially relevant is cost of housing, as main cost associated with living in a city. Inflation made cost of goods to rise and also mortgages interest ratios, making a house buy an unreachable dream for young people. Most young people are leaving parents house later every year, creating family and generations problems and delaying their independence and self-confidence.

Affordable Housing and Cost of Living:

- **Housing Affordability**
- **Urban Outmigration**
- **Inflation and Cost of Living**

Tech-Driven Economic Development Zones. Tech Startups and Venture Capital

- **Innovation Districts and Tech Hubs**
- **Special Economic Zones (SEZs)**
- **Fintech Innovation**
- **Growing Startup Ecosystems**
- **Public-Private Partnerships in Innovation. Urban technology Research institutes.**

Conclusion. Executive Summary

- Talented people, and especially those with soft or no ties to any particular place due to family or business reasons are seeking the best Quality of Life city that also matches their cultural preferences.

- Quality of life is a three-component motion: A vibrant stimulating Lovable city (a perfect combination of natural conditions with social and cultural action with the innovation as development flag, plenty of best services) and performance (Liveable) where your money worths the dedicated effort to make it (Affordable cost of living).

- In 2023, cities have invested heavily in technology to drive economic performance and improve quality of life. The focus is on smart city solutions, digital infrastructure, AI-driven services, sustainable urban development, and fostering innovation ecosystems. Cities that embrace these trends are not only boosting their economic competitiveness but also enhancing their resilience, sustainability, and liveability in the face of global challenges.

- In 2024/25, our cities live in a context of uncertainty, following a pandemic, a recession, and with signs that it could happen again—perhaps due to the AI bubble—, with wars in critical areas of the planet, with climate change approaching like a tsunami, but losing hype due to the impossibility of mitigating it at a reasonable cost, with major countries reluctant to pay the green bill, and with new generations who, for the first time, will not enjoy better economic conditions than their predecessors. And talent is looking for the best city to develop its full potential, with the desire to enjoy life, to experience it—we are noticing the renaissance of tourism—as its main driver.

Cities struggle to balance a short-term brand perception, standing out in a crowd of competitors for external talent, while building a strong long-term internal sense of belonging, retaining local.

Talent is primarily looking for Lovable Cities, assuming existing good performance to make them Liveable and demanding good Affordability. These three areas are key, but this year, Lovability (always combined with Affordability) reigns supreme, as performance is quite good in most modern cities, and money isn't the main reason, as it has traditionally been. Why Lovability? Because it's human-centered, and every time we focus on prioritizing citizens in our actions in the city, happiness improves, and this is the main perception of quality of life. The preferences of young professionals and the talented workforce correlate strongly with the concept of Lovable Cities (local social life, restaurants, culture, nightlife, well-being, urban nature recovery, and inclusion/diversity). Therefore, Fortune 500 companies looking to recruit that talent try to locate in these Lovable Cities. While prosperity helps, and affordability is critical, the new generations aren't guided as much by profitability as by quality of life. Therefore, cities tend to be more humane, fostering inclusion, connection, and attachment between people, stimulating creativity, governed by freedom and respect, promoting empowerment, and creating human-centered cities with happier people. And happier and more empowered people create more resilient cities, eager to drive economic growth.

We observe 3 main motions to study from all cities:

1.- Economy. In the 2021 Observatory we saw how cities in the USA, Canada and Australia grew significantly by facing the economic shock caused by the pandemic with greater resilience. It took them very little time to recover. However, in 2022 they were overtaken by Europe and Japan, being less impacted by inflation and by the positive effect of the European recovery funds launched since 2021 (the American IRA scheme started too late in 2022 (August)). In 2023, inflation was brought under control, but prices did not return to previous levels, and the affordability remains a top problem during 2024.

The environmental sustainability investment engine also lost much of its extraordinary enthusiasm, and opportunities to invest in technology (digital twins, IoT, etc.) were relegated to the background, especially in the United States. US resolutions against climate change and the potential elimination or reduction of key Inflation Reduction Act (IRA) programs in 2025 have produced three immediate effects: a legal and administrative freeze on many clean energy expenditures, a pause or cancellation of projects that cities and states were planning to implement, and a measurable cooling of private co-investment. On January 20, 2025, the White House issued the "Unleashing American Energy" order, which instructed agencies to immediately pause disbursements of funds allocated through the IRA and the Infrastructure Investment and Jobs Act while the programs were reviewed (White House, 2025). Reports from the days that followed documented the freeze and its scope, noting that agencies and recipients were plunged into uncertainty about funds already awarded (Utility Dive, 2025a; Utility Dive, 2025b). For cities, the initial pause created operational challenges. An independent analysis estimates that repealing or eliminating IRA incentives would increase the average cost of electricity by more than $110 million in 2026 and jeopardize more than $500 billion in planned investments, with significant job losses later in the decade (Center for American Progress, 2025). Looking back to Europe, when the EU studied how much investment would be required for a city to become Carbon neutral in 2030, it was estimated at around €900 million for a city of around 100k inh. The calculation cannot be extrapolated directly proportional, but we can think of around €6b for a city of 1m inh. This is out of reach and causes the goal to be seen as unattainable, and therefore, smaller actions with a greater impact on citizens in the short term are prioritized.

As a consequence of the last period of inflation, we have seen a general rise in the cost of housing. In many cities, young talent finds it unaffordable to buy a home or rent one within a reasonable distance (no way for 15' ideal city…). This can be considered the main economic problem in large cities. Associated to this inflation problem, social unrest is boosting: High stress: 78% of U.S. adults said inflation was "very or moderately stressful" (Mitra et al, 2024).Mental health: People stressed by inflation had about 2x higher odds of anxiety/depression.(Pathak et al, 2025). Unequal impact: Low-income households, women, minorities, and retirees on Social Security were hit hardest. (Bethune, 2022).

Associated with the economy is the growing insecurity in large cities which is chronic in America (in the North due to the armed population and in the South due to organized gangs). Also in this context, opiate addiction is becoming a very important problem in the USA, with thousands of people wandering the streets like anesthetized zombies. These people are losing their jobs, purchasing power, homes and need a significant effort in economic aid and time to get out of the problem.

The UAE's 4% growth rate in 2024 placed it significantly ahead of advanced economies, supported by a strong non-oil sector. The IMF projected global growth at about 3.1% in 2024, with advanced economies growing only around 1.8% and the euro area just 0.8 % (Central Bank of the UAE, 2024). Within the Gulf, the UAE is among the fastest-growing economies, driven by diversification, rising trade, and structural reforms (KPMG, 2024). At the same time, rising investments in social infrastructure, ESG finance, and digital commerce illustrate the country's broader development strategy, with social and sustainability spending becoming central to its diversification agenda. The government announced more than USD 7 b for social infrastructure upgrades as part of national development programs. The ESG investment market generated USD 772.6 m in revenue in 2024, reflecting the growing importance of sustainability criteria in finance (Grand View Research, 2024).

2.- Innovation. In parallel to economic resilience, those cities with a solid strategic innovation plan and leadership in the adoption of the latest technologies have gained relative positions compared to cities with a similar profile that have slowed down investment in innovation due to considerations of digital sovereignty, legislation applicable to data localization, blocks to the adoption of the latest technologies, etc. These considerations, although important, cannot slow down the leverage of innovation. Satisfactory ways can always be found to ensure compliance with the GDPR and other applicable legislations without blocking new technologies, which are key to the development of cities and the attraction of talent. New technologies, and especially advanced technologies in artificial intelligence, digital twin, predictive analytics and others, are only possible with the parallel adoption of cloud computing strategies and require the massive use of data. This is why Nordic cities are leading (and Norway and Finland have overtaken Sweden). The Netherlands is gaining a lot of ground and is positioned on top with Norway and Denmark. Germany and Switzerland are finally getting serious about investing in technology for cities and have moved up the ranking, and the UK seems to be slowing down the momentum of 2021 and 22 during 2023 and 24.The current challenge is the adoption of artificial intelligence in all areas of the city. This requires a broad, well-structured and available information (data) base. In addition, the correct and aggregated use of sensitive citizen information is another challenge to respect privacy, security, regulations, etc.

USA IT investment grew strongly in 2024, China recorded double-digit expansion in IT services revenue and solid growth in related investment, and major Asian cities such as Singapore and Seoul are scaling up their digital budgets. Together, these developments show that Global IT investment in 2024 was concentrated in AI, cloud, and digital public infrastructure with a growth of 7,4%. (FRED/BEA, 2025). 2024 was a big year for AI funding. The U.S. widened its lead vs other countries, driven by mega-rounds for large AI infrastructure and generative-AI companies. Growth in gen-AI funding was especially strong. US-based AI companies have attracted nearly $100B in funding, more than the rest of the world combined.(Rona & Levy, 2025) Main trend on AI is the shift from GenerativeAI to Agentic AI, developing a specialized agent per role, helping the automatization of each and every task at maximum possible.
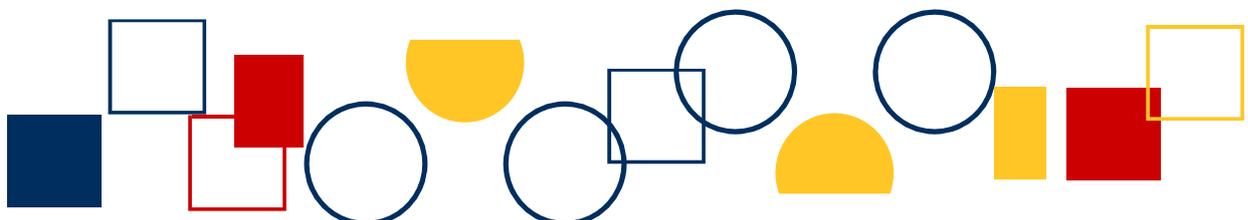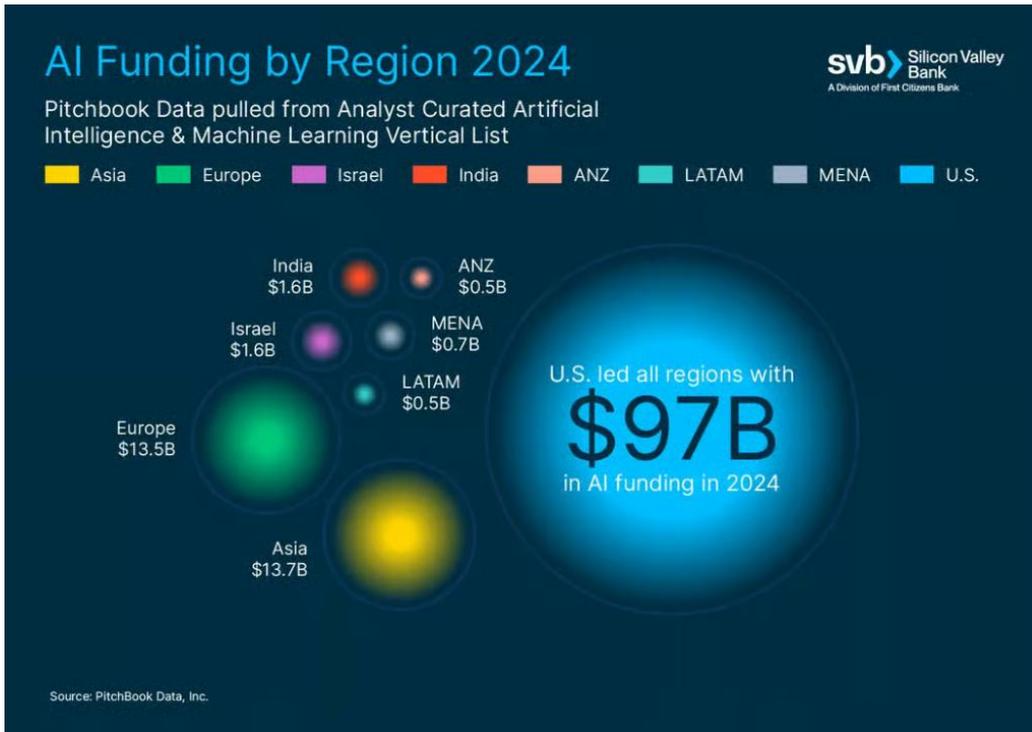
Figure 5. AI Funding by Region 2024. Source: Silicon Valley Bank from Pitchbox Data Inc. (Rona & Levy, 2025)

3.- Non-capital cities. We see the rise of non-capital cities in most countries. These cities are proven more attractive than the capital cities of their countries. Examples are Bergen vs Oslo, Aarhus vs Copenhagen, Gothenburg vs Stockholm, Tampere vs Helsinki, Antwerp vs Brussels, Valencia vs Madrid. The explanation is obvious: these cities incorporate the general advantages of the country, while offering a better quality of life by more easily approaching the 15' city ideal model due to their size. They also have a much lower cost of living as they are not the capital, especially in real-state, mitigating the housing problem. In addition, if they are based in a country well connected by public transport, then the supposed advantages of living in the capital are reduced and, therefore, they surpass their capital cities in attractiveness.

The rise of cities in Southern Europe and Spain in particular, especially medium-sized cities such as Valencia, Zaragoza, Malaga, Seville, Nice, Bilbao, Lyon, Florence, is worth analyzing. Their extraordinary quality of life, with a moderate cost, especially housing, medium size, good public transport and special attention to environmental sustainability make them gain many positions in attractiveness. It is clear that these medium-sized cities will never be able to compete in Magnetism with iconic cities with history and culture on every corner, but the problems of cost of living, social inequality and unacceptable distances in time make these cities lose attractiveness. It seems to conclude that the ideal situation is a well-connected medium-sized city (less than 90') from one of these iconic cities. This way you enjoy quality of life while enjoying excellent international airport, theaters, opera house, etc. in reasonable times.

4.- Other findings:

• Urban Air Mobility moving slower than expected due to regulations and fear to open the air space to the powerful defense industry generated around this due to the Ukraine war.

• Urbanism: Rethinking and reshaping all urban spaces to gain social benefits

• Open debate around immigration: Needed workers vs aging cities vs Security challenge. Talent filter as the solution.
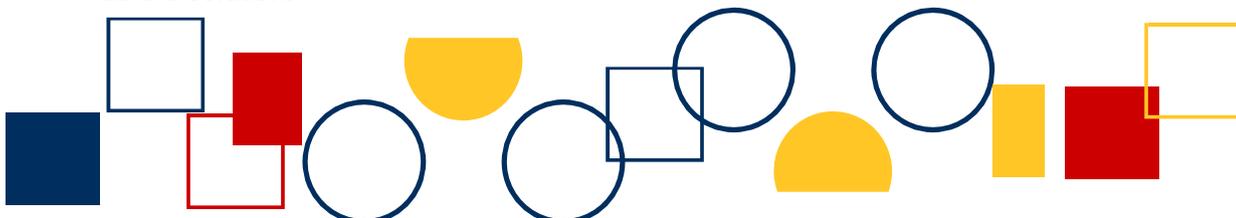
6.4 City Attractiveness by GeoCluster.

AREA	ATTR25	ATTR24	ATTR23	ATTR22	ATTR21	ATTR20
Africa	162	162	164	164	162	166
Asia-Pacific	84	95	90	88	86	82
CE Europe	123	122	123	123	121	119
China Extended	113	113	113	116	128	131
India Extended	167	168	169	170	172	163
LatinAmerica	149	148	147	146	144	141
Middle East	96	98	101	104	116	121
North America	68	65	58	29	37	45
Western Europe	47	45	48	58	52	51

Figure 6. Average positions by Clusters. Attractive Cities by Geographic Area. Source:Author

Figure 6 shows the average position achieved by each geographic area. Since the 2020 analysis, we find a head-to-head competition in Attractiveness between North America and Western Europe. With the economic impact of the pandemic, we can notice in the 2021 and 2022 analysis that North American cities rose in the ranking, while European cities suffered more from the effects of the pandemic and recovered more slowly. Western Europe enjoys more magnetism, history, culture and social values, but pays a high price in taxes to maintain its welfare policy programs, worsening its profitability. In 2022, North America did the opposite: it compensates for the lack of history and cultural/human flavor with strong economic and competitive incentives where they rank high in (and win in) everything by offering high profitability, high wages, moderate taxes and a reasonable cost of living. Better economic management of the pandemic crisis had this impact, improving the attractiveness of cities in the United States and Canada.

However, in the 2023 data we see a significant deterioration in North America (NA) (from average 29 to 58), being overtaken by Western Europe. This deterioration continues in this analysis of 2024 and even get worsened by 2025, because the cost of living in the USA has not improved (although inflation has been contained) and prices have not fallen (just the opposite in the cost of housing, since many investors have seen real estate and gold as safer investment areas in the face of existing uncertainty (unstable oil prices, wars in critical areas, exorbitant bubble of technology and companies associated with artificial intelligence, etc.).

In parallel, Europe has not had as much of an inflationary effect, and medium-sized cities are holding up well, for the moment, to the pressure of the high cost of housing, so their traditional magnetism and quality of life (lovability) are evident, and the results of 2023 (48) are maintained, to 45 by 2024 and 47 by 2025.

Few changes in Africa, China, India, Latam. China is slightly growing in some cities. For the rest, we can only perceive an increasing gap from top performers.

Some improvement in Asia-Pacific with Australia gaining some positions due to better Profitability and the good impact from 4 Asian tigers. They are improving their position due to their leadership in innovation. The Middle East is also improving slightly due to the boost from Saudi Arabia, UAE and Türkiye.
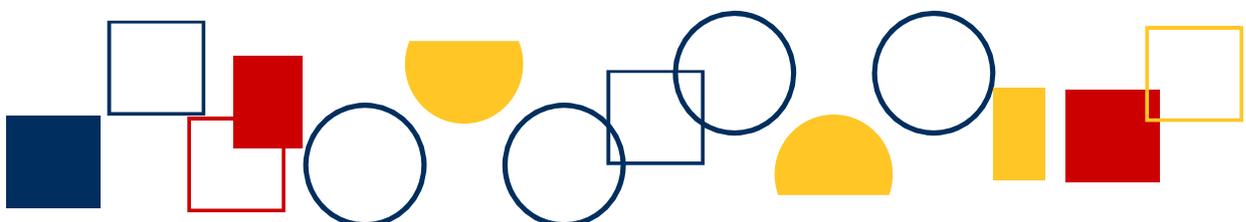
6.5 City Attractiveness vs Population vs GDP.

We study the possible correlation of City Attractiveness with city population (Metropolitan Area). In figure 7, we can see the 175 studied cities, distributed horizontally according to their size, and vertically according to their score in the model. There are megacities in high and low positions, as well as medium-sized cities. In Magnetism, we rated high-density as positive, as an enabler of personal communication and development of activity. It's also well studied that despite the possible dispersion in small towns brought by the new communication and Internet technologies, citizens continue to prefer living in medium and large cities over isolated small towns. We should not confuse small cities close in commuting time to other large cities: they must be associated to that main city. For humans, they are psychologically the same city, same metropolitan area. From the observation and the correlation coefficient $R^2 = 0.0579$ we conclude that there is NO correlation between City Attractiveness and city size. Furthermore, we see that largest cities are strongly attractive due to Magnetism, although they are usually more expensive, and therefore with less Profitability, but that the second/third ranked cities in each country are more affordable, maintaining very good performance standards and high Profitability, although they are less Magnetic, so both things are offset in both city sizes. As explained, midsized cities are winning the competition due to their better quality of life. Perhaps we could say that we find megacities with more problems and handicaps to be leaders in Attractiveness, but they provide a bonus when it comes to Magnetism which is important to value.
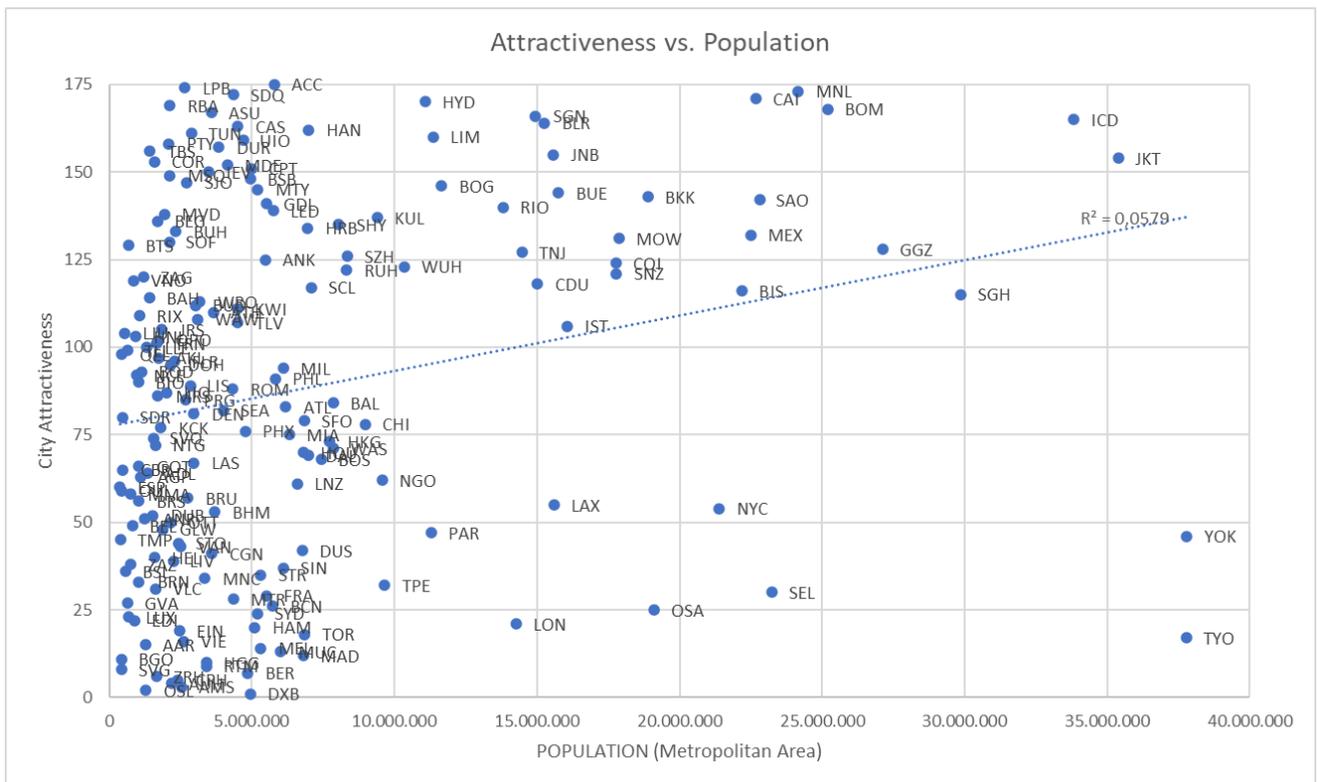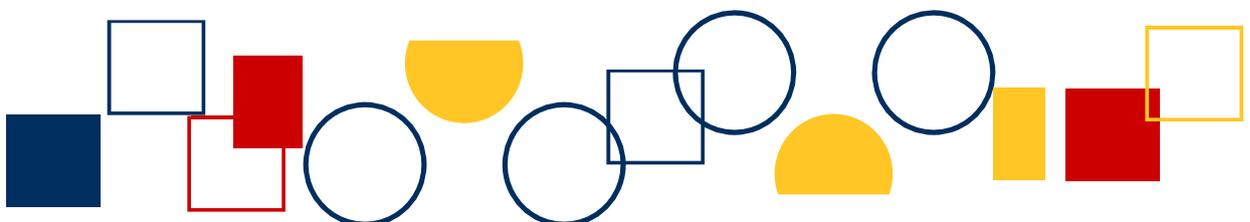

Figure 7. City Attractiveness vs Population (Metropolitan Area). Source: Author

In figure 8, we can compare City Attractiveness with GDP/Capita. Here $R^2 = 0.5657$, indicating a good correlation (although deteriorating vs last years, which means that money is becoming less relevant…) between these two magnitudes. No surprises: larger budgets with which to invest improves city branding, the external image, events, cultural activities, competitiveness and obviously the city services and Net purchasing power, because of higher wages. The opposite is also true: as we studied, low budgets lead to poorer city development, urbanism, quality of life and services and lower wages, so all main items are severely impacted. Again, we cannot conclude that City Attractiveness is a just a matter of rich cities, and we see a trend to reduce that correlation. That's not true, as we can see in vertical (very similar GDP) all cities from same country, and positions vary in a large range (USA from 55-103), UK (21-72), but obviously city wealth and capacity to invest strongly contributes to City Attractiveness.

Figure 8. City Attractiveness vs GDP/Cap (USD). Source: Author
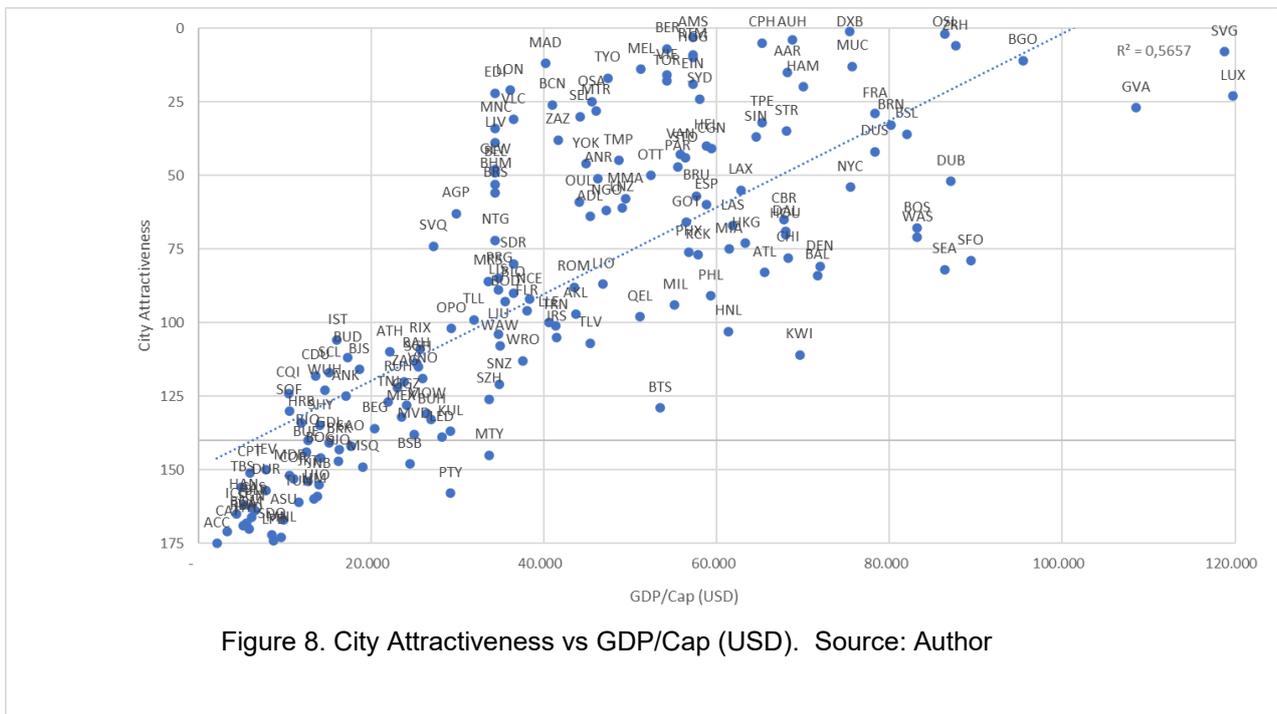
6.6 Attractive Cities vs SmartCities.

We are going to study the impact of investments in SmartCities on making the city more Attractive. We found that for many cities, investments in their SmartCity plan are the main axis of their strategy to improve their Attractiveness. These investments directly improve performance in city services, and therefore their City Profitability. In addition, they improve their investment in the future, their strategy, also their image of modernity and their reputation, and therefore, their Magnetism. For many cities, it is an important question of prestige (Asian Tigers and Chinese cities). However, we see many cities that pay little attention to a consolidated SmartCities plan, (even if they offer very good services) because they do not consider that they should improve their external image because they think they simply do not need it, since they are already very attractive from economy point of view… We place the Swiss, and some German, US cities here. Let's study figure 9.
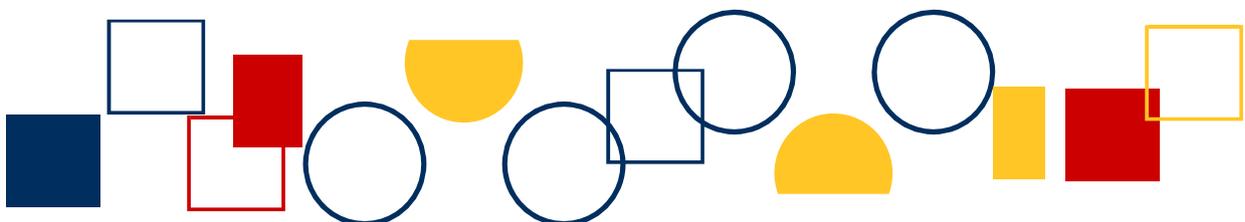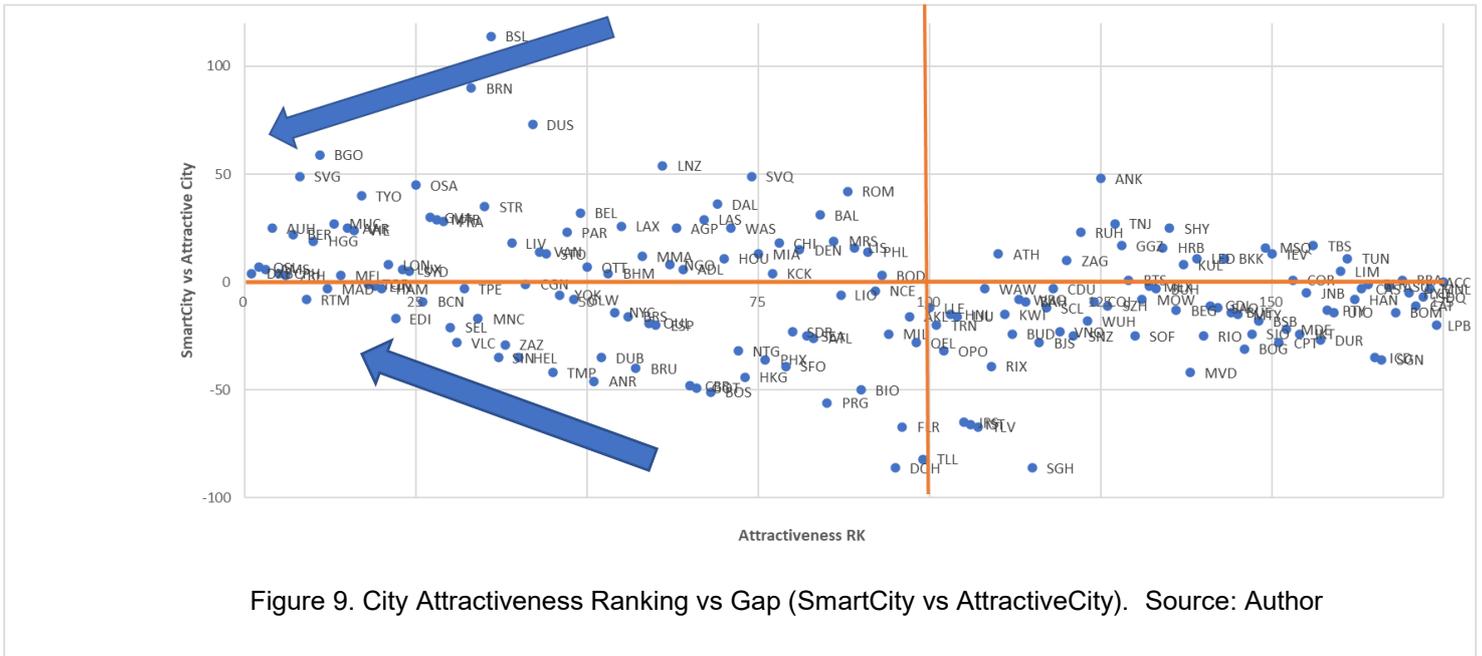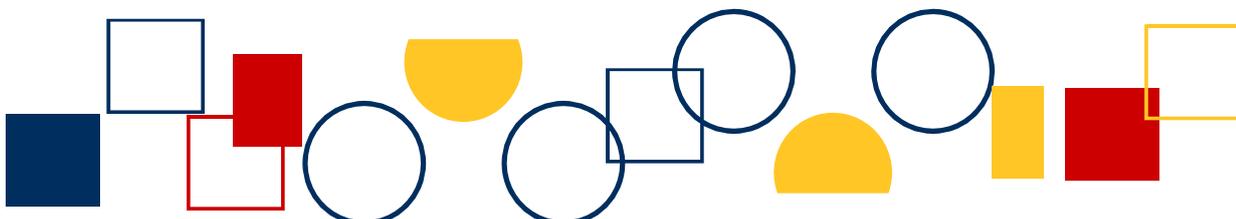
Figure 9. City Attractiveness Ranking vs Gap (SmartCity vs AttractiveCity). Source: Author

The horizontal line at zero: Over that line, cities more Attractive than Smart; under that line, those Smarter than Attractive.

On the vertical axis, the orange line marks rank 100. Position 105, Jerusalem, sets the midpoint in Attractiveness, so to the left are the cities classified as Advanced; to the right the Challenging, then Emerging, then Starters.

To the left, under the top arrow we find the Swiss cities, much more attractive than smart, with short smart city plans, but they don't need them either! However, they are reacting and realizing that they need to invest in technology to maintain that leadership. Just below that arrow and to the right we find many US and German cities, with very good attractiveness, but that should improve their SmartCity plan. We then reach the orange line that marks many South Europe cities, on the border with the challenging cities (Lisbon, Rome,..). On this same left side, at the bottom, we find the leading cities in SmartCity, those investing heavily to improve positions in Attractiveness (Copenhagen, Amsterdam, Helsinki, Valencia, Madrid, Singapore...) Here is where the main battle for Attractiveness is fought nowadays, with large investments in Sustainability, citizen services, etc.

From the vertical orange line to the right, we see that most cities are at under the horizontal line: they are the Challengers, investing heavily in SmartCity plans to get promoted to the advanced group (Tel-Aviv, Doha, and many from Eastern Europe like Tallinn...) If we advance to the right, then we enter the Emerging group first and the Starters at the right end, with Shanghai (SGH) highlighted. We see that they all obtain better positions in SmartCity than in Attractiveness (most under the horizontal line), which indicates that they all use investments in SmartCity to improve their services for citizens, their image of modernity and their Attractiveness in general.

Therefore, as a general guideline, the SmartCities' plan fulfills its mission of improving citizen services (Profitability), while helping in strategy, reputation, branding (Magnetism) and becoming the most powerful tool to improve in Attractiveness. Little can be done about fixed issues like geolocation. Some cities with poor geo conditions and large investment capacity (Doha, Singapore, Dubai,..) are exploring the creating of a virtual city in the metaverse (a MetaCity), to capture virtual talent? Investments in changing or improving Identity are slow and always in the medium-long term. It is difficult to quickly improve economic conditions and net purchasing power. Therefore, the obvious lever, with more short-term results (even in a four-year legislature) is to invest heavily in a solid SmartCities plan. The cities that fail on this, have either fallen asleep in the leadership glory, (and are now waking up, like the Swiss, some German) or are losing positions and do not take advantage of excellent Magnetism to improve positions (some Southern Europe). On the other hand, cities with handicaps in Magnetism, either due to a lack of history (U.S.), weather conditions (Nordics) or long distances (AUS) compensate with good SmartCity & Services plans that improve their attractiveness to leadership positions. Cities with strong "European" Magnetism, but strong SmartCity investment while keeping cost of housing under control are soaring, like Valencia, Zaragoza.

Finally, at figure 10 Attractive Cities vs SmartCities by GDP, we can see that investing in SmartCities is quite independent from GDP, so all cities can invest resources on creating and executing a compelling SmartCity plan. This will improve Attractiveness, and if investment is done rationally, progress can be very significant with a moderate cost (we have seen great progress in Latam Cities with very reasonable budgets, but wise investments). On the other hand, Attractiveness is more directly dependent on GDP, so everything that could contribute to improving it counts and is welcome (including the improvement in talent and investors' investment because of an increase in awareness due to a brilliant SmartCity plan). So, we are circling around same concept. As a conclusion, all areas are intertwined, and a balanced plan will touch the most-effective levers.

Figure 10. Attractive Cities vs SmartCities by GDP. Source: Author

6.7 Attractive Cities. Comparing 2025 vs 2024-2020 Results.

If we look at the evolution of cities during these 6 consecutive years of analysis, we can conclude that the main positive driver has been the continuous investment in technology, while keeping the cost of living under control. This is the case of UAE, the 4 Asian tigers, Spain (especially the cities with leadership in investment in SmartCities, such as Valencia, Madrid, and recently, Zaragoza, Malaga and Santander), the Benelux (maintaining strong leadership in technology applied to cities), as well as Finland and Japan. Norway and Denmark do not grow because they were already in leadership positions. In the part of decline in these years, we can put inflation as the main driver, strongly impacting the USA, AUS, CAN and NZ. SWE fall is due to the slowdown in the adoption of Cloud technologies and artificial intelligence due to excessive regulation, without finding effective ways to maintain technological leadership while preserving digital rights. You cannot go against the current, especially in technology, when the whole world is in a process of constant acceleration. In 2022, we saw the positive impact from the rapid recovery of pre-pandemic GDP in the US and other countries (OECD, 2021). However, the effect of inflation has been very important in the US, CAN, AUS, NZ. In the 18 American cities studied, the rankings have fallen significantly. The IRA Plan is a great support, but it came late (August 2022), its impact on employment and economic recovery is yet to be demonstrated and now has been cancelled by President Trump. What is clear is that it did not encourage the adoption of technology as the European plan did, where 20% was to be invested in technological modernization.

City	Country	AREA	RK25	RK24	DIFF 25-24	TREND	City	Country	AREA	RK25	RK24	DIFF 25-24	TREND
Dubai	United Arab E	Middle East	1	1	0	104	Wellington	New Zealand	Asia-Pacific	97	101	4	-67
Abu Dhabi	United Arab E	Middle East	4	6	2	104	Adelaide	Australia	Asia-Pacific	64	82	18	-62
Taipei	Taiwan	China Extended	32	18	-14	72	Kansas City	United States	North America	75	77	2	-62
Osaka	Japan	Asia-Pacific	24	57	33	62	Phoenix	United States	North America	76	62	-14	-61
Madrid	Spain	Western Europe	12	12	0	61	Gothenburg	Sweden	Western Europe	67	74	7	-57
Den Haag	Netherlands	Western Europe	11	7	-4	46	Denver	United States	North America	81	54	-27	-56
Singapore	Singapore	Asia-Pacific	37	26	-11	43	Canberra	Australia	Asia-Pacific	65	83	18	-53
Zaragoza	Spain	Western Europe	38	28	-10	41	Auckland	New Zealand	Asia-Pacific	98	102	4	-47
Tokyo	Japan	Asia-Pacific	17	35	18	38	Chicago	United States	North America	80	105	25	-44
Yokohama	Japan	Asia-Pacific	46	85	39	32	Atlanta	United States	North America	82	76	-6	-43
Brussels	Belgium	Western Europe	57	51	-6	30	Malmo	Sweden	Western Europe	58	68	10	-41
Riyadh	Saudi Arabia	Middle East	122	125	3	28	Stockholm	Sweden	Western Europe	43	43	0	-38
Munich	Germany	Western Europe	13	14	1	27	Honolulu	United States	North America	103	97	-6	-37
Barcelona	Spain	Western Europe	26	19	-7	27	Córdoba	Argentina	LatinAmerica	153	145	-8	-35
Antwerp	Belgium	Western Europe	50	41	-9	27	Houston	United States	North America	69	56	-13	-32
Nagoya	Japan	Asia-Pacific	63	90	27	26	Dallas	United States	North America	68	69	1	-30
Shenzhen	China	China Extended	121	121	0	24	Bern	Switzerland	Western Europe	33	37	4	-29
Hong Kong	Hong Kong	China Extended	73	70	-3	22	Buenos Aires	Argentina	LatinAmerica	144	136	-8	-29
Tampere	Finland	Western Europe	45	36	-9	22	Ottawa	Canada	North America	51	53	2	-27
Chengdu	China	China Extended	118	119	1	20	Basel	Switzerland	Western Europe	34	46	12	-25
Belfast	United Kingdo	Western Europe	49	60	11	20	Montreal	Canada	North America	29	29	0	-22
Wuhan	China	China Extended	123	123	0	20	Philadelphia	United States	North America	92	78	-14	-21
Harbin	China	China Extended	134	142	8	20	Miami	United States	North America	77	73	-4	-21
Amsterdam	Netherlands	Western Europe	3	3	0	18	Baltimore	United States	North America	84	99	15	-20
Seoul	South Korea	Asia-Pacific	31	45	14	18	Lyon	France	Western Europe	88	81	-7	-20
Istanbul	Turkey	Middle East	106	111	5	17	Espoo	Finland	Western Europe	60	55	-5	-19
Bergen	Norway	Western Europe	10	10	0	17	Sydney	Australia	Asia-Pacific	25	31	6	-17
Aarhus	Denmark	Western Europe	14	15	1	17	Santo Domingo	Dominican Re	LatinAmerica	172	170	-2	-16
Valencia	Spain	Western Europe	30	21	-9	16	Melbourne	Australia	Asia-Pacific	16	30	14	-15

Figure 11. Comparing 2025 vs 2024 and Trend 25->20, BEST30 vs WORST30

In the list of winners, we see a strong rise of Japan. After the pandemic, its economy grew by 2.2% percent in the second quarter of 2022, the fastest in 12 years, making the years of stagnation be forgotten. But we think the key is over technological development: Japan advanced its vision of Society 5.0, a human-centered society that balances economic advancement with solving social problems through a system that highly integrates cyberspace and physical space. Japan is investing 120 byen in R&D over five years starting from fiscal 2021, focusing on key technologies such as artificial intelligence, quantum technology, IoT, and biotechnology. (Bloomberg, 2023), with Osaka's 2025 World Expo as flagship. Notably, the traditional social challenges it faces, such as population aging and gender inequality, are being firmly addressed. The major cities that have gained notable positions are European, with Benelux, Spain, Germany and Finland. In terms of technology, Germany launched its new digital strategy for the next three years in August 2021, with the aim of boosting its digital sovereignty, innovation and competitiveness. The strategy includes 18 initiatives to invest in technologies (Delcker, 2022). The United Arab Emirates is surprising the world in terms of investment in technology and extraordinary economic proposition, which compensate for its problems with cultural and environmental attractiveness. Its constant investment in international events positions it internationally. In addition, it is immune to fluctuations in the energy crisis. Southern Europe is gaining ground, but only Spain and France achieve a real improvement due to investment in technology and in the case of Spain, it is still affordable in medium-sized cities. In any case, the extraordinary magnetism of southern Europe compensates its tax hell that hinders its attractiveness for talent. China improves due to technology. Latam, Africa and India maintain the worst positions and increase the gap with the Challengers (CEE, Middle East).

City	Country	AREA	RK25	RK24	DIFF 25-24	TREND		MAG-RK25	MAG-RK24	DIFF 25-24	TREND		PROF-RK25	PROF-RK24	DIFF 25-24	TREND
Dubai	United Arab E	Middle East	1	1	0	104		72	73	1	38		1	1	0	99
Oslo	Norway	Western Europe	2	2	0	9		12	6	-6	1		6	4	-2	10
Amsterdam	Netherlands	Western Europe	3	3	0	18		1	1	0	2		24	13	-11	28
Abu Dhabi	United Arab E	Middle East	4	6	2	104		99	103	4	26		2	2	0	97
Copenhagen	Denmark	Western Europe	5	4	-1	14		4	2	-2	2		16	16	0	27
Zurich	Switzerland	Western Europe	6	16	10	-3		6	7	1	20		14	42	28	-11
Berlin	Germany	Western Europe	7	9	2	-1		9	11	2	3		10	14	4	1
Stavanger	Norway	Western Europe	8	5	-3	14		31	15	-16	-11		5	5	0	20
Rotterdam	Netherlands	Western Europe	9	11	2	9		11	19	8	7		20	10	-10	9
Bergen	Norway	Western Europe	10	10	0	17		44	21	-23	-6		7	8	1	18
Den Haag	Netherlands	Western Europe	11	7	-4	46		19	14	-5	10		11	7	-4	57
Madrid	Spain	Western Europe	12	12	0	61		3	3	0	20		54	39	-15	27
Munich	Germany	Western Europe	13	14	1	27		16	17	1	21		21	12	-9	27
Aarhus	Denmark	Western Europe	14	15	1	17		14	8	-6	0		29	30	1	25
Vienna	Austria	Western Europe	15	17	2	-1		10	10	0	0		36	34	-2	-5
Melbourne	Australia	Asia-Pacific	16	30	14	-15		21	34	13	-13		19	43	24	-13
Tokyo	Japan	Asia-Pacific	17	35	18	38		26	32	6	26		18	48	30	39
Toronto	Canada	North America	18	22	4	2		43	45	2	-38		9	15	6	35
Eindhoven	Netherlands	Western Europe	19	13	-6	14		40	31	-9	-8		12	9	-3	27
Hamburg	Germany	Western Europe	20	24	4	3		27	35	8	-2		23	24	1	1
London	United Kingd	Western Europe	21	20	-1	7		2	4	2	-1		68	56	-12	4
Edinburgh	United Kingd	Western Europe	22	34	12	12		15	27	12	25		48	50	2	-12
Luxembourg	Luxembourg	Western Europe	23	8	-15	9		28	26	-2	23		28	6	-22	6
Osaka	Japan	Asia-Pacific	24	57	33	62		102	101	-1	-1		4	17	13	54
Sydney	Australia	Asia-Pacific	25	31	6	-17		23	22	-1	-12		33	51	18	-19
Barcelona	Spain	Western Europe	26	19	-7	27		8	9	1	1		65	44	-21	17
Geneva	Switzerland	Western Europe	27	25	-2	-11		17	18	1	50		46	41	-5	-37
Frankfurt	Germany	Western Europe	28	27	-1	7		29	38	9	29		32	27	-5	-2
Montreal	Canada	North America	29	29	0	-22		68	66	-2	-41		8	11	3	0
Valencia	Spain	Western Europe	30	21	-9	16		22	24	2	12		44	26	-18	15
Seoul	South Korea	Asia-Pacific	31	45	14	18		30	23	-7	-14		34	69	35	37
Taipei	Taiwan	China Extended	32	18	-14	72		113	100	-13	-15		3	3	0	106
Bern	Switzerland	Western Europe	33	37	4	-29		53	50	-3	12		27	35	8	-26
Basel	Switzerland	Western Europe	34	46	12	-25		56	48	-8	10		26	58	32	-22
Stuttgart	Germany	Western Europe	35	23	-12	8		45	37	-8	18		31	21	-10	4
Manchester	United Kingd	Western Europe	36	38	2	-10		33	56	23	-16		47	31	-16	-10
Singapore	Singapore	Asia-Pacific	37	26	-11	43		48	53	5	20		30	18	-12	49
Zaragoza	Spain	Western Europe	38	28	-10	41		42	51	9	7		41	19	-22	43
Helsinki	Finland	Western Europe	39	39	0	13		25	16	-9	-4		57	62	5	10
Liverpool	United Kingd	Western Europe	40	71	31	7		46	77	31	33		39	59	20	-7
Dusseldorf	Germany	Western Europe	41	50	9	4		76	89	13	15		22	25	3	-2
Cologne	Germany	Western Europe	42	32	-10	-13		41	42	1	-5		50	36	-14	-17
Stockholm	Sweden	Western Europe	43	43	0	-38		13	12	-1	-9		75	81	6	-62
Vancouver	Canada	North America	44	40	-4	6		87	76	-11	-34		13	23	10	37
Tampere	Finland	Western Europe	45	36	-9	22		52	28	-24	-7		45	53	8	28
Yokohama	Japan	Asia-Pacific	46	85	39	32		80	94	14	14		25	64	39	31
Paris	France	Western Europe	47	33	-14	13		5	5	0	-3		84	74	-10	5
Glasgow	United Kingd	Western Europe	48	49	1	0		60	65	5	-4		42	45	3	3
Belfast	United Kingd	Western Europe	49	60	11	20		70	88	18	13		35	37	2	16
Antwerp	Belgium	Western Europe	50	41	-9	27		34	29	-5	48		69	63	-6	-7
Ottawa	Canada	North America	51	53	2	-27		100	79	-21	-56		15	38	23	6
Dublin	Ireland	Western Europe	52	64	12	13		37	44	7	2		70	70	0	7
Birmingham	United Kingd	Western Europe	53	63	10	6		69	80	11	8		43	46	3	-3
New York City	United States	North America	54	42	-12	-12		7	13	6	0		86	76	-10	-8
Los Angeles	United States	North America	55	72	17	-11		18	43	25	23		78	82	4	-25
Bristol	United Kingd	Western Europe	56	47	-9	-2		64	74	10	0		55	33	-22	-13
Brussels	Belgium	Western Europe	57	51	-6	30		39	41	2	48		73	66	-7	7
Malmo	Sweden	Western Europe	58	68	10	-41		36	40	4	-5		74	78	4	-56

Figure 12. Attractiveness (Magnetism – Profitability) Comparison 25 vs 24 and Trending 25→20. Source: Author

City	Country	AREA	RK25	RK24	DIFF 25-24	TREND	MAG-RK25	MAG-RK24	DIFF 25-24	TREND	PROF-RK25	PROF-RK24	DIFF 25-24	TREND
Oulu	Finland	Western Europe	59	58	-1	4	65	46	-19	-30	56	68	12	17
Espoo	Finland	Western Europe	60	55	-5	-19	51	33	-18	-36	72	73	1	-12
Linz	Austria	Western Europe	61	52	-9	13	78	60	-18	-9	52	52	0	9
Málaga	Spain	Western Europe	62	48	-14	10	63	55	-8	-15	66	54	-12	9
Nagoya	Japan	Asia-Pacific	63	90	27	26	106	110	4	-6	17	55	38	47
Adelaide	Australia	Asia-Pacific	64	82	18	-62	89	67	-22	-59	49	75	26	-47
Canberra	Australia	Asia-Pacific	65	83	18	-53	73	54	-19	5	61	90	29	-56
Las Vegas	United States	North America	66	59	-7	16	94	98	4	-2	40	22	-18	26
Gothenburg	Sweden	Western Europe	67	74	7	-57	24	20	-4	18	83	93	10	-73
Dallas	United States	North America	68	69	1	-30	74	85	11	12	64	49	-15	-45
Houston	United States	North America	69	56	-13	-32	79	83	4	9	60	32	-28	-43
Boston	United States	North America	70	65	-5	-8	20	25	5	30	88	88	0	-25
Nottingham	United Kingdom	Western Europe	71	44	-27	-1	71	75	4	9	67	28	-39	-12
Washington, D	United States	North America	72	61	-11	-14	47	39	-8	-19	76	71	-5	-6
Hong Kong	Hong Kong	China Extended	73	70	-3	22	92	95	3	-11	53	40	-13	48
Seville	Spain	Western Europe	74	75	1	-13	83	87	4	-50	59	57	-2	10
Kansas City	United States	North America	75	77	2	-62	91	90	-1	-69	58	61	3	-43
Phoenix	United States	North America	76	62	-14	-61	97	93	-4	-12	51	29	-22	-44
Miami	United States	North America	77	73	-4	-21	55	68	13	21	77	65	-12	-39
Santander	Spain	Western Europe	78	67	-11	5	77	63	-14	-23	71	60	-11	16
San Francisco	United States	North America	79	66	-13	-4	35	36	1	-16	90	79	-11	-4
Chicago	United States	North America	80	105	25	-44	32	49	17	-8	91	116	25	-45
Denver	United States	North America	81	54	-27	-56	95	96	1	-24	63	20	-43	-51
Atlanta	United States	North America	82	76	-6	-43	54	52	-2	16	82	83	1	-54
Seattle	United States	North America	83	79	-4	-7	61	70	9	12	81	72	-9	-16
Baltimore	United States	North America	84	99	15	-20	103	102	-1	-6	62	98	36	-40
Prague	Czech Republic	CE Europe	85	92	7	12	38	30	-8	52	94	101	7	4
Marseille	France	Western Europe	86	87	1	-5	58	71	13	1	89	87	-2	-6
Rome	Italy	Western Europe	87	86	-1	7	62	61	-1	-2	92	91	-1	13
Lyon	France	Western Europe	88	81	-7	-20	49	64	15	-3	97	77	-20	-21
Bilbao	Spain	Western Europe	89	88	-1	1	82	78	-4	-21	80	84	4	11
Lisbon	Portugal	Western Europe	90	94	4	11	50	58	8	34	98	99	1	14
Nice	France	Western Europe	91	80	-11	-7	75	57	-18	-28	87	89	2	3
Philadelphia	United States	North America	92	78	-14	-21	59	81	22	30	95	67	-28	-46
Bordeaux	France	Western Europe	93	84	-9	-8	66	62	-4	-9	99	86	-13	-11
Milan	Italy	Western Europe	94	91	-3	-3	57	59	2	-14	102	96	-6	-5
Florence	Italy	Western Europe	95	89	-6	1	67	47	-20	5	101	97	-4	2
Doha	Qatar	Middle East	96	100	4	16	116	116	0	21	38	80	42	56
Wellington	New Zealand	Asia-Pacific	97	101	4	-67	101	84	-17	-46	93	103	10	-66
Auckland	New Zealand	Asia-Pacific	98	102	4	-47	96	92	-4	-34	96	104	8	-55
Tallinn	Estonia	CE Europe	99	98	-1	1	85	72	-13	19	103	102	-1	-7
Lille	France	Western Europe	100	95	-5	-12	84	91	7	-10	104	94	-10	-19
Torino	Italy	Western Europe	101	93	-8	-2	104	82	-22	-9	100	92	-8	4
Porto	Portugal	Western Europe	102	96	-6	-4	81	69	-12	-6	105	100	-5	3
Honolulu	United States	North America	103	97	-6	-37	112	112	0	-13	85	85	0	-62
Ljubljana	Slovenia	CE Europe	104	103	-1	-1	107	106	-1	-5	106	105	-1	0
Jerusalem	Israel	Middle East	105	106	1	-12	88	104	16	5	113	109	-4	-18
Istanbul	Turkey	Middle East	106	111	5	17	108	119	11	11	108	106	-2	25
Tel Aviv	Israel	Middle East	107	104	-3	-15	105	105	0	-9	112	107	-5	-19
Warsaw	Poland	CE Europe	108	107	-1	-1	98	97	-1	11	115	113	-2	-5
Athens	Greece	CE Europe	109	108	-1	1	114	113	-1	-6	107	108	1	7
Riga	Latvia	CE Europe	110	109	-1	6	110	111	1	13	110	112	2	5
Kuwait City	Kuwait	Middle East	111	112	1	2	150	149	-1	20	37	47	10	10
Budapest	Hungary	CE Europe	112	113	1	-1	90	86	-4	13	119	121	2	0
Wroclaw	Poland	CE Europe	113	110	-3	-7	109	108	-1	-4	116	115	-1	-9
Manama	Bahrain	Middle East	114	114	0	11	142	145	3	20	79	95	16	32
Shanghai	China	China Extended	115	115	0	4	86	99	13	20	126	123	-3	16
Beijing	China	China Extended	116	116	0	10	93	107	14	28	127	122	-5	14

Figure 12. Attractiveness (Magnetism – Profitability) Comparison 25 vs 24 and Trending 25→20. Source: Author

City	Country	AREA	RK25	RK24	DIFF 25-24	TREND		MAG-RK25	MAG-RK24	DIFF 25-2	TREND		PROF-RK25	PROF-RK24	DIFF 25-2	TREND
Santiago	Chile	LatinAmerica	117	117	0	-15		123	126	3	-7		114	114	0	-22
Chengdu	China	China Extended	118	119	1	20		119	124	5	30		117	119	2	8
Vilnius	Lithuania	CE Europe	119	118	-1	-10		111	109	-2	0		130	130	0	-17
Zagreb	Croatia	CE Europe	120	122	2	-3		115	115	0	7		133	128	-5	-13
Shenzhen	China	China Extended	121	121	0	24		126	130	4	32		121	117	-4	15
Riyadh	Saudi Arabia	Middle East	122	125	3	28		144	147	3	30		111	110	-1	-9
Wuhan	China	China Extended	123	123	0	20		130	129	-1	24		118	120	2	11
Chongqing	China	China Extended	124	124	0	6		121	123	2	19		132	124	-8	-7
Ankara	Turkey	Middle East	125	129	4	11		149	154	5	-2		109	111	2	15
Suzhou	China	China Extended	126	133	7	5		124	125	1	10		128	139	11	1
Tianjin	China	China Extended	127	130	3	10		131	131	0	8		120	127	7	14
Guangzhou	China	China Extended	128	126	-2	16		129	132	3	31		123	118	-5	4
Bratislava	Slovakia	CE Europe	129	128	-1	-15		118	117	-1	-3		137	140	3	-20
Sofia	Bulgaria	CE Europe	130	120	-10	-8		120	114	-6	-6		139	129	-10	-4
Moscow	Russia	CE Europe	131	132	1	-11		132	127	-5	-25		124	136	12	16
Mexico City	Mexico	LatinAmerica	132	131	-1	-8		117	118	1	-5		143	143	0	1
Bucharest	Romania	CE Europe	133	127	-6	-12		127	121	-6	0		134	132	-2	-13
Harbin	China	China Extended	134	142	8	20		138	153	15	29		122	125	3	7
Shenyang	China	China Extended	135	134	-1	-3		135	135	0	9		131	125	-6	-8
Belgrade	Serbia	CE Europe	136	135	-1	4		122	120	-2	-4		147	145	-2	2
Kuala Lumpur	Malaysia	Asia-Pacific	137	143	6	-10		136	146	10	7		129	131	2	-7
St Petersburg	Russia	CE Europe	138	140	2	-9		146	139	-7	-20		125	137	12	13
Montevideo	Uruguay	LatinAmerica	139	137	-2	-11		125	122	-3	8		149	146	-3	-21
Rio de Janeiro	Brazil	LatinAmerica	140	147	7	-5		134	134	0	-21		144	150	6	4
Guadalajara	Mexico	LatinAmerica	141	138	-3	-8		139	133	-6	-8		136	134	-2	3
Sao Paulo	Brazil	LatinAmerica	142	149	7	-8		141	141	0	-21		141	149	8	4
Bangkok	Thailand	Asia-Pacific	143	148	5	6		133	136	3	2		148	151	3	6
Buenos Aires	Argentina	LatinAmerica	144	136	-8	-29		128	128	0	-11		152	142	-10	-36
Monterrey	Mexico	LatinAmerica	145	139	-6	-6		145	137	-8	-7		138	138	0	-1
Bogota	Colombia	LatinAmerica	146	146	0	1		140	143	3	-16		145	144	-1	13
San José	Costa Rica	LatinAmerica	147	141	-6	1		151	144	-7	1		146	133	-13	0
Brasilia	Brazil	LatinAmerica	148	150	2	-7		156	150	-6	-20		142	147	5	1
Minsk	Belarus	CE Europe	149	144	-5	-7		160	148	-12	-12		135	135	0	-3
Kiev	Ukraine	CE Europe	150	153	3	-4		143	142	-1	-13		150	156	6	2
Cape Town	South Africa	Africa	151	152	1	6		137	140	3	-8		157	157	0	14
Medellín	Colombia	LatinAmerica	152	151	-1	-1		165	160	-5	-20		140	141	1	11
Córdoba	Argentina	LatinAmerica	153	145	-8	-35		148	138	-10	-20		151	148	-3	-33
Jakarta	Indonesia	Asia-Pacific	154	157	3	10		147	158	11	-15		158	154	-4	17
Johannesburg	South Africa	Africa	155	156	1	7		153	151	-2	-11		156	159	3	13
Tbilisi	Georgia	CE Europe	156	158	2	-4		155	159	4	2		155	155	0	-8
Durban	South Africa	Africa	157	155	-2	3		162	152	-10	-12		153	153	0	12
Panama City	Panama	LatinAmerica	158	154	-4	-5		161	155	-6	-20		154	152	-2	-1
Quito	Ecuador	LatinAmerica	159	159	0	-4		159	157	-2	-6		159	160	1	-3
Lima	Peru	LatinAmerica	160	160	0	-1		164	161	-3	-13		160	158	-2	2
Tunis	Tunisia	Africa	161	161	0	6		152	156	4	13		168	164	-4	-7
Hanoi	Vietnam	Asia-Pacific	162	162	0	4		166	163	-3	-10		161	161	0	5
Casablanca	Morocco	Africa	163	165	2	6		163	167	4	-2		165	166	1	7
Bangalore	India	India Extended	164	168	4	1		157	165	8	6		172	173	1	-12
Ho Chi Minh C	Vietnam	Asia-Pacific	165	163	-2	6		168	169	1	0		163	162	-1	1
New Delhi	India	India Extended	166	167	1	-8		154	162	8	5		175	175	0	-18
Asuncion	Paraguay	LatinAmerica	167	164	-3	6		170	168	-2	2		162	163	1	8
Rabat	Morocco	Africa	168	171	3	6		169	171	2	4		164	168	4	9
Mumbai	India	India Extended	169	166	-3	-8		158	164	6	-3		174	171	-3	-11
Hyderabad	India	India Extended	170	169	-1	-2		167	166	-1	4		171	170	-1	-16
Cairo	Egypt	Middle East	171	172	1	1		171	172	1	-5		167	172	5	7
Santo Domingo	Dominican Re	LatinAmerica	172	170	-2	-16		173	170	-3	-9		166	167	1	-16
Manila	Philippines	Asia-Pacific	173	174	1	-10		174	174	0	-28		169	169	0	-1
La Paz	Bolivia	LatinAmerica	174	173	-1	-4		172	173	1	-3		173	174	1	-14
Accra	Ghana	Africa	175	175	0	0		175	175	0	0		170	165	-5	-3

Figure 12. Attractiveness (Magnetism – Profitability) Comparison 25 vs 24 and Trending 25→20. Source: Author

6.8 Attractiveness vs Employability

The world is now, more than ever, being fueled by talent and human resources. With fast growing economies, and constant rivalry to be number one, cities are constantly racing to prosper both economically and socially.

However, with globalization, a great advantage rises for those who are talented (Parilla and Liu, 2019). A massive pool of opportunities from which to pick. Those wanting to develop their career in tech will probably try to work in Silicon Valley or Shanghai, while those interested in finance will aspire to grab a job in New York or London. (Haqqi, 2021)

As part of our model, we are interested in understanding to what extend the overall Attractiveness of a city impacts on its ability to attract talent. Although professional opportunities are a very strong attracter of human capital, we believe that a cities appeal is characterized by more than that.

Employability is extremely related to talent. Talent attraction is, together with profitability (high wages, low taxes) what makes Cities topping our Attractiveness ranking. One of our points of interest arising from this study was to find out whether a city's attractiveness influences in any way the amount of talent the city attracts.

To analyze this, we have combined two sources with same weight. On one hand, the World Bank employment to population ratio 2024, as a proxy to know the easiness to find skilled employees and talented educated citizens in a city. On the other hand, we take LinkedIn Talent Insights report for each studied Metropolitan Area. This report gives us three main indicators to be equally weighted and combined. First, Hiring Demand (measuring the level of activity from recruiters in the area in the past 12 months), then % Jobs posted vs Total amount of professionals (measuring the jobs availability in the area), then Talent net flow (Professionals won or lost in the past 12 months vs total). These three indicators really offer a picture of employability situation in that area, based on the activity from demand and offer, and net talent win or loss. Only creative professionals have been studied (according to Pf. Florida's approach). Let's look at top25 at Figure 13.

City	Country	LinkedIN Talent Insights NO	Employability WB NOR	Employability NOR
Dusseldorf	Germany	10,00	7,51	10,00
Luxembourg	Luxembourg	10,00	7,43	9,98
Hamburg	Germany	9,30	7,51	9,40
Osaka	Japan	8,50	3,80	7,93
Berlin	Germany	7,40	7,51	7,79
Singapore	Singapore	6,57	9,99	7,61
Dallas	United States	6,05	9,13	6,98
Munich	Germany	6,25	7,51	6,81
Basel	Switzerland	5,19	9,35	6,29
Zurich	Switzerland	4,99	9,35	6,12
Geneva	Switzerland	4,56	9,35	5,76
Marseille	France	5,26	6,32	5,71
Bangalore	India	6,00	2,84	5,60
Bern	Switzerland	4,32	9,35	5,55
Stuttgart	Germany	4,64	7,51	5,43
Denver	United States	4,07	9,13	5,29
Houston	United States	4,05	9,13	5,28
Las Vegas	United States	3,92	9,13	5,17
Phoenix	United States	3,78	9,13	5,05
Eindhoven	Netherlands	3,94	8,38	5,02
Prague	Czech Republic	4,48	6,06	4,99
Seattle	United States	3,63	9,13	4,92
Warsaw	Poland	4,38	6,05	4,90
Bordeaux	France	4,12	6,32	4,74
Vancouver	Canada	3,42	8,94	4,70

Figure 13. City Employability. TOP 25 Source: Author
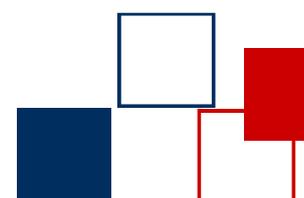
Employability is led by Western European cities, primarily Germany, followed by the most innovative cities in the US, Canada, Singapore, Japan and Switzerland. Compared to last years, we find little changes, Europe (and especially Germany and Northern Europe) continues to outperform the US, which was the clear winner in 2021, but fell in 2022 and has remained so in 2023 and 2024. Ongoing restructuring and layoffs at major US tech companies reduced talent attractiveness, while European stimulus boosted employment attractiveness in Northern Europe. It is worth noting the variability of this picture, which we can date back to 1 January 2024. The World Bank study uses data from 2022/23 and continues to position the US ahead. LinkedIn data is more current and reflects this shift between the US and Western Europe. Perhaps the average we indicated is true. However, as 2024 and 2025 progress, we see the German locomotive slowing down and US technology companies strongly dominating the stock market, recovering hiring. We will study this in the next 2026 Observatory.

We have analyzed the City Attractiveness by more than 100 indicators, including emotional and rational components. But, how much pure Employability is related to City Attractiveness? We have concluded that investors/companies go where talent is, no longer the other way around. So, a city well prepared and equipped with talent will attract investors which will make the city to thrive. McKinsey (Cassim et al, 2020) positioned workforce upskilling as one of four main growth plan factors for 2020-25, together with Green energy investment, Digitalization and new technologies and Resilience of supply chains and security of essential goods. They point to a 30% of potentially automatable tasks and a very waving demand patterns pushing to hundreds of millions of skilled workers to switch jobs. In this context, enjoying an over the average skilled population makes a city resilient to these fluctuations and competitive enough to leverage the new opportunities and growth potential.

But let's compare our Employability and Attractiveness results. In order to understand the relationship - between these two indexes. Final Correlation number R^2=0,32 (0,6 without some peaks coming from country data), which is high and means a strong association between the two concepts. Improving Employability (by improving citizen skilling) seems to be a clear driver for all cities over the average line, moving top right. For those performing better in Employability that in Attractiveness, other concepts described in our Observatory like Magnetism or Cost of life should be considered as the main levers to activate. (See figure 14)

But, let's conclude that professional opportunities are not definite drivers when choosing a city, although they definitely help.
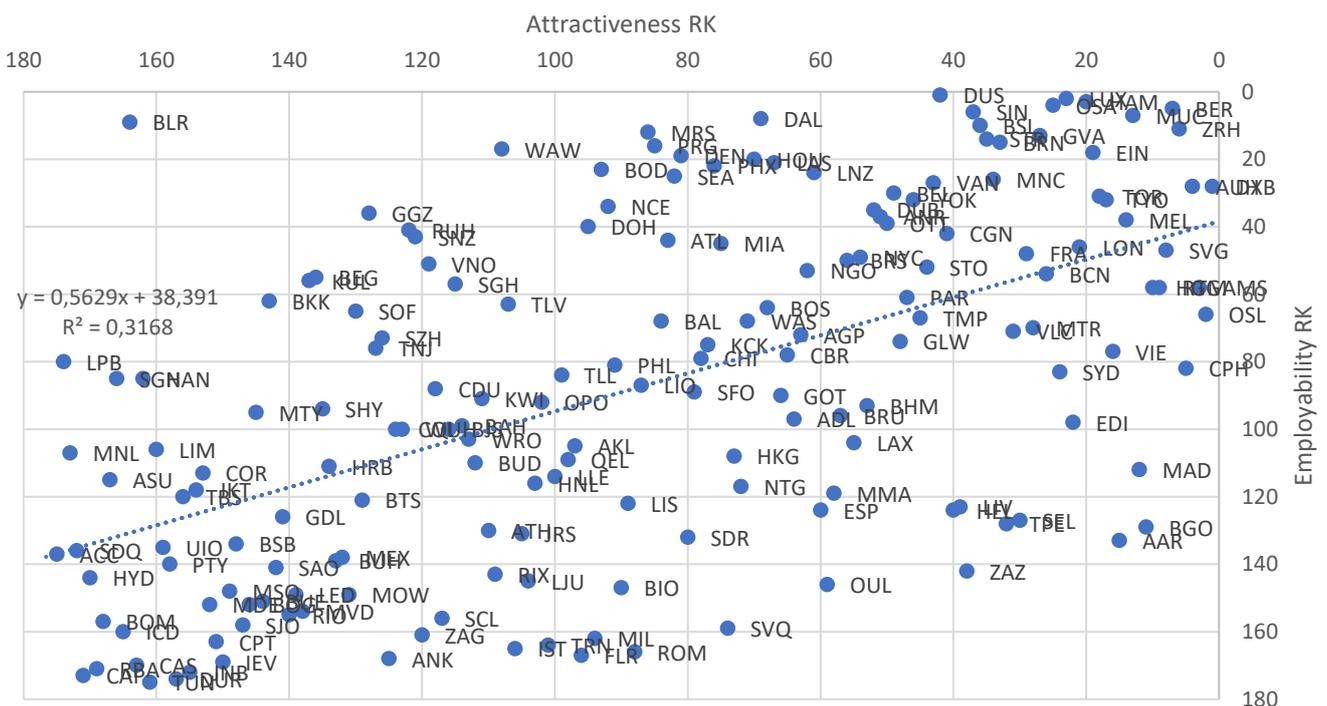
Figure 14. City Attractiveness vs Employability. Source: Author

7. Conclusions

7.1 Balancing City Magnetism and City Profitability

The key is to find a balance between transforming the essence of the city (its physical and virtual shape) while improving its benefits and services. The two aspects feed off of each other. A city's essence determines how the services provided should improve, while the new services have an impact on transforming the city's essence. The transition to an information- and knowledge-based economy represents both a revolution, due to its new acceleration and blistering speed, and a challenge as we try to balance the concept of an attractive and accessible city with social and environmental progress. (Van den Berg, Van de Meer, Oligaar, 2006)
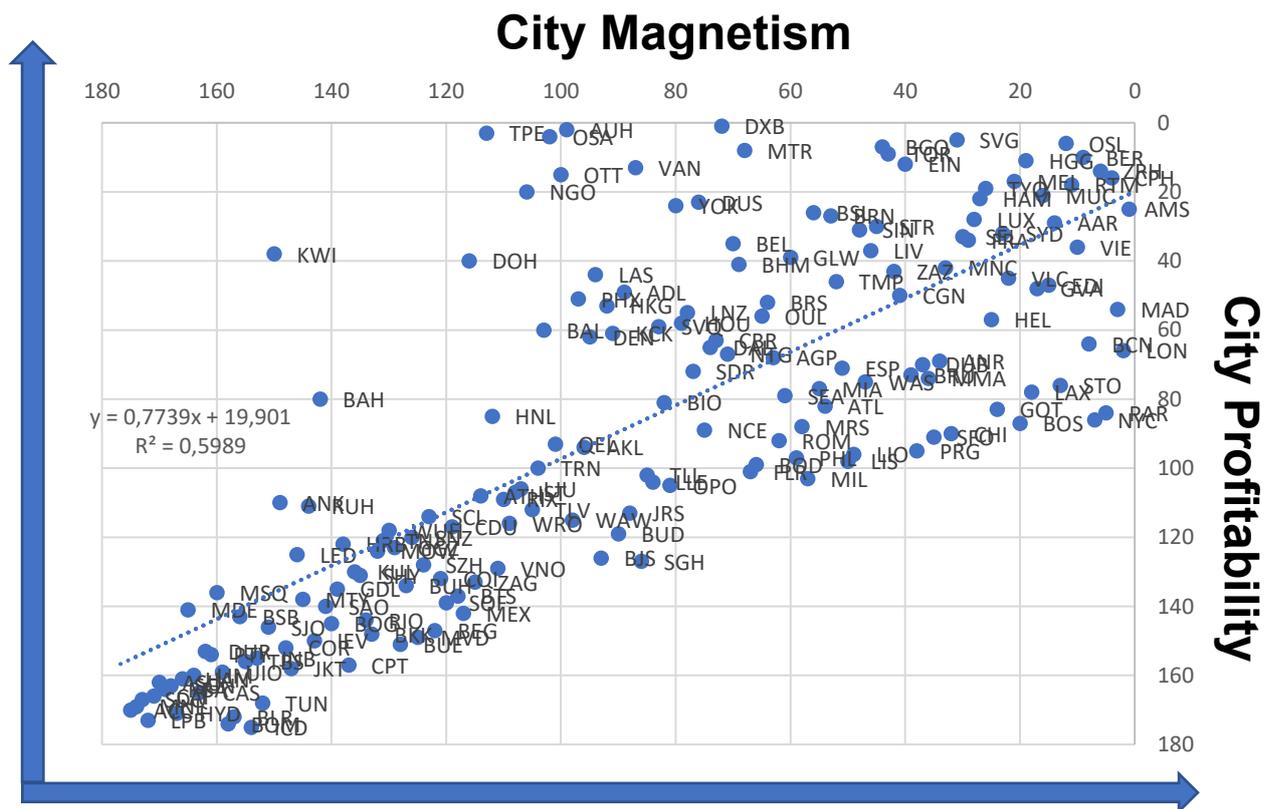
Figure 15. Balancing City Magnetism and City Profitability. Cities in UNLOCODE three letters nomination. Source: Author

The magic quadrant is in the upper right (see figures 15 and 16) where we find cities with top positions at Magnetism and Profitability. These are mainly cities in the Advanced area of the ranking. These cities compete hard day after day to stay there, to gain positions step by step, making a huge investment. The message for them is clear: keep investing, keep progressing.

In the lower left quadrant, we see cities with low magnetism and low profitability. These are Emerging and Starter cities. Our message is again clear: 'fix the basics'. In the upper left quadrant, we find cities with low magnetism but high profitability. They are mainly some less-than-magnetic US and Japanese cities, as well as some very industrial, German cities, UAE, Doha, Hong-Kong and Kuwait. They have the opportunity to improve and evolve and move into the magic quadrant if they invest in achieving social sustainability, improving their dynamism, cultivating their identity (they are massively doing), and designing an attractive future plan that is connected to their citizens. In the lower right quadrant, we find cities with high magnetism but low profitability. Those are iconic cities with a great identity but extraordinarily expensive like NewYork, Paris, London, Stockholm, Boston. Many Southern Europe cities must improve the provision of citizen services and the economic equation (taxes hell), or they run the risk of falling behind in overall attractiveness. This looks to be true of Italian and Portuguese cities with high Magnetism, but poor Profitability.

Attractiveness: Balancing City Magnetism & City Profitability
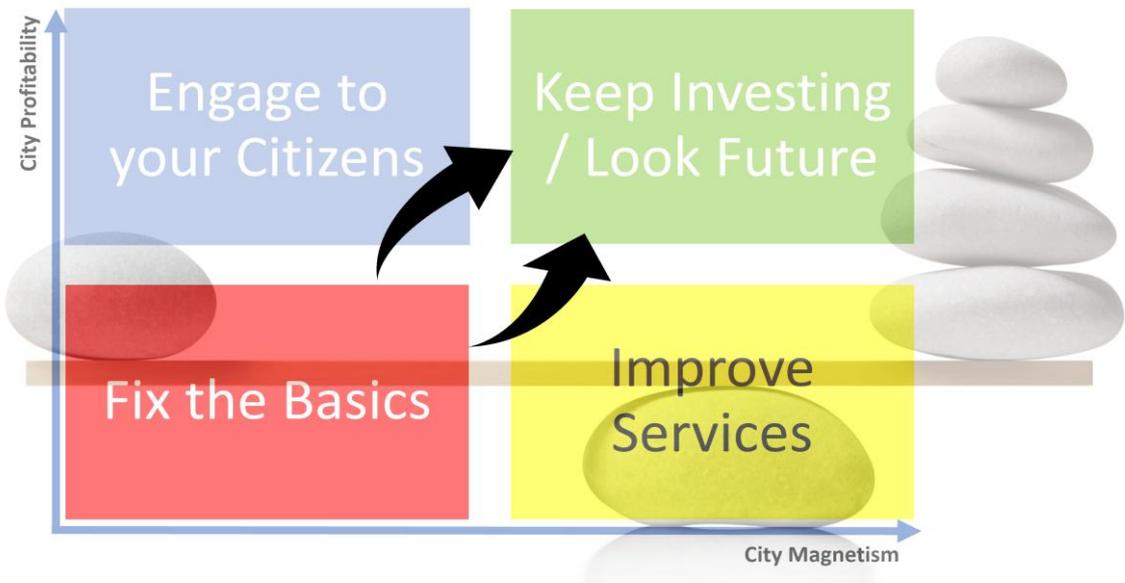
Figure 16. The balance between City Magnetism and City Profitability. Areas and Magic Quadrant. Source: Author

7.2 Cities of Future. The AI enabled City.

Technology has been and continues to be our faithful ally to respond to all these challenges. At the end of 2022 / beginning of 2023 we were spectators of an unprecedented technological revolution: the emergence of generative artificial intelligence (GenAI). This new technology broke all records in mass adoption with 100m users in just two months (1m in first 5 days!) (McKinsey, 2023). 2024 was the year of the massive incorporation of artificial intelligence in the management and development of our cities. We can consider artificial intelligence as an essential assistant to improve all our internal processes, relationships and communication with citizens, and analysis and prediction of physical and social events. We are going to explore how the different artificial intelligence proposals mark our digital transformation strategy in the city.

Accelerated technological adoption

These new announcements of disruptive technologies further accelerate the already accelerated incorporation of these innovations into our lives and the necessary processes of change (exponential or turbo boost technologies) (Diamandis & Kotler, 2020). We think that we are at a time in which many technological developments that have been perfected for years are going to reach a disruptive moment: virtual and augmented reality as the basis of the metaverse, 3D printing, digital twins, Blockchain, nanotechnologies, biotechnologies and neurotechnology, robotics, autonomous systems, 5G and 6G communications and a new era of artificial intelligence will, combined, bring new lifestyles and production systems that are extraordinarily efficient and respectful of the planet.
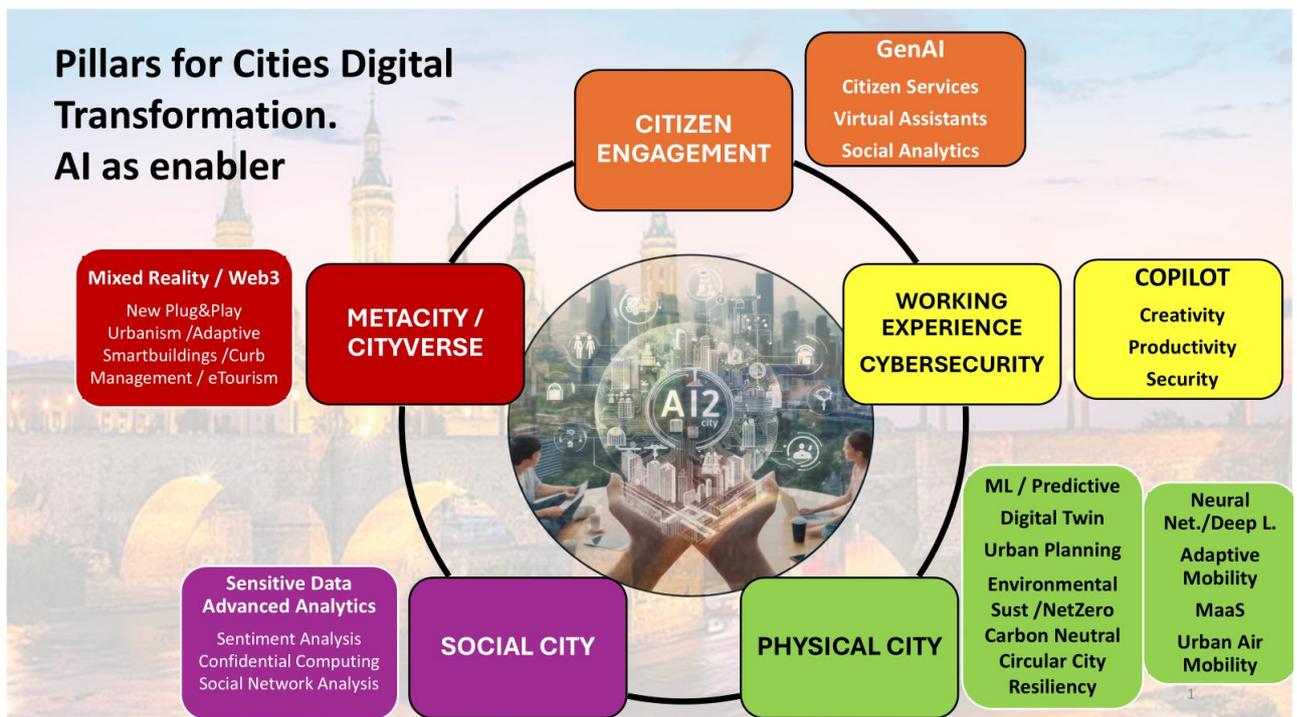
Figure 17. The AI enabled City. Central image generated with DALL-E AI. Source: Author
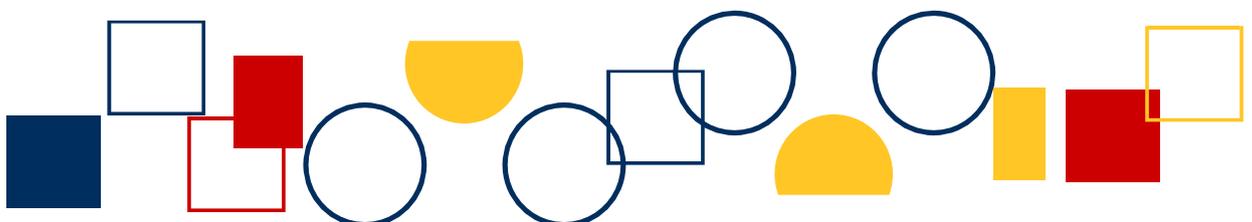
IA everywhere in the Digital Transformation Plan

A City Council's Digital Transformation Plan can take advantage of the latest technologies (and especially Artificial Intelligence) to develop a more inclusive, efficient, sustainable, innovative and attractive city for talent and investment.

Five areas of work stand out (citizen services, internal efficiency, environmental management, social environment and new technologies in MetaCity). Let's explore this mapping (see figure 17).

In this way, Improving communication and electronic service to citizens (Single platform of services and applications, ChatBot virtual assistants, etc.); Boosting efficiency in administrative management (with new collaboration tools and internal assistants); Managing the urban physical environment (generating an accurate inventory that serves as a basis for the construction of digital twins to optimize operations and decision-making on physical items); and Better understanding the social and human environment of our citizens (detecting needs by neighborhood and situations of vulnerability) appear as the four fundamental pillars. In addition, the use of advanced models based on metaverse technologies to optimize interaction with citizens represents a line of exploration and incorporation of new technologies as they become consolidated. All based on AI.

We cannot forget a critical aspect: it must be used responsibly and ethically, achieving the excellent improvements that it can bring, but always under human control, administration, respect for the identity of citizens and their sensitive data and avoiding possible abuses or unwanted uses.

AI-based Digital Transformation Plan. Why.

The City Council's digital transformation plan is necessary for several reasons:

• Operational efficiency: Digital processes are more efficient than traditional manual processes. They help reduce errors, improve speed, and cut costs. For example, using digital systems for paying taxes, applying for permits, or filing complaints makes these processes faster and more accurate.

• Access to services: With digitalization, city council services can be available 24/7 and can be accessed from anywhere with an internet connection. This increases accessibility and convenience for citizens.

• Transparency and accountability: Digital systems make public administration more transparent by allowing online tracking of city council expenditure, ongoing projects, and other data. This can help prevent corruption and improve public trust in government.

• Citizen participation: Digital channels can facilitate citizen participation in local government decision-making. This can be through online assistants (chatbots), online surveys, discussion forums, e-voting, etc.

• Adaptability and resilience: In times of crisis such as natural disasters or pandemics, a city council with a strong digital presence can continue to function and provide services to citizens despite the difficulties.

• Sustainability: By reducing the use of paper and other physical resources, digital processes are more sustainable and environmentally friendly.

• Data analysis: With the use of digital systems, large amounts of data can be collected and analyzed to assist in decision-making, city planning and the improvement of services.

The Citizen. Digital Services

Citizens are increasingly digital and therefore expect to receive from the public administration the same quality of digital services that they obtain from the private sector. Citizens demand fast, fluid and integrated digital public services that adapt both to the use of technology in their daily lives and to their experiences in stores. It is essential to place people at the centre of every process. In the case of Public Administration, we must avoid the risk of simply re-implementing digital processes on top of pre-existing paper-based procedures. Digitalisation involves rethinking the entire service from a human-centred design perspective. So, it is necessary to focus on the citizen experience, anticipate their needs, ensure maximum accessibility to services and their transparency. Citizens expect a personalized service that, based on all the information available about that person or simply based on their current life situation, provides them with a unique experience, with all the necessary services integrated and provided through the most popular digital communication tools. Citizens expect to be not only named, but to be recognized and known proactively, accompanied, helped without having to ask for support. It is necessary to make life easier for citizens, using automation to ensure the reliability and simplicity of the services offered. For this purpose, AI plays a fundamental role. AI can be applied to various areas and challenges of new digital services experience to citizens such as:

> o Virtual Assistant / Chatbots / Multilingual Q&A: AI assistant with natural language processing (NLP) to provide critical information (disaster response, healthcare, social services, etc.) or simply keep citizens up to date on service offerings, new local policies/regulations, cultural agenda, and any other service.

> o E2E (end-to-end) Call Center Intelligence / Customer Service / Intelligent Routing. Integrated into websites and applications to instantly provide service and support to citizens. This can help reduce response times and improve the overall experience. The solution should use advanced technologies such as bots&AI, Workflow and Business Process, Citizen 360º vision, and Service Intelligence. Thus, Virtual Agents enable Self-Service, AI Driven tools provide agents with the right information and help them in resolving cases, AI Driven Analytics improve the Citizen Experience by anticipating their needs and making predictions about future trends, allowing easier detection and correction of problems.

> o Conduct Surveys / Feedback / Social Mkt: Conduct surveys and collect feedback from citizens on various services. Generate content for Social Mkt campaigns. Improve all types of external / citizen communication.

> o Personalized Recommendations based on life events. Provide personalized recommendations to citizens based on their life events, specific needs and preferences.

> o Virtual Meetings / eDemocracy. Support virtual meetings and consultations between citizens and government representatives, making it easier for citizens to access services and get answers to their questions.

> o eTourism / Multilingual Services. Provide real-time language translation services, making it easier for citizens / visitors who speak different languages to access tourist services / recommendations or proposals.

> o Provide real-time information on physical conditions to citizens/visitors. Monitor physical conditions, such as traffic, air or water quality, and provide real-time information to citizens.

Once again, transparency, ethical use of data and artificial intelligence are essential. In the age of the platform economy, data is the basis of digital services. It is therefore necessary to promote the dissemination of technologies that allow their use and sharing in an open, secure and transparent way, as well as to encourage the use of machine learning and AI techniques (for example, analyzing the use of services by citizens, generating new profiles based on usage analysis, etc.). In addition, it is necessary to ensure the correct use of data and an "unbiased" AI.

These types of multilingual services are fundamental in the advanced management of the new eTourism systems, as well as participatory democracy tools (eDemocracy). We can additionally integrate all communication with citizens, social networks, generate campaigns or social marketing, and even make recommendations based on their life facts. So, this new technology contributes to achieve the ambitious targets of Digital Rights.

Three trends are observed on this citizen Digital Rights crusade:

- Data-driven technologies have intensified Digital Rights concerns. We have witnessed the rise of manifestos/ governance frameworks claiming to help cities in the greenfield of digital rights-based policymaking. For instance, the Cities' Coalition for Digital Rights (CC4DR) have developed a framework used by European cities such as Amsterdam and Helsinki.

- No citizen left behind. Demonstrate fairness, openness, consent, equality and transparency. Discuss potential inequalities caused by digitalization (aka. the digital divide).

- Participatory Democracy. Cities are expanding their Urban Data Platform with means to collect citizen feedback, opinions, and adapt the new applications to their needs and preferences.

GenAI can help adapt the public and private services we enjoy to give us the best possible personalized experience. For this reason, most cities are rethinking their services for citizens, incorporating personalization techniques learned from the retail market and complemented with social marketing.

The Civil Servant. New AI-based way of working

The decisive incorporation of AI tools in the civil servant's workplace brings an extraordinary improvement in the efficiency, creativity and productivity of the civil service, through rapid access to information, advanced document management, content integration, summary and simplification of documents, assistants in procedures and improvement in collaboration and teamwork. For this purpose, Artificial Intelligence is used in Assistant mode (AssistiveAI / Copilot) and we observe the rise of a new category of AI services: Agentic AI. Here artificial intelligence behaves like an assistant, like a shadow that helps multiply productivity. The AssistiveAI, or also called copilot, offers us a comprehensive and correlated vision of all the information pieces that I might need for the development of my work at any given moment: all the information available at my fingertips, the correlation of concepts, generation and creativity of new materials relying on GenAI, and the analysis and monitoring of all information exchanges that occur on our network, which is obviously crucial for cybersecurity management. Productivity practically improves. The quality and integration of concepts, products, people, and processes allows obtaining the maximum performance from the knowledge that the organization owns. It allows you to spend less time on communication and dissemination of information and more on creativity, generating new information and taking advantage of the knowledge base.

As an evolution of previous and focused on actions more than on information provisioning, Agentic AI models apply by role, so they are built to serve specialized city areas like citizen services, procurement, accounting, urbanism,.. with all the external knowledge but fine-tuned to serve the specific local or particular needs. They can work as autonomously as possible, serving tasks directly or assisting the civil servant when needed to massively save time.
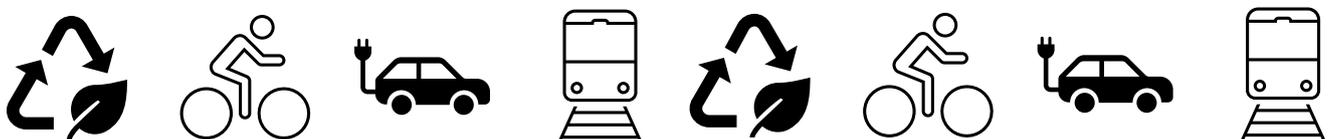
Some examples of usage scenarios are:

• Text Generation / Handling: Create articles, stories or code from textual instructions. Anything that can be described with text, language, voice, can be used as a semantic token and trigger, search for information and generate new text based on that input or prompt.

• Form Processing. Support for RPA. Process forms and requests automatically, reducing the need for manual processing and improving efficiency. Assist RPA (Robotic Process Automation) systems in managing any type of information that can be represented in semantic tokens, connecting processes, relating tasks and accelerating the effectiveness of RPA.

• Document Management (BPA / EDM). Manage the complexity associated with massive document assets (classification, taxonomy, extraction, summarization, relative documents, rewriting/paraphrasing, multilingual, inclusivity, sentiment analysis,…)

• Internal Training. Develop / Create internal training tools and resources, such as online courses, educational games and quizzes. Create guides, procedures.

• Internal Information Manager. To help employees with internal policies, applicable laws, search for related documents that exist in the organization. Help stay compliant/updated.

• Generate / Create new Information. Based on external and internal documents, draft new policies, purchase proposals, write initiatives or specifications for acquisitions,…

• Simplify / Explain Administrative Procedures / Create internal Training Guides on internal applications. What do I have to do? Interpret and explain complex administrative procedures. Guide through the complexity of procedures and applications. Understanding complex legal documents, laws, etc.

Also at the level of internal use, AI is especially suitable to combat the threat of cybersecurity: Cybersecurity Assistant, permanently analyzing the flow of information and access, alerting of possible threats and automatically responding to known risks, always using the latest technologies and information available worldwide. In cybersecurity environments IA behaves like a guardian, monitoring access, information flows and detecting anomalies. The impact of ransomware attacks on local administration reaches 58% (Wray, 2022). It is an organized crime whose income is already comparable to drug trafficking. Therefore, we face a challenge of extreme importance, since criminals are trying to cause maximum damage and attack the environments with the most sensitive and vital information for the city operations. Accepting extortion and paying is not an option. Nor is it the paralysis of public service. Therefore, cities must organize a specialized response to manage this situation. If we add to this the difficulty of hiring highly qualified personnel, we find that the only solution is to rely on externally managed systems, main Cloud providers that guarantee the necessary data protection and security and advanced AI-based tools protecting the operations from end user device, tools to overall systems and data centers. Back up systems and decentralized servers (Cloud) for redundancy, are necessary to protect the city from outages. Shadow IT: Non approved tools and software not managed by IT Department reach more than 60% of cloud services in large organizations, according to Capgemini. They pose a threat when not securely integrated within the wider city IT ecosystem. The well accepted BYOD (Bring your own device) is many times turning on *Bring your Own Disaster* if not well managed. Identify, Respond, Recover, Protect/Detect and Sustain has proven to be the virtuous cycle to keep the city digital assets safe. (WEFORUM, 2022)

Physical City. Digital twin.

Managing the modern city, its spaces, its elements and its dimensions requires the use of simulation models. Just as Digital Twin systems are applied to the modelling and maintenance of machinery, factories and all kinds of complex components, these systems can also be applied to an entire city. As we increase the automation of many public systems and services, we need to have comprehensive management that allows us to incorporate new technologies, new innovation processes and, above all, that allows us to develop simulations. Based on an IoT platform that manages the different physical dimensions, we need to be able to test in a virtual model the different alternatives to solve a physical problem in the city, without having to bother citizens or invest public money in physical tests (brick and mortar?). To do this, the use of virtual models such as Digital Twins represents a huge advance in decision-making and in the optimized resolution of the main challenges of the city. It is about virtually representing the physical world with a digital twin that models the relationships between people, places and devices. Real-time 3D models of the built environment of cities enable scenario analysis by simulating the potential impact of natural disasters such as flooding, adopting generative design principles for developing new cities, optimizing energy savings and solar capacity, and saving costs by operating cities more efficiently and effectively.

With Digital Twins, we combine disparate data into a federated environment that reflects current conditions and predicts future ones for inspections, reporting, and insights. We can see assets and projects 24 hours a day from anywhere, know the elements of the city: what they are, how they work and when changes are needed. We can visualize, simulate and monitor, use immersive visualization, gain analytical visibility. Gain insights through artificial intelligence (AI) and machine learning (ML). Gain decision support during design, construction and operations. Improve decisions. Encourage standard data models (NGSI-LD) and MIMS to enable integration, future development tools and adaptation of new solutions. A digital twin will allow us to evaluate alternatives to any circumstance (for example, given a pollution problem in a square, to be able to evaluate changes in traffic) without wasting time and resources physically testing those alternatives. The digital twin, with its AI-based algorithms, will allow us to determine the best solution in terms of performance, costs and inconvenience to neighbours in order to, once again, make well-informed and data-based decisions. The results are excellent in three areas:

1.- On the one hand, it allows us to integrate data of a very different nature such as traffic, weather, infrastructure and other resources to innovate in areas such as Urban Mobility, emergency management and energy use. This way we can experiment with the details of the physical city without having to modify it.

2.- The second area is innovation. We can test the benefits that new structural elements, engineering, urban planning and other infrastructure possibilities would bring us. This offers us the opportunity to accelerate and multiply inspiration, ingenuity and tenacity in our city management.

3.- Finally, and as the most important area, it is worth highlighting simulation. We can try the different alternatives to solving a problem, eliminating the need for physical experimentation, saving the costs associated with the use of physical elements and works, and avoiding inconvenience to neighbors. These simulation techniques allow us to make the best decisions without the cost associated with testing, with the guarantee that the city's predictive model tells us that they will be the most appropriate. (Deblaere, Eitel-Porter, Krüger, & Purdy, 2002) For example, we have a pollution problem in a plaza. We have different alternatives, such as closing some adjacent streets, pedestrianizing others, or diverting vehicles through some alternatives. We can try all of them, and finally determine the optimal one, without having to cause any disruption to the normal life of the city. Additionally, we can evaluate the consequences of each of them on the other parameters of the city, such as traffic, noise, etc. (Many cities are using these advanced technologies to face their main challenges, such as Helsinki in energy, Gothenburg in resilience and urban planning, Porto in water management, Antwerp in joint traffic and pollution management, and many others. (Bentley, 2020)

Main solution scenarios:

- Infrastructure coverage planning - light poles, 5G, wi-fi, video surveillance
- Resilience and emergency response - real-time view of city assets and resources
- Green infrastructure management - monitoring and maintenance of green spaces
- Sustainability and circularity - digital twins enable renewable energy to be maximized and recycling to be optimized.
- Smart energy - AI can be used to optimize energy consumption and production, increase the efficiency, reliability and resilience of the energy grid, as well as to facilitate the integration and adoption of renewable and distributed energy sources, such as solar, wind turbines, positive energy districts (PED), and explore new alternatives such as hydrogen.
- Management of taxes associated with the use of public space (terraces, signs, carriage passage, etc.)
- Other Services such as Water (network, quality, purification), Tourism, Urban Planning (City 15'), Health (impact of city conditions on public health), Recycling and Circular City, etc.
- Urban Mobility deserves special mention due to its complexity and relevance. We will intensively use AI algorithms for model generation and Digital Twin technologies. Some usage scenarios are:
- Vehicle electrification and smart mobility deployments - simulation of impact on air and noise pollution to inform policy.
- Analytics. Mobility patterns. Urban Mobility Intelligence. This type of solution allows for personalized traveler advice by combining multiple mobility services. It also allows for situational analysis and the design of future improvement strategies.
- Adaptive traffic. AI algorithms. Captures the entire road network through AI cameras located on mobile elements such as buses. Granular visibility of network activity is obtained, identifying traffic problems and their root causes. With all live network information, including details on traffic conditions, pedestrians and micromobility users, a dashboard adaptively optimizes road usage, giving priority and time of use to some over others. Continuously optimizes a city's mobility thanks to deep reinforcement learning AI technology. Prioritize traffic lights based on your city's traffic conditions, needs or response scenarios.
- MaaS (Mobility as a Service). Comprehensive payment for transport services from A to B, integrating all available systems and being able to choose between the fastest, most sustainable or cheapest. MaaS solutions make it easier for cities and transit agencies and operators, campuses and corporations to introduce new mobility services for their citizens by using a range of tools, including mobility apps, mobile payments, urban mobility analytics and on-demand and pre-scheduled transit. Integrated metropolitan payment systems are also in demand, responding to personalized individual needs.
- Digital Twin. AI can be used to optimize traffic flow and management, reduce congestion, pollution and accidents, as well as improve the accessibility and affordability of public and shared transport, such as buses, trains, taxis and bicycles. Also to enable new air mobility (drones, air taxis, eVTOLs, etc.).
- A particularly AI-intensive scenario is New Air Mobility. Urban air mobility is a trend that is transforming the way we move around cities. Some key aspects related to this trend are:
- Drones and Freight Delivery: Drones are being used to transport goods in urban areas. In the near future, we could see drones delivering medicines and other products on our streets.
- Air Taxis: Air taxis or air taxis are aircraft designed to transport passengers in urban environments. These vehicles, known as eVTOLs (electric vertical takeoff and landing aircraft), operate with electric propulsion systems and can take off and land vertically, from vertiports. Their high automation and reliability even allow them to operate without the need for a pilot.
- Traffic Reduction: Air mobility can alleviate road congestion and reduce travel times.
- Sustainability: Electric eVTOLs contribute to the reduction of emissions and the efficient use of energy.
- Virtual Infrastructure: Unlike physical roads, the infrastructure for air mobility is mainly virtual and does not require expensive construction. Furthermore, cities have to design their urban airspace, that is, the highways on which these devices will fly.
- Regulation and Future: Although there are still regulatory challenges, many cities are looking to implement flying taxis in the coming years. Since January 2023, the use of these aircraft is permitted not only for emergency or security purposes, but also for the transport of goods, and in the future, passengers.

Physical City. Urbanism Management

Artificial intelligence applied to the virtual representation of reality is fundamental in new urbanism. The support of high-resolution LIDAR-type cameras allows us to have a very high-resolution image of the entire city and, through artificial intelligence algorithms, to be able to detect each and every one of the elements that compose it, its position and its dimensions, that is, have a complete inventory of the city. Based on this inventory, we will be able to carry out modern Curb Management, allowing us to analyze the parameters of environmental management, trees and green spaces, elements associated with traffic and Urban Mobility, and even elements associated with taxes for the use of public space. This technology applied to buildings and combined with GIS and BIM systems allows us to think about plug&play urbanism where I can adapt the buildings and physical structures of the city to the changing needs that citizens propose to us, managing to generate more human and habitable cities. and equipped with the necessary services for the ideal 15 minutes city. Furthermore, this type of technologies will allow us to add intelligence to new and existing buildings (Smartbuildings).

ChronoUrbanism. 4D City. 3 Distances (15' City…). Postpandemic Cities are moving towards the postCar paradigm and the 4D Cities (adding time as main dimension). Distances are no longer measured in miles/km but in time to go. That way, we can observe Cities reallocating resources and lifestyles around these three main distances:

	Distance (t) / (km)	Mean	Benefit	Concept
Metro/Regio polis	90' / 350km	Transportation	International Hub	Compete 4th Ind. Rev.
Villages	15'-20'/ 10km	EmicroV, Bike	Quality Life	95% all you need (job)
District	1' / 1km	Walking	Social	Superblocks

We observe the city with different approaches according to its function, its role in the global urban ecosystem, and its capacity to serve the citizen. In this sense, the efficiency of public transport determines the real size of the city. In this way, if we consider 90 minutes as the maximum commuting time that a citizen is able to invest to access his job (it is the average time in a city with one of worst traffic in the world: Los Angeles, USA), we conclude that all reachable area in less than 90 minutes by public transport should be associated with the same metropolis. This is the actual psychological size of a city. In this way, Madrid is assimilated to the Community of Madrid (Region) and more, Paris is associated with Île-de-France, we observe Big London occupying the entire England's southeastern quarter, we could assimilate the Benelux to the same single large Metropolis, etc. This concept of metropolis enables cities to become hubs of international influence in the global competition for talent. In a context of peace and economic stability, cities compete to retain and attract talented citizens. At the beginning of the fourth industrial revolution, cities interact and play this competition internationally, within their blocs / civilizations and above the countries in which they are located. If we zoom in detail, we find the concept of the 15 minutes city (15CITY, 2021). This concept, developed by Professor Carlos Moreno for the city of Paris, aims at the generation of Villa-cities where citizens can find 95% of the things they need, including their work, at a distance of less than 15 minutes using public transport or micro electric vehicles. From the very well-connected grouping of villas you get the metropolis. In this way, the concept of suburb, ghetto, is avoided, and social inequalities are fought. Each villa must have minimum standards of quality of life and services. Zooming in once again we focus on the concept of district, and within the district we talk about the 1 minute city (Peters, 2021). This concept, proposed by the city of Stockholm, tries to encourage the development of areas of social interaction within the districts at very short, walkable distances. It is about building social spaces for the elderly, children, parking and charging micro electric vehicles and other social functions all within our district. Also associated with this concept of proximity urban development we can find the concept of superblock. Initiated in Barcelona, a superblock is a grouping of blocks where traffic is only allowed on its perimeter. Inside, we develop elements of social coexistence such as boulevards, benches, tree-lined elements, etc., allowing only the superblock inhabitants domestic traffic and the provision of merchandise. These superblocks are already being tested in various cities such as Barcelona, Ghent, and there is an ambitious plan for Madrid and many more.

By redesigning our streets and squares we can reduce the space dedicated to cars and add more social spaces, recovering playgrounds, environments for social, cultural and creative life.

Physical City: Complex Urban Mobility models.

Finally, when we talk about complex dynamic models such as traffic management, we must turn to the most advanced AI environments: neural networks and Deep Learning. With these technologies we will be able to build an Adaptative mobility model in real time, advanced Mobility as a service (MaaS) systems that combine the information available at all times with all known knowledge and experience. Furthermore, cities have the challenge of designing from scratch the new models of urban air mobility (drones, air taxis and eVTOLs) that will represent a revolution in the rapid and sustainable distribution of goods and the movement of passengers.

PostCar City. Urban mobility is one of the most dynamic, fast changing, citizens appreciated-by concepts and the one that faces the greatest challenges. It must combine: an economic sustainable and emission-free service, with the psychological effect that pushes citizens to use individual means of transport (we are experiencing a back to heavy traffic), together with the appearance of new individual vehicles and flying machines. Also, new shared mobility services are offered. Clearly, Urban Mobility tends to consolidate a service model offered by more or less autonomous and shared electric vehicles. It seems clear that the owned vehicle model is going to become obsolete due to the concept of mobility as a shared service. (Thompson, 2015) Large manufacturers face the challenge of offering mobility as a service and maintaining a huge fleet of vehicles that must respond quickly and flexibly to the demands of citizens. And all of it stored no one knows where, but ready at the user's door when they demand it. A Renault's manager pointed to this concept applied to the Paris metropolitan area: it is physically impossible to store more than 1 million cars around, ready to be used on the weekend, and hire a legion of operators who park them near users on Friday and pick them up after Sunday…and if they are autonomous, it would be worse, as they can spend all their batteries life trying to park, but consumer demands always rules. Will see.

Physical City. Environmental Sustainability & Resiliency. Carbon Neutral, Circular City.

Urban environmental sustainability models are fundamentally based on the reduction of emissions from transport and buildings. Both elements can reach 75% of a city's emission and their AI models combine.

Post-Covid cities face the challenge of sustainability with the aim of the European Green Deal and parallel initiatives across the world (like California's AB32 Global Warming Solutions Act, UK Climate Change Act, and others). Cities are the fundamental pillar to combat climate change. Every modern city sets itself the objectives of Carbon Neutral and Circular City. The economic recovery will be slower or faster, depending on the good analysis and prioritization in the use of recovery funds. But whatever its speed, it will be green. European cities are leading, once again, this global process. In this sense, the initiative 100 Carbon Neutral cities by 2030 of the European Union is framed (EU, 2022). Copenhagen leads urban initiatives with the goal of being Carbon Neutral by 2025. Furthermore, Copenhagen sets this goal not only for city operations, but also for emissions from all citizens, becoming the first world capital to pursue this status. Other European cities mark 2030 as the final destination of their Carbon neutral initiatives within the global European Green Deal framework for 2050.

The proper management of matter and, in general, waste, make up the basic pillars of circular cities. Reduce, Reuse, Recycle, Regenerate and Redesign are the 5 R's that mark the direction of development of a modern and sustainable city from the point of view of matter. Therefore, any city that intends to be minimally attractive for talent must prioritize the objectives of environmental sustainability (Carbon neutral and Circular economy).

It is clear that extreme weather events are becoming more frequent (droughts, downpours, extreme temperatures, cyclones, sudden changes in climate, etc.) and the increase in global temperature is already becoming more evident. The construction of climatic shelters allows an important reduction of the risk that affects people vulnerable to heat. The intelligent use of the phenomena of convection, radiation and heat conduction enables efficient temperature regulation in buildings and energy savings. The intelligent maintenance of buildings plays a fundamental role, firstly because they are responsible for 40% of a city's carbon emissions, secondly because glass towers cause an additional greenhouse effect and thirdly because the efficient management of these buildings can help generate more climatic islands. The use of traditional remedies such as blinds, balconies, use of white paint have always worked in this regard. Cities are investing in the construction of forest crowns that allow lowering the temperature of the city while facilitating leisure (running a marathon without leaving the parks). Another issue to take into account is the use of asphalt. Research is being carried out on new materials that reduce the heat that this type of floor radiates. Also, the use of the subsoil and underground spaces as shelter from inclement weather is also proving tremendously valuable. Another clear threat to cities is excess water. The water floods can sink buildings and so on. To combat its effect, the concept of the sponge city is created.

A sponge city is one that allows water to be absorbed and managed, evacuating its excess and avoiding damage. In this sense, there are cities like Barcelona that have built huge underground spare tanks to mitigate the effect of heavy rains that devastated the city due to its steep slope towards the sea. Another fundamental element is to design green infrastructures that filter and drain the water to the subsoil. Much remains to be learned from the efficient management carried out by the Netherlands. On the contrary, those cities with a water deficit must learn to manage it. We are seeing how cities that traditionally have a surplus of water have suffered a summer of drought and even the impact of forest wildfires. Their water storage and distribution systems were unprepared for these dry spells due to poor storage and outdated distribution infrastructure with huge leakages. Additionally, the efficient use of water and its recycling are essential to achieve a self-sufficient city. Here the example to follow is Tel Aviv. And once again, the use of the latest technologies in digital twin simulation allows us to design cities that are resilient to climate change. Examples of this are the digital twin projects for water management in Porto and Goteborg or for efficient energy management in Helsinki.

Social City. Social knowledge and associated services.

Through AI we can also improve the Social Knowledge of the city.

Some use scenarios are:

• Analysis of large amounts of information looking for patterns, relationships, and trends. Social Knowledge. Confidential analysis of information about citizens, improving decision-making and policy formulation by public authorities, offering a personalized service adapted to each citizen, their circumstances and the existing previous information about their preferences. Analysis of the social situation of the city, detecting vulnerability indices by areas and neighborhoods and supporting the prioritization of investments and data-based governance (data-driven City). (Generative AI / Confidential Computing)

• Knowledge Base. Create a knowledge base of frequently asked questions and answers, reducing the burden on citizen service representatives and improving the experience.

• Predictive Analysis. Analyze data and provide information on areas where improvements can be made in citizen services. This can help governments make informed decisions by anticipating risks, improving forecasts,…

• Fraud Detection. Detect fraud and suspicious activity, helping to ensure the integrity of government services and protect citizens' personal information.

• Semantic Analysis. Interpret, understand and find users from multi-format, multi-language and even handwritten documents (folksonomy,…) (mainly aimed at document-intensive services such as Justice, Health, Permits,…) Identify problems/people at risk by combining dispersed information. In this chapter we can incorporate all the detection of patterns, anomalies, observable trends by analyzing all the enormous amount of documents that a city owns.

• Decision-Making Support. Provide decision-making support to employees, helping them make informed decisions on how to allocate resources and improve services.

• New Social Digital Twins. Digital twins allow the simulation of solutions to all types of physical problems in the city. From now on, they must incorporate citizens, the social part, as fundamental elements to serve, to adapt services, spaces and urban possibilities to the needs and aspirations of citizens. We are going to start to learn about urban social digital twins, first incorporating general data (sociodemographic) and later, as technology allows, more specific and individualized data, creating a model by segments or tourism and in the future, a model of each individual in their relationship with the city.

These analyzes will allow us to know our citizens and personalize the service we offer them. City managers need to know the citizens social situation. It is urgent to activate and analyze the historical data available on citizens in order to determine the different levels of economic and social vulnerability in which they find themselves, mapped by district. In this way, city managers can balance budgets and prioritize serving those who need it most. It is not easy to find a common definition of the term vulnerability. Each city can find different approaches to this situation and analyze it from different angles. Also, special importance must be given to the groups at greatest risk: the elderly, children, women at risk of gender-based violence, homeless people, immigrants, etc, as studied by EU Social Challenges in Cities (Mulvik et al, 2022) More general analytics can also be done to identify the level of poverty, happiness, vitality and mental health (which has been greatly impacted by the pandemic). This georeferenced social analysis is very useful for building the ideal 15' city, identifying the necessary services by distance. It should be noted that a city barely uses 9% of its data at daily operations. The remaining 91% is historical data that is not analyzed, and in many cases, it is not known how it can be accessed or integrated. Modern cross-platform database systems allow you to integrate all these different data sources or silos to get the information you need. At the same time, the advanced cooperative and confidential analytic systems allow guaranteeing anonymity and GDPR compliance to extract aggregated information, respecting the citizens sensitive data. Initiatives like (SmartCities4All 2015) try to reinforce the attention needed to provide systems, tools and services that can be used, accessed and operated by all, making the city inclusive from the new technologies and services approach. Once again cities must be human-centered as explained.

Dream of Virtual City. City in the Metaverse. MetaCity

AI allows the city to use Mixed Virtual Reality, combining images or real physical position with virtual images and interactions. This type of advanced system revolutionizes visitor service, such as a combined physical/digital experience (phygital) or an extraordinary richness in the expression of cultural events.

• Advanced interaction: Improving the capacity of AI to interact in a more natural and human way. We are in web3 within the technologies in the Metaverse. The trend is to improve this immersive experience and interaction (not only with special glasses but other senses).

• Tourism and culture. We are witnessing the renaissance of tourism, recovering and surpassing pre-pandemic levels. Electronic Tourism includes the virtualization of all processes and the value chain in tourism and allows all tourism actors (hoteliers, guests, official bodies related to tourism, travel agents, etc.) to be put on the network to offer a combined phygital experience to the tourist. By applying these technologies to tourism, we can offer tourists a *phygital* experience, that is, an experience that combines the physical with the contribution of digital information, helping them discover the city, its service offering and its attractions. But technology has advanced in parallel, and cities want to use it to achieve higher-quality, longer-stay tourism and higher spending per visitor. It is about using the latest technologies to show the attractiveness of our city, provide much faster and more efficient booking services, offer the best physical and digital (phygital) experience while visitors are in the city (by using AR/VR, virtual tours, personalized services, etc), manage the tourism ecosystem stakeholders to run special campaigns and promotions, analyze all the associated parameters with advanced Big Data systems. and finally create a loyalty community using social marketing techniques. A new eTourism for a new physical but digital immersive experience, which for many cities means a boost in the economy recovery

The Metaverse/MetaCity is the next evolution of the Internet with a focus on integrating physical and digital experiences. The future of cities and their residents will include virtual worlds where people can immerse themselves in a virtual simulation of urban reality. While the metaverse is still in its early stages, the continued development of innovations, user adoption, utilization in large corporations, technological advancement and integrations, as well as rising valuations of associated digital assets, are indicative of the continued growth of the metaverse and the likely trajectory toward its destiny as the next third-generation, immersive, three-dimensional Internet. (Web3)

This enormous opportunity for human development has its advantages and disadvantages, but it seems to be consolidating itself as an innovation for the future that we all will live with. The parallelism between the metaverse and the possible literary worlds suggests that the first is assimilated to a virtual city: the MetaCity. This concept represents a revolution in the way of operating and offering public services in the city, in the social relations of its citizens and in their leisure activities. Our city, therefore, incorporates a fifth virtual dimension. It is also a new challenge, a new opportunity to improve the attractiveness of our cities in their global competition to attract talent (in this case from its virtual dimension).. If we observe the parallel development of neurotechnology and remember once again the movie *Avatar* where the protagonist connected his hair with the mother tree uniting in a single community consciousness, could we dream as the American urban planner Jane (Jacobs, 1961) did about a beehive city, where we are all co-creators of it and we can all enjoy its benefits by connecting our minds to the MetaCity? Cities like Doha, Seoul or Singapore are already offering their MetaCities to attract virtual talent. Will we have two cities? A physical taking care of my body, and a virtual where I develop my creativity and professional career, creating wealth? We still have time to reflect on this.
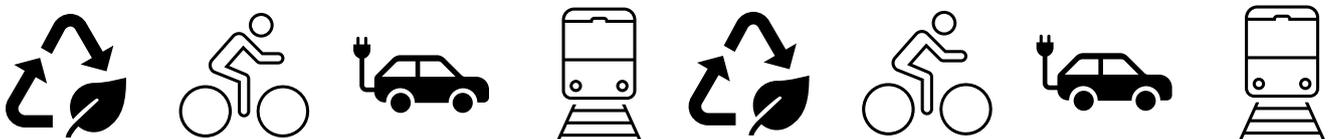
7.3 Urban Social Resiliency against natural disasters.

Urban areas are increasingly facing both natural and man-made disasters. The frequency of severe natural disasters has increased tenfold since 1960 (IEP, 2020) (and twofold since 2000), and 60% of cities with over 300,000 inhabitants are exposed to at least six types of natural disasters (floods, earthquakes, volcanic eruptions, fires, heat / cold waves, snowstorms, landslides, etc.). (UN, 2019) This situation threatens the stability and well-being of urban communities, necessitating the development of urban resilience to withstand, recover, and adapt to these challenges. Global agreements like the Sendai Framework for Disaster Risk Reduction (UN, 2015a), the 2030 Agenda's Sustainable Development Goals (goal 11) (UN, 2015b), the Paris Agreement (UN, 2015c), and the New Urban Agenda (Habitat III) (UN, 2016) emphasize the importance of urban resilience.

Urban Social Resilience: Urban resilience refers to the capacity of urban ecosystems to survive, overcome, change, recover, and grow despite negative external effects or severe impacts. It involves proactive planning, risk reduction, and fostering adaptability to social, economic, and environmental challenges (Spaans & Waterhout, 2017), (McPhearson et al., 2015), (Meerow et al., 2016), (100 Resilient Cities, 2019). The World Risk Index (WRI, 2022) is a commonly adopted model for urban resilience, measuring risk as a combination of exposure and vulnerability. Resilience is quantified as Preparedness/Risk, emphasizing the importance of preparedness, quality infrastructure, information, knowledge, early warning, rapid response, economic capacity, and well-organized human resources. We define:

$$RESILIENCE = \left(\frac{PREPAREDNESS}{RISK}\right) \ and \ RISK = \sqrt{EXPOSURE \ x \ VULNERABILITY}$$

Role of AI in Urban Social Resilience: AI can significantly contribute to urban resilience by creating reliable resilience models. AI applications can be categorized into three phases: Preparation (Before), Rapid and Effective Response (During), and Recovery and Adaptation (After). These applications can be further classified into five groups:

1.   Infrastructure Robustness (Preparation):

AI can monitor and maintain infrastructure, simulate responses to adverse conditions, and analyze household stock situations mapped to geoposition, economy, health, labor, and other relevant conditions. To be more concrete:

• Housing stability (structurally sound housing). (UN-Habitat, 2020)

• Energy quality. Energy certificate. Insulation (heat/cold), the ability to regulate temperature in the face of extremes outside, and the required energy cost.

• Housing security of tenure: population in safe, legal housing.

•Housing Inclusiveness: wheelchair ramps, access, availability of elevators, evacuation routes, fire escape stairs, fire doors, etc….

AI can also create Digital Twins for critical infrastructure, mobility, security services, and heat maps to improve preparedness and response and create Urban Heat Islands (UHI).

AI can identify the status of urban areas in terms of shade, green areas, accessibility to emergency shelters, and age-friendly and healthy city adaptations, and especially:

.- Shade (% of covered space) mitigating heat waves. The aim is to create cities that are resilient to 50ºC and spaces that are 5ºC cooler than the outside. (City50+, and City(-5))

.- Green areas and especially tree cover, highlighting urban trees (on streets) and available parks/forests.

.- Accessibility to emergency shelters: population within a 15-minute walk of a shelter (earthquake, climate, etc.).

AI can improve health infrastructure resilience, availability of psychosocial support, and overall urban planning to enhance social cohesion and resilience. (Jaafari et al., 2023)

2. Social Cohesion and Inclusion (Preparation):

AI can help create vulnerability maps, organize community engagement, and measure community participation, awareness, preparedness, and equity in planning, and especially:

.- Community participation (active community resilience initiatives) (Hutter, 2013)

.- Population awareness and preparedness (trained population)

.- Participation equity: Representation of women, older adults, people with disabilities, and minorities in planning.

.- Access to information: vulnerable residents receiving early warnings and response time. A good response time implies information to the entire population at risk of vulnerability within 2 hours of alert learning. As an example, we can use AI to visualize the entire city and discover places where homeless usually stay or sleep, then speed up alert's communication in case of emergency.

AI can improve communication with citizens through Generative AI tools like chatbots and intelligent contact centers improving Community resilience.

3. Effectiveness of Governance (During) (EU Resilient Cities Network, 2025):

AI can integrate policy frameworks, improve institutional trust and responsiveness, and enhance the efficiency of response coordination. (Ran et al., 2024)

AI can help design and analyze surveys on emergency response quality, train local leaders, and build comprehensive first responders and contingency plans.

Policy integration (resilience-focused policies integrated into urban development plans). AI can help identify current policies where resiliency factor should be added.

4. Availability of Resources for Recovery (After):

AI can build financial response plans, simulate supply chain models, and identify potential scarcities and service disruptions.

AI can prioritize mobility patterns for employment recovery, organize cooperation among residents, volunteers, and local NGOs, and improve overall community resilience.

Worth adding the speed of essential services in households' restoration (water, food, electricity). This could be a conclusion of a digital twin simulation and will suggest the availability of spare components in exact places.

5. Social Recovery and Adaptive Capacity (POST)

Employment recovery: population returning to work in less than 3 months. AI could create a mobility prioritization plan, so back-to-work and back-to-school return to normalcy will happen right after emergency and safety actions.

Organizing cooperation. AI can easily create tools for people cooperation, volunteers platforms (learning from past COVID-19 crisis), and local NGOs activation. Also coordinating population philanthropy. (Abadi et al., 2020)
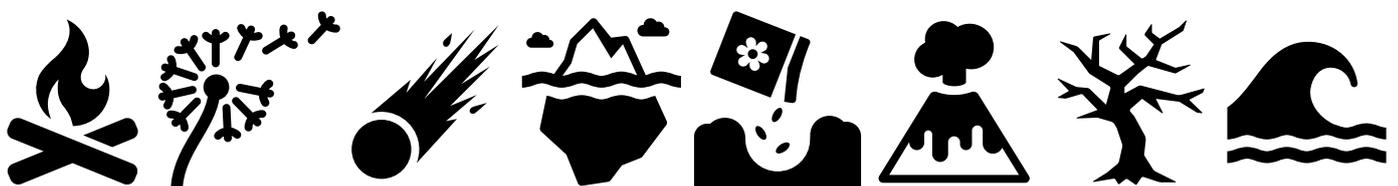
Several cities have implemented successful urban resilience strategies:

•Tokyo: Earthquake-resilient building standards and disaster preparedness drills.

•Rotterdam: Innovative infrastructure for flood management and adaptive urban design.

•Christchurch, NZ: Community-led recovery and reconstruction initiatives after earthquake.

•San Francisco: Extensive community training programs and proactive risk communication.

•Singapore: Centralized emergency response systems and strong governance in disaster management.

•Melbourne: Resilience-driven policies integrated into urban plans.

•Copenhagen: Financial Recovery Plan.

•Stockholm: Supply chain robustness.

•Bilbao: Climate Change Resilience Plan.

•Santander, Flanders, and Helsinki: EU Age-friendly UrbanAge program.

•Madrid: Healthy Cities initiative.

Conclusion: Urban resilience focuses on both physical and social elements to ensure solid resistance, low impact, and rapid recovery. Understanding and addressing social vulnerability is crucial for creating resilient cities. AI plays a vital role in managing data, generating knowledge, and balancing quantitative and qualitative measures to improve urban resilience. Each city should develop its social resilience plan with the help of AI to ensure a prosperous and sustainable future.

7.4 Cities of Future. What might they look like?

Transforming City Magnetism may take 15 years or more. This slow but constant evolution should not discourage us from making the transformation. Before beginning the development of a strategy to transform the City Identity / Magnetism, we must recognize our existing advantages, assets, values, identity, heritage, and culture and use them to build upon, to lean on them to begin to thrive. We should think of our city as a house that we want to sell, or rather, that we want to rent to talented citizens. We have to include in that house the most appreciated elements so that talent can live, achieve maximum well-being and develop their full potential, and all this with a reasonable income or cost of living (citizenship contract). Magnetism is the house itself; Profitability is the services available in that house combined with its rent price. Let's pay attention to those lower-Magnetism secondary cities in countries that already have a widely recognized and strong capital city. They can transform themselves and stand out globally if the right political decisions are made and their citizens contribute. They don't compete with their capitals on Magnetism, but their lower cost of living make them more attractive.

The transformational plan must be the long-term, consensual result of an all-parties debate. A combination of the three fundamental axes is also a must: Urbanism, Humanism and Technology, with urbanism leading and the others supporting and complementing.

And finally, we have the technological side, from investment in innovation to the focus on human capital and the proposal of an ambitious SmartCities plan. The SmartCities Plan fulfills the mission of improving citizen services (Profitability), while also helping in strategy, reputation, and innovation (Magnetism) making it the most powerful tool we have to improve Attractiveness. As we have mentioned, little can be done about fixed issues like geolocation, and changes in Identity are slow and always mid- to long-term projects, and improving economic conditions and net purchasing power is difficult to do quickly. Therefore, the obvious lever, with the most short-term results (even in a 4-year legislature), is to invest heavily in a solid SmartCities plan. Cities that fail in this aspect have either fallen asleep in the glory of leadership (and are now waking up, like the Swiss) or are losing ground by not taking advantage of their excellent magnetism to climb in the ranking (like in Southern Europe). On the contrary, cities with handicaps in Magnetism—either due to lack of history (US), weather conditions (Nordics, Emirates) or long distances (AUS)—can compensate those shortcomings with SmartCities plans that improve their attractiveness, or event thinking about future MetaCities…

A New Model for SmartCommunities

- Human-centered: **Citizen-centric** with welfare and quality of life as the major goal. LOVABLE.

- Sense of **community** (ideally a beehive) with all citizens cooperating around a collective task or project, with a strong sense of unity, belonging and identity. Multiplicity as the new city social paradigm, where the total sum of ideas, opinions, and preferences set the city's evolution.

- City as a **social enabler**: relationships facilitator, inclusive, social diversity, liveable, leisure-fostering and shared activities. Age-friendly.

- **Citizens as co-creators**: permanent engagement, proud to contribute. City as an expression of collective experience. SmartArt as a combination of technology and creativity.

- **Self-everything**: sufficient in water, energy, matter, people-talent, funding, resiliency...

- **Zero-everything**: car fatalities (zero vision), pollution, carbon, violence, unrecycled waste, unmanaged water, non-renewable energies, crime, inequality, poverty.

- **Sustainability**: social, economic, and eventually environmentally: Carbon negative, Circular.

- **Resilient** against the increasingly frequent natural and human-provocked hazards, paying special attention not only to infrastructure but to impact on people: social resiliency.

- Megalopolis is broken, walking-distance suburbs/districts, making them next to one another. PostCar City. Superblocks. More spaces for humans, soft heights gradient, boulevards as an urbanism principle, walkable city, bike-friendly. Curb Management. 3 Distances **(90'-15'-1') City**

- **Smart-DataSphere**: AI-driven Digital Twin models monitoring the physical city, simulating potential improvement alternatives, but always understanding living humans and adding Social models. A respectful and ethical technological city, conscious and persuasive city by tracking citizens' psychologies.

- **Agile, Dynamic and Versatile**: Always creating projects, experimenting, listening to citizens, applying feedback, adapting to new circumstances and needs, developing new solutions and starting over again and again. Creativity always as the leading motion.

   "Create opportunities, solve problems, innovate. All three are inseparable." Jane Jacobs

- Open, Respectful, Ethical, based on a **strong identity and values**.

To conclude, we would like to close by sharing our dream of a new cultural revival brought about by an increasing appreciation for human artwork and the essential principles of human creativity: beauty, goodness, truth. Human destiny has long been about labor, but our human future points increasingly toward a creative value mission. To achieve this dream, we will need to unlock the full capacity of our creative mind. It is not just a matter of technology or investment. Identity, urban planning and social sustainability are and will remain determining factors, with Technology as the essential and indispensable enabler and catalyst.

References I

15CITY (2021) The 15-Minute City. Putting people at the center of urban transformation. https://www.15minutecity.com/ retrieved by August 2025

100 RESILIENT CITIES (2019) Rockefeller Foundation. https://www.rockefellerfoundation.org/100-resilient-cities/ retrieved by June 2025.

ABADI, R., KHADEMOLHOSENY, A., SABERI, H., & AZANI, M. (2020). Analysis of factors affecting the increase of social resilience of cities (Case study: Najafabad city). , 7, 97-112. https://doi.org/10.22103/jusg.2020.2021

ALCALDE, I. (2017) «Ciudades con Alma en la Era Digital». *CITIZEN* http://thecitizen.es/cultura/ciudades-con-alma-en-la-era-digital retrieved by June 2025

BENTLEY (2020). City of Helsinki. Digital City Synergy. Bentley Systems. https://www.bentley.com/en/project-profiles/2020/city-of-helsinki_digital-city-synergy retrieved by Feb 2025.

BETHUNE, S. (2022). Stress in America 2022. American Psychological Association. https://www.apa.org/news/press/releases/stress/2022/concerned-future-inflation retrieved by Feb 2025.

BLOOMBERG (2023), Japan: Where Innovation Is Borderless. BLOOMBERG. Bloomberg's 2022 Global FDI study. https://sponsored.bloomberg.com/article/jco/japan-where-innovation-is-borderless , retrieved by July 2025

BERRONE, P. & RICART, J.E. (2020) «IESE. Cities in Motion Index 2020». *IESE* https://media.iese.edu/research/pdfs/ST-0542-E.pdf retrieved by March 2025

CASSIM et al (2020) The $10 trillion rescue: How governments can deliver impact. *McKinsey* pg. 12-13 Also at www.mckinsey.com/~/media/McKinsey/Industries/Public%20Sector/Our%20Insights/The%2010%20trillion%20dollar%20rescue%20How%20governments%20can%20deliver%20impact/The-10-trillion-dollar-rescue-How-governments-can-deliver-impact-vF.pdf retrieved by May 2025

CENTER FOR AMERICAN PROGRESS. (2025). The Trump Administration's Cancellation of Funding for Environmental Protections… https://www.americanprogress.org/wp-content/uploads/sites/2/2025/04/CAP-CancelEJprotections-3.pdf retrieved by Aug 2025

CENTRAL BANK OF THE UAE (2024). Quarterly Economic Review – December 2024. https://www.centralbank.ae/media/fusfyh0s/qer-dec-2024-23_12-_final.pdf retrieved by May 2025

DEBLAERE, T., EITEL-PORTER, R., KRÜGER, R. & PURDY, M. (2002) Digital Twins Are Reinventing Innovation, *MIT Sloan Management Review*, 2002 https://sloanreview.mit.edu/article/how-digital-twins-are-reinventing-innovation/ retrieved by Feb 2025

DELCKER, J (2022). How Germany plans to catch up in tech. DW. https://www.dw.com/en/how-digital-laggard-germany-plans-to-catch-up-in-tech/a-62985987 retrieved by Aug 2025

DIAMANDIS, P AND KOTLER, S. (2020) *The future is faster than you think*. Simon & Schuster. NewYork

EU (2022) «Commission announces 100 cities participating in EU Mission for climate-neutral and smart cities by 2030» https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2591 retrieved by May 2025

EU Resilient Cities Network (2025), Climate Resilient Cities. https://resilientcitiesnetwork.org/climate-resilient-cities/ retrieved by May2025

FLORIDA, R. (2007) *The Flight of the Creative Class.* Collings. New York, 2007 p.37

FRED / BEA (2025) Bureau of Economic Analysis. Private Fixed Investment: Nonresidential: Information Processing Equipment and Software. https://fred.stlouisfed.org/series/Y033RC1Q027SBEA retrieved by May 2025

GRAND VIEW RESEARCH (2024). UAE ESG Investing Market – Size & Outlook https://www.grandviewresearch.com/horizon/outlook/esg-investing-market/uae retrieved by May 2025

HAQQI, T. (2021) «20 Fastest Growing Tech Cities in the World». *Yahoo Insider Monkey*. https://www.yahoo.com/now/20-fastest-growing-tech-cities-124147373.html retrieved by May 2025

HRW (2022). Human Rights World, 2022. HTTPS://WWW.HRW.ORG/WORLD-REPORT/2022/COUNTRY-CHAPTERS/JAPAN retrieved by Oct 2025

Hutter, G. (2013). Organizing social resilience in the context of natural hazards: a research note. Natural Hazards, 67, 47-60. https://doi.org/10.1007/s11069-010-9705-4

IDC (2021). How European Governments Are Prioritizing Hiring to Close the Digital Skills Gap in the Public Sector: Data Insights on Hiring Approaches Adopted. HTTPS://WWW.IDC.COM/GETDOC.JSP?CONTAINERID=EUR148110421 retrieved by Oct 2025

IEP (2020). Institute for Economics & Peace. Ecological Threat Register 2020: Understanding Ecological Threats, Resilience and Peace, Sydney, September 2020. Available from: http://visionofhumanity.org/reports and www.visionofhumanity.org/wp-content/uploads/2020/10/ETR_2020_web-1.pdf retrieved by May 2025

JAAFARI, A., MAFI-GHOLAMI, D., & YOUSEFI, S. (2023). A spatiotemporal analysis using expert-weighted indicators for assessing social resilience to natural hazards. Sustainable Cities and Society. https://doi.org/10.1016/j.scs.2023.105051

JACOBS, J. (1961) *The Deadth and Life of Great American Cities*. Capitan Swing Libros. Spanish Edition. 2011

KOOLHAAS, R. (1997) *Acerca de la ciudad,* GG, Barcelona, 2014 from *The Generic City* Domus, núm. 791, Milano, pp. 8-12

KPMG (2024). UAE CEO Outlook 2024 – Economic outlook and geopolitics. https://kpmg.com/ae/en/insights/value-creation/uae-ceo-outlook-2024/economic-outlook-and-geopolitics.html retrieved by Oct 2025

KULASOORIYA, D. & WEE, M. (2021) "From livable to lovable: making cities more human". Deloitte insights. Available at: https://www2.deloitte.com/us/en/insights/industry/public-sector/elements-of-lovable-cities.html retrieved by July 2025.

LYNCH, K. (1960) *The Image of the City.* The MIT Press, Cambridge (MA, USA), pp.9-10

MARIAS, J, RIDRUEJO, D., CHUECA, F. (1983) *Ciudades.* Editorial Prensa Española, Toledo, p.231

McPHEARSON, T., ANDERSSON, E., ELMQVIST, T., & FRANTZERKAKI, N. (2015). Resilience of and through urban ecosystem services. Ecosystem services, 12, 152-156. https://doi.org/10.1016/J.ECOSER.2014.07.012

MCKINSEY (2023). What's the future of generative AI? An early view in 15 charts. *MCKINSEY & Company*. Published Aug 2023. https://www.mckinsey.com/featured-insights/mckinsey-explainers/whats-the-future-of-generative-ai-an-early-view-in-15-charts retrieved by Sep 2025

References II

MEEROW, S., NEWELL, J. P., & STULTS, M. (2016). Defining urban resilience: A review. Landscape and Urban Planning, 147, 38–49. https://doi.org/10.1016/j.landurbplan.2015.11.011

MITRA et al (2024) Stress Due to Inflation: Changes over Time, Correlates, and Coping Strategies among Working-Age Adults in the United States. International journal of environmental research and public health, 21(2), 157. https://doi.org/10.3390/ijerph21020157

MERCER (2019). «Quality of Living Mercer Index. 2019», https://mobilityexchange.mercer.com/Insights/quality-of-living-rankings retrieved by March 2025

MULVIK I.B. ET AL, (2022), Research for REGI Committee – Social Challenges in Cities, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels. https://www.europarl.europa.eu/RegData/etudes/STUD/2022/699631/IPOL_STU(2022)699631_EN.pdf retrieved by October 2025

NORDICEDGE. (2018) https://www.nordicedge.org/ retrieved by March 2025

OECD. (2021) https://www.oecd.org/economic-outlook/ retrieved by September 2025

PARILLA, J. AND LIU, S. (2019) TALENT-DRIVEN ECONOMIC DEVELOPMENT. Metropolitan Policy Program at Brookings. Washington, D.C. https://www.brookings.edu/wp-content/uploads/2019/10/2019.10.15_Brookings-Metro_Talent-driven-economic-development_Parilla-Liu.pdf retrieved by September 2025

PATHAK, M. et al (2025) Stress Due to Inflation and Its Association with Anxiety and Depression Among Working-Age Adults in the United States. International Journal of Environmental Research and Public Health, 22(1), 26. https://doi.org/10.3390/ijerph22010026

PETERS, A. (2021). How to transform your street into a 1-minute city. FastCompany. https://www.fastcompany.com/90593014/how-to-transform-your-street-into-a-1-minute-city retrieved by July 2025

PINTO, C.A. (2009) «Manifesto for a new urbanity. European Urban Charter II». Council of Europe. Strasbourg, p.49 https://rm.coe.int/urban-charter-ii-manifesto-for-a-new-urbanity-publication-a5-58-pages-/168095e1d5 retrieved by Aug 2025

RAN, J., Li, Q., RAVETZ, J., HALES, T., HEALY, A., NEDOVIC-BUDIC, Z., FIGUEROA, O., & TAYLOR, A. (2024). Towards Hazard-Resilience Cities: Comparative Research on Resilience-related Policies and Local Practices in Five Cities Worldwide. Landscape Architecture Frontiers. https://doi.org/10.15302/j-laf-1-020091

REPUTATION INSTITUTE. (2017) World's most reputable cities.2017 https://insights.reputationinstitute.com/blog-ri/the-world-s-most-reputable-cities-explained retrieved by Oct 2025

RONA, S. & LEVY, S. (2025) The state of AI industry trends in Europe: Talent drives success, but U.S. funding still crucial. Silicon Valley Bank. https://www.svb.com/business-growth/global-expansion/ai-industry-trends-in-europe/ retrieved by Aug 2025

ROSSI, A. (1978) La arquitectura de la ciudad. Ed. Gustavo Gili. Barcelona. pp.148-149

SHAKESPEARE, W. (1609) The tragedy of Coriolanus. Act3 Scene1.

SMARTCITIES4ALL (2015) SmartCities4all. https://smartcities4all.org/ retrieved by Oct 2025.

SMARTCITYEXPO & WW CONGRESS. (2018) http://www.smartcityexpo.com/en/home retrieved by March 2025

SPAANS, M., & WATERHOUT, B. (2017). Building up resilience in cities worldwide – Rotterdam as participant in the 100 Resilient Cities Programme. Cities, 61, 109-116. https://doi.org/10.1016/J.CITIES.2016.05.011

TERENCE (163 BC) (Latin: Publius Terentius Afer) Heauton Timorumenos (The Self-Tormentor) Act I, scene 1, line 25 (77).

THE ECONOMIST (2021). «Global Liveability Report 2021» https://www.eiu.com/n/campaigns/global-liveability-index-2021/ retrieved by September 2025

THOMPSON, C. (2015) "Why no one will own a car in 25 years". INSIDER. https://www.businessinsider.com/why-no-one-will-own-a-car-in-25-years-2015-6 Published June 2015, retrieved by March 2025.

TYBOUT, A. & CALDER, B. (2010) Kellogg on Marketing. WILEY. New Jersey p.8

UN (2015a), «Marco de Sendai para la Reducción del Riesgo de Desastres,» 2015. Available: https://www.unisdr.org/files/43291_spanishsendaiframeworkfordisasterri.pdf retrieved by March 2025

UN (2015b) Naciones Unidas, «Objetivo 11: Lograr que las ciudades sean más inclusivas, seguras, resilientes y sostenibles.,» Naciones Unidas, 2015. Available: https://www.un.org/sustainabledevelopment/es/cities/ retrieved by March 2025

UN (2015c) Naciones Unidas, «Acuerdo de París,» 2015. Available: https://unfccc.int/sites/default/files/spanish_paris_agreement . retrieved by March 2025.

UN (2016) Naciones Unidas, «Nueva Agenda Urbana,» 2016. Available: https://habitat3.org/wp-content/uploads/NUA-Spanish . retrieved by March 2025

UN (2019) United Nations - Department of Economic ad Social Affairs, «World Urbanization Prospects,» 2019. Available: https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf retrieved by March 2025.

UN-Habitat (2020). World Cities Report 2020: The Value of Sustainable Urbanization. UN. https://unhabitat.org/world-cities-report-2020-the-value-of-sustainable-urbanization retrieved by March 2025.

UNESCO CREATIVE CITIES. (2019). http://www.unesco.org/culture/culture-sector-knowledge-management-tools/09_Info%20Sheet_Creative%20Cities%20Network.pdf p.1, retrieved by Oct 2025

UTILITY DIVE (2025a). Trump freezes IRA funding. https://www.utilitydive.com/news/president-trump-inflation-reduction-act-executive-order-ev-mandate/738001/ retrieved by March 2025

UTILITY DIVE (2025b). Trump funding freeze leaves IIJA, IRA projects in limbo. https://www.utilitydive.com/news/trump-funding-freeze-iija-ira-projects/738628/ retrieved by March 2025

VAN DEN BERG, L.; VAN DE MEER, J.; OLIGAAR, A. (2006) The attractive city: Catalyst of Sustainable Urban Development Erasmus University, Rotterdam. San Sebastián : Eusko Ikaskuntza. p.489

WEFORUM (2022) For the public sector, cyber resilience has never been more important. WEFORUM. https://www.weforum.org/agenda/2022/07/how-do-you-safeguard-a-city-from-cyber-attacks/ retrieved by Aug 2025

WHITE HOUSE (2025). Unleashing American Energy. https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/ retrieved by Aug 2025

WRAY, S. (2022). Cities report a sharp increase in ransomware attacks. CitiesToday. https://cities-today.com/cities-report-a-sharp-increase-in-ransomware-attacks/ retrieved by October 2025

WRI (2022) Bündnis Entwicklung Hilft, «The WorldRiskReport,» 2022. Available: https://weltrisikobericht.de/en/ retrieved by Aug 2025

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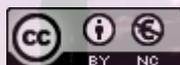All Research initiative materials at website www.attractivecities.com

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