Urban Mobility Readiness Index
EXECUTIVE SUMMARY
Just as the world was beginning to recover from the disruption of COVID-19, global cities encountered a new wave of challenges from high inflation and slowing growth to an energy crisis and increasing threat of climate change. As cities tackle these issues and look for ways to strengthen their economic and environmental resilience, they should make modern mobility systems a core part of their strategies. Efficient and equitable mobility networks are key engines of urban vitality and sustainability.

In this report, you’ll find the 2022 edition of the Urban Mobility Readiness Index, a ranking of 60 global cities on how prepared they are for mobility’s next chapter, created by the Oliver Wyman Forum and the University of California, Berkeley. This year’s edition introduces a Public Transit sub-index, a ranking of how well cities are managing their public transit systems and how many commuters use them. Public transit is by far the most eco-friendly way to enable large groups of people to move around and can help businesses attract the workers they need and keep city centers buzzing with activity.

This report also includes commentary and analysis on each city and region’s strengths and challenges. We hope that you come away from this report informed, inspired, and prepared to innovate mobility for a more sustainable and equitable future.

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The building blocks of urban mobility

In defining the new transport paradigm, four key trends were identified in the 2022 Urban Mobility Readiness Index where top cities are able to distinguish themselves.

Connectivity
The global pandemic has hindered the connectivity of established transportation hubs in Europe, Asia, and the Middle East. Uncertainties over the long-term impact remain as the market rebounds.

Public transit
Remote work and lockdowns have jeopardized the public transit agencies’ model. Solutions to bring commuters back have been experimented by cities with mixed results.

Electrification
Electric mobility is gearing up with different dynamics across regions (with no impact in investments due to COVID). European cities are leading the pack, followed by Asia, with US cities starting to embrace the transition.

Automation
Automated mobility continues its testing in developed cities but the industry is struggling to find a virtuous business model. As road casualties are on the rise in North America, new technologies should be explored.
The 2022 Index includes a selection of 60 global cities across five regions: Asia Pacific, Europe, Latin America, the Middle East and Africa, and North America.

The top performing cities are clustered in North America, Europe, and Asia Pacific.

Source: Oliver Wyman Forum and University of California, Berkeley analysis.
The Index captures what **business, consumers, and policymakers consider indispensable** for urban mobility.

**Urban Mobility Readiness Index**
Mobility readiness is holistically measured by 57 KPIs across social impact, infrastructure, innovation, system efficiency, and market attractiveness.

**Sustainable Mobility sub-index**
First launched in 2021, the Sustainable Mobility sub-index measures cities’ efforts to build greener and more sustainable mobility ecosystems.

**Public Transit sub-index**
The new sub-index for 2022 measures cities’ performance on public transit density, efficiency, and utilization rate.

Succeeding in these five dimensions is critical for a winning mobility ecosystem.

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<thead>
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<th>Social Impact</th>
<th>Infrastructure</th>
<th>Market Attractiveness</th>
<th>System Efficiency</th>
<th>Innovation</th>
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<tbody>
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<td>Social impact metrics are based on volatile variable measures that often prove controversial for municipal governments to regulate, such as commuting time, traffic fluidity, public transit utilization, commuter density, car ownership, vehicle occupancy, population density, road safety, air quality, and international airport volumes.</td>
<td>Infrastructure metrics focus on static measures that are likely to remain near constant over time or are at least difficult to change, such as the density of public transit stations, the walkability of a city, and the strength of a city’s multimodal networks.</td>
<td>Market attractiveness is based on market-driven metrics over which municipal governments can exert influence, such as the competitiveness and penetration of sharing-economy business models in mobility, multimodal app maturity and availability, fleet management, internet connectivity, and the scope of international airport connections.</td>
<td>System efficiency metrics focus on controllable factors that are influenced by market dynamics and the public sector, such as public transport operating hours, public transport affordability, public transport reliability, and traffic management.</td>
<td>Innovation is a technology-related metric linked to emerging technologies, such as connected autonomous vehicles, electrification, and advanced connectivity. It considers the city government’s investment and commitment to these technologies, and the city’s abilities to attract and keep high-tech labor and startups.</td>
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The 2022 Urban Mobility Readiness Index

The top cities score highly in a diverse set of metrics, underscoring the importance of a well-rounded playbook

1. San Francisco
2. Stockholm
3. Helsinki
4. Singapore
5. Zurich
6. Amsterdam
7. Munich
8. Berlin
9. Paris
10. London
11. New York
12. Chicago
13. Boston
14. Washington, D.C.
15. Tokyo
16. Hong Kong
17. Los Angeles
18. Oslo
19. Seoul
20. Madrid
21. Sydney
22. Vancouver
23. Atlanta
24. Barcelona
25. Toronto
26. Montreal
27. Houston
28. Dallas
29. Beijing
30. Dubai
31. Milan
32. Dublin
33. Shanghai
34. Moscow
35. Warsaw
36. Istanbul
37. Abu Dhabi
38. Doha
39. Santiago
40. Kuala Lumpur
41. Buenos Aires
42. Cape Town
43. Sao Paulo
44. Bangkok
45. Mexico City
46. Jakarta
47. Johannesburg
48. Rio de Janeiro
49. Riyadh
50. Delhi
51. Jeddah
52. Mumbai
53. Bogota
54. Casablanca
55. Cairo
56. Lima
57. Quito
58. Manila
59. Nairobi
60. Lagos

Source: Oliver Wyman Forum and University of California, Berkeley analysis
Mobility matters for the future of cities

Sustainable and efficient mobility is vital for economies as they face new disruptors
Cities, just recovering from the disruptions of COVID-19, cannot let new economic challenges and worsening extreme weather stall efforts to modernize their mobility systems. They need efficient and equitable mobility networks to ensure resilience and drive economic vitality.

Many cities already have implemented these strategies, including affordable and extensive transit systems and more shared options such as e-bikes and scooters, according to the 2022 edition of the Urban Mobility Readiness (UMR) Index – a forward-leaning ranking of how well-positioned global cities are to lead mobility’s next chapter.

Conducted by the Oliver Wyman Forum in partnership with the University of California, Berkeley, this year’s edition introduces a new Public Transit sub-index that measures how well cities are maintaining mass transit networks and how many commuters use it. And while efficient public transit is a key ingredient for many cities, there are other elements that can elevate a city’s mobility.

Thanks to its proximity to Silicon Valley firms and a rich ecosystem for mobility-as-a-service and autonomous tech, San Francisco claims this year’s overall top ranking. The Golden Gate city also offers robust incentives for consumers to buy electric vehicles (EVs) and has invested in a strong charging infrastructure. And while San Francisco’s public transit usage isn’t as high as it could be thanks to a car-centric infrastructure, the city introduced “slow” streets during lockdown measures to accommodate more micromobility modes like cycling and walking.

Public Transit Is Key for Urban Vitality

Hong Kong tops our inaugural Public Transit sub-index. Its affordable transport network has high station density and a strong rail network for the city’s large population. It’s a popular mode of transit among commuters, despite the fact that it isn’t available 24/7, like in some cities. But Hong Kong has room for improvement. It lags in autonomous transit and lacks smartphone apps to seamlessly navigate its multimodal network.

Public transit is the most efficient and sustainable way for cities to transport large groups of people compared to private means of transit, and an efficiently run system can not only encourage workers and tourists to travel through cities but can provide more equal opportunity access to additional mobility modes, jobs, shopping centers, and more.

With many public transit systems struggling to recoup riders and revenue in this new work-from-home era, it’s an immense piece of the puzzle for cities to solve to recover efficiently. The potential domino effect of a desolate public transit system is staggering: economic fallout from poor revenue and lost jobs to operate it, increased congestion associated with more private travel, likely more road fatalities, and worse noise, light, and air pollution.

Making public transit convenient and affordable is vital for cities looking to regain ridership. More than half of commuters in Canada, the United States, and the United Kingdom said that affordability was the
most important factor when choosing a mode of transportation, according to an Oliver Wyman Forum consumer sentiment survey completed in October 2022. Accessibility and safety tied as the second most-important factor.

Convenient and affordable is a hallmark of Helsinki’s public transit system. It’s multimodal, offering travel by bus, tram, metro, train, and ferry. A journey planner app, created by a startup in Helsinki, integrates and connects each of these different transport modes. A single ticket costs just over $3 and can be used on any travel mode.

Tokyo, ranking seventh in our Public Transit sub-index, plans to enhance its network with more buses that connect the city center with the waterfront area via Bus Rapid Transit, tests of demand-responsive transport programs, and more convenient transport hubs.

The 2022 Public Transit sub-index

Source: Oliver Wyman Forum and University of California, Berkeley analysis
Europe Continues to Lead in Sustainable Mobility

An increasing number of governments, cities, and mobility firms are committing to net-zero mobility, and that holds significant implications for urban residents and commuters. The second edition of our Sustainable Mobility sub-index measures how well cities are making that pivot to greener mobility.

Europe, particularly cities in Scandinavia, claims eight of the top 10 spots in that sub-index. They offer a comprehensive package of electrification, access to public transit, and strongly encourage more physical forms of mobility like walking and cycling.

Oslo, often called the EV capital of the world, leads that sub-index for the second year in a row – and is not likely to give up that ranking any time soon, given the lead it has secured. The city has a dense network of charging

The 2022 Sustainable Mobility sub-index

Source: Oliver Wyman Forum and University of California, Berkeley analysis
stations and provides a comprehensive package of incentives for EV owners, like cheaper toll fares and priority access to certain roads. Oslo is home to so many EV drivers that the city government has even begun dropping some incentives, like free parking, because those incentives are no longer necessary.

Outside of Oslo’s sparkling EV reputation lies two other important factors that contribute to its sustainable mobility success: socially impactful policies, like car-free zones that in turn help reduce light pollution and congestion, and a strong, affordable public transit system.

Preparing for the Next Disruptors

Cities that tackle future mobility challenges, particularly as it relates to public transit, will be better prepared for future disruptions with resilient and sustainable economies. By some estimates, every $1 billion invested in public transport could create 50,000 jobs and every $1 invested may bring $5 in returns.

But inflation, social unrest, climate change, and other disruptions all pose a risk that urban mobility will fall off the priority list for governments. An increased commitment from the private sector is crucial to supplement the cost of new solutions and equitably raise the quality of life among all communities. Some companies in New York, for example, are subsidizing the cost of e-bikes for low-income communities. Efforts to expand EV charging infrastructure are typically carried out by automakers and other private firms, although public-private partnerships can accelerate their development. Zurich worked with a manufacturing firm, for example, to commission 45 electric bus charging stations that are scheduled to be installed this year.

The cities that struggled this year failed to take advantage of the pandemic’s disruption, or even let the pandemic cause further regressions, like public transit service cuts and poorer road safety. Singapore, while still a top-five city, dropped one spot since last year’s index because it struggled to strike a balance between COVID safety and connectivity. International flights and connections fell as tight controls were put in place to curb the virus’ spread, and riders reported increased wait times for public transit. Activity of top mobility companies in Singapore dipped, perhaps reflecting the private sector’s uncertainty in the face of the city-state’s level of caution.

54% The percentage of consumers in the US, UK, and Canada who said affordability was the most important factor in choosing a mobility mode. The emphasis on affordability can’t be overstated if economies are serious about using mobility to revitalize their economies.
And for cities ranking outside of the top echelon of the index, there’s still reason for optimism as many look to capitalize the industry’s pivot to sustainable, interconnected networks: Dublin and Johannesburg have invested in their micromobility networks; Mumbai has seen a drop in traffic fatalities thanks to a road safety strategy; Dubai plans to make its public transit system emissions-free by 2050 and announced an agreement with Singapore to bolster its public transport and road infrastructure; and Mexico City continues to be a pioneer in offering non-monetary EV incentives, like tax exemptions from “no-car days.”

Every city stands at a crossroads as the world faces an array of disruptions from inflation to climate change. And while cities like San Francisco and Oslo were predisposed to adapt more easily than others, thanks to existing tech capabilities and continued investment in sustainable mobility, the emphasis has now started to shift somewhat to bolstering public transit. That spirit of preparedness needs to be applied to every city as we enter a new chapter.
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