



# MAKASSAR

**How Makassar is utilizing digital tools and citizen input to create a more livable, technologically advanced city**



## PROJECT SNAPSHOT

PROJECT NAME	Makassar Livable City Plan (MLCP) / Toolbox
COUNTRY	Indonesia
SECTOR	Urban development
MAIN GOVERNMENT BODY SUPPORTED	City Government of Makassar
SMART SOLUTION	Data-driven planning framework integrating digital dashboards, citizen engagement and project prioritization tools, and climate-risk visualization platforms
PROJECT PERIOD	August 2020 – June 2022
ADB PROJECT OFFICER	Deeny Uli Rosa Simanjuntak, Principal Project Officer
MAIN PROJECT OBJECTIVE	To identify and develop a smart and livable city plan that serves as a strategic framework for piloting smart solutions in the city, towards achieving the same “smart and livable city” vision of Makassar.

Makassar sits on the southwestern edge of Sulawesi, a coastal gateway where trade routes, cultural heritage, and urban life converge. As the economic hub of Eastern Indonesia, the city's ports serve as a vital link for national trade, and its diverse communities drive rapid economic and social development. However, this fast-paced growth presents both visible and invisible strains. As the city rapidly expands, it creates new pressures on housing, waste disposal, transportation, and essential public services that require immediate attention.

These challenges are amplified by Makassar's exposure to climate risks, including sea-level rise, flooding, and rising temperatures, threatening infrastructure and basic services. With the population expected to approach 2 million by 2040, unmanaged urban expansion could intensify congestion, strain public services, and reduce the amount of green and open space available to residents.



## THE CHALLENGE

# Harnessing Rapid Growth with Smarter Planning

Like many rapidly developing Asian cities, Makassar is growing quickly. Its role as an economic hub for Eastern Indonesia continues to draw people, investment, and new opportunities across the city. This pace of growth brings fresh opportunities, but also adds complexity. As activities expand, information sits across different systems, and decisions must balance diverse needs—from mobility to land use, environment, housing, and public services. In such a dynamic city, it becomes difficult to see the full picture at once or to time investments so that they reinforce one another across agencies and districts.

The city has already laid strong foundations. City departments are actively working hard within their respective mandates, backed by existing spatial plans, smart city initiatives, and sector programs. The next step was finding a way to bring them together, so that plans could be considered side-by-side, enabling city government departments to coordinate more easily and respond to change with shared, reliable information.

Doing this required a unified lens for understanding Makassar's growth. By aligning existing spatial plans and sector priorities under one approach focused on livability and smart development, Makassar aimed to strengthen coordination and ensure that planning decisions support each other rather than be taken in isolation. City leaders have consistently emphasized that plans and programs should not remain only on paper—they must translate into tangible improvements in people's daily lives. As Mayor Munafri Arifuddin reflected, *"In all activities carried out by the city government, we hope that what we are doing is not in vain... This must be measured."*

Makassar is committed to guiding its growth responsibly—balancing livability with expansion, while embracing smart technologies that make urban life safer and more sustainable. To fully realize this ambition, the city needed a shared method and a trusted evidence base that could help departments read the same signals, understand how different sectors connect, and harmonize decisions across city departments.

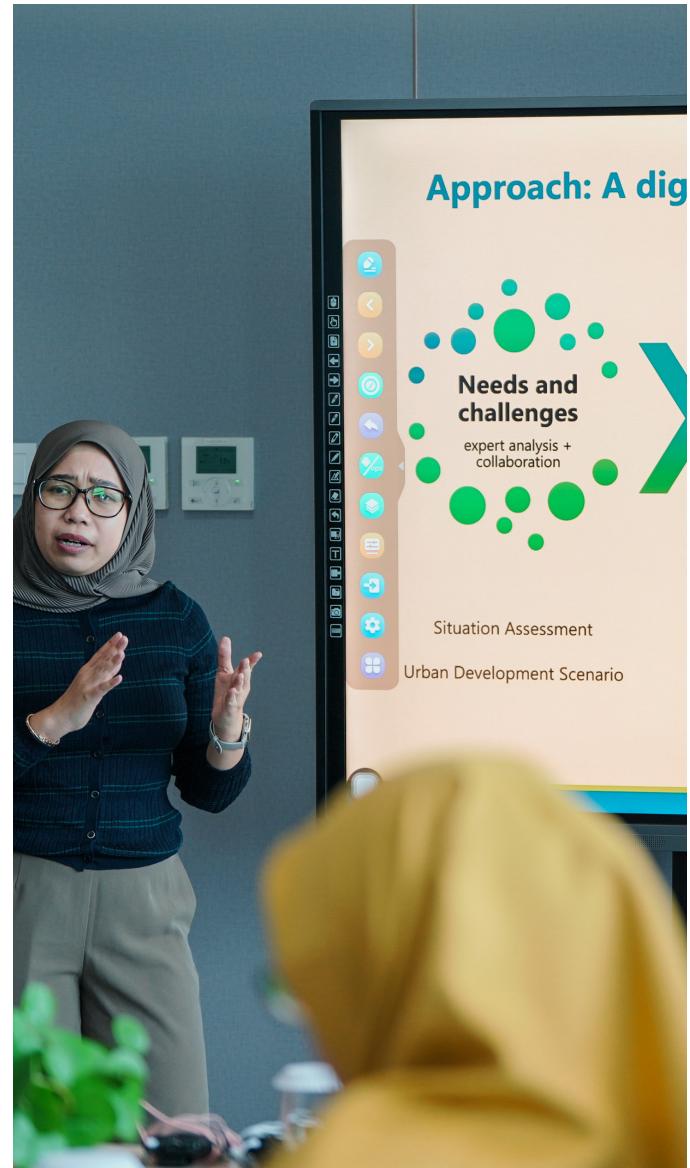


## THE SOLUTION

# A Data-Driven Livable City Plan

The Makassar Livable City Plan (MLCP)—developed with support from the ASEAN Australia Smart Cities Trust Fund (AASCTF)—funded by the Government of Australia, managed by the Asian Development Bank (ADB), and implemented by Ramboll—was created to bring structure and coherence to the city's challenges. It aimed to help the city leverage data, digital tools, and citizen participation to guide investments and improve the quality of residents' everyday lives.

The MLCP consolidates existing spatial and smart city initiatives into a single planning framework that aligns investments with the city's long-term vision. It introduces a "plan-with-data" approach that replaces fragmented decision-making with consistent, evidence-based analysis. This method combines technical assessment with community perspectives, allowing planners and residents to work toward a shared direction for the next 20 years.



### The MLCP has three main components:

#### 1 Urban Situation Assessment

A multi-sectoral diagnosis that mapped the city's pressing challenges across housing, mobility, environment, economic activity, and basic services.

#### 2 Urban Development Scenario

A spatial analysis that assessed how different growth patterns could impact livability, infrastructure demand, and environmental risk over a 20-year period.

#### 3 Livable City Plan

A digital planning framework that consolidates findings, identifies investment needs, helps prioritize interventions, and sets measurable targets for livability.

Together, these components help the city anticipate growth, understand risks, and design data-driven interventions. The MLCP enables city leaders to visualize the implications of policy choices, simulate development outcomes, and coordinate across agencies—something that was previously difficult to achieve.

The MLCP also aligns with ADB's Livable Settlements Investment Project, linking infrastructure investments to data on poverty, housing quality, and urban services. Together, they provide Makassar with a comprehensive understanding of how physical and social systems interact.

# Digital Tools for Smarter Decisions

The MLCP's strength comes from its suite of interactive digital tools, which transform diverse data sets into practical insights, making data easier for city planners and decision-makers to use.



## Online Livable City Portal

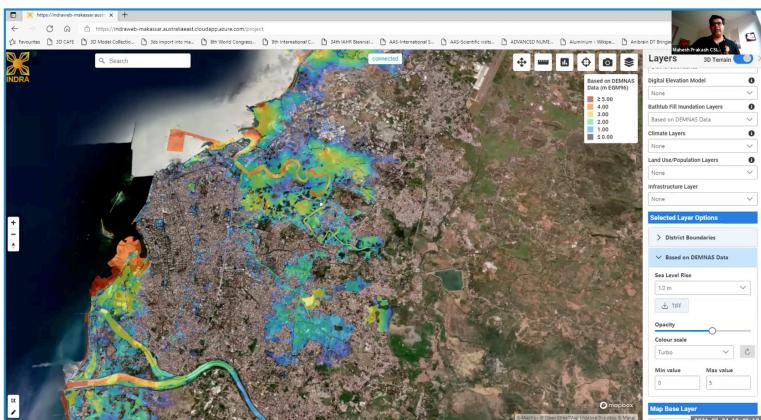
A shared knowledge hub that consolidates maps, assessments, and spatial datasets from the MLCP's 13 technical volumes spanning urban development and water supply to climate change. It allows planners to access consistent information, compare indicators, and share updates across departments, supporting coordinated, multi-sector planning.

## Citizen Engagement Dashboard

A visualization dashboard built from feedback from the city's smart city survey. It disaggregates feedback by gender, age, and income, enabling the city to identify priority issues for different groups and design more targeted and inclusive interventions.

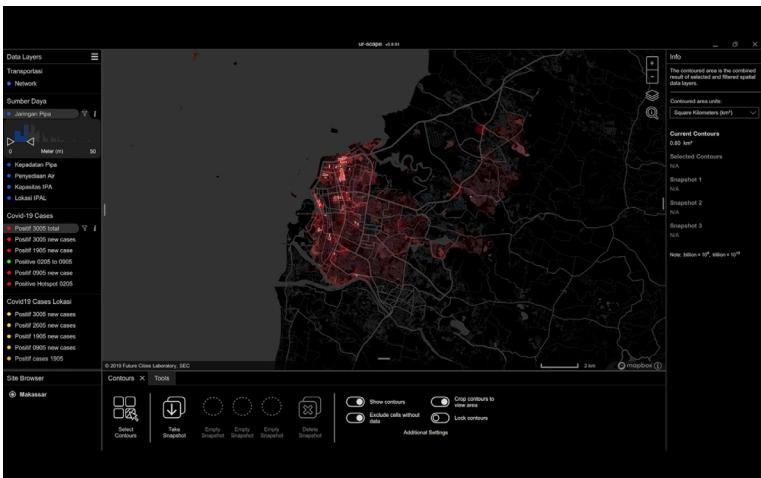
## Intervention Prioritization Tool

A decision-support tool that helps planners and decision-makers assess potential interventions based on cost, complexity, timeframe, private investment attractiveness, and expected sector benefits. It generates ranked investment options to support transparent, evidence-based budgeting and strengthen alignment across city agencies.



## INDRA Climate Resilience Platform

A digital climate modelling tool prototyped by Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO), which visualizes climate and spatial data to assess flooding and temperature risks, helping the city integrate climate adaptation measures into long-term land-use planning and resilient infrastructure design.



## Ur-scape by the Future Cities Laboratory (FCL)

A spatial analysis platform for integrating thematic, environmental, land-use, and socio-economic data. Ur-scape supports planners in understanding how urban patterns, density, infrastructure, and vulnerability interact—building on FCL's earlier work mapping COVID-19 hotspots and mobility risks in Makassar.



## City Resource and Finance Tool (CRAFT)

An AASCTF-funded municipal finance tool piloted in Makassar, CRAFT provides a structured template for analyzing a city's revenue, obligations, liabilities, and financial capacity. It helps officials understand the affordability of proposed investments and assess medium-term resource mobilization options, offering a financial lens that complements the MLCP's spatial and sectoral analyses.

Together, these tools form a digital ecosystem that links people, data, and policies. They enable city leaders and planners to test 'what-if' scenarios, visualize outcomes, and make decisions grounded in evidence rather than intuition.

# Citizen Voices at the Center

Stakeholder engagement was essential in the development of the MLCP's suite of tools. Aside from undertaking an in-depth analysis of the city's needs and potential interventions, the project conducted a citizen survey to understand people's perceptions of service quality and access. Responses from 2,104 residents across five districts have been captured as part of the digital stakeholder engagement dashboard that can help shape how Makassar is further developed.

To reach diverse groups, the survey used multiple modalities, including street-based surveys, phone calls, SMS, and digital outreach, to ensure participation from communities with varying levels of connectivity and mobility. Through these channels, residents shared the issues that mattered most to them, such as safer streets, improved fire and rescue services, and stronger flood early warning systems.

This participatory approach helped shift perceptions of city planning—from something done to communities to something shaped with them. It also strengthened trust between residents and the city government, allowing people to see their concerns reflected in emerging priorities and proposed interventions.

By combining structured engagement tools with a focus on measurable community benefits, the MLCP reinforces the city's commitment to people-centered planning. It helps ensure that planning decisions reflect the real needs of Makassar's diverse neighborhoods and that residents' voices remain a core part of the city's urban development journey.



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*“This kind of survey has actually never been done here before, so I think that's very good. For the Makassar government, I hope the city can become better for the common folk.”*

**Arifuddin Rahman**, Resident,  
Makassar City

# Early Results and Tangible Benefits

The MLCP helped the city's various agencies understand common challenges and coordinate action. Departments that once operated separately have indicated a clearer understanding of how their challenges intersect. Shared datasets help agencies see connections between issues that previously appeared isolated. Waste specialists now understand how household habits affect landfill capacity. Planners can see how development patterns influence drainage performance. Mobility and public service teams coordinate infrastructure decisions using the same spatial insights.

This shared perspective has changed how agencies approach problem-solving.



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***“MLCP should help us choose priority programs together with other departments, so we can have a shared understanding of what to implement first.”***

***Ferdi Mochtar, Secretary, Makassar City Environmental Service Agency (DLH)***

Key benefits emerging from the MLCP include:

- **Smarter investment decisions:** Projects can be selected based on quantifiable benefits rather than intuition.
- **Increased transparency:** Digital dashboards enable officials, partners, and citizens to see where funds are allocated and understand the reasons behind them.
- **Improved inclusion:** Gender-disaggregated data ensures that women, youth, and low-income groups are represented in planning outcomes, promoting equitable representation.
- **Enhanced climate resilience:** INDRA data informs flood-risk mapping and guides new development away from vulnerable zones.
- **Institutional learning:** Local staff have gained skills in data management, analytics, and participatory planning.

The result is a more coherent, integrated planning environment where decisions reinforce, and not contradict, each other.

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***“Before MLCP, every sector worked alone. With this system, we understand each other's problems and can find solutions from the same perspective.”***

***Ismawaty Nur, Secretary, Makassar City Communication and Informatics Office (DISKOMINFO)***



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# Why It Matters

## Makassar

## Livable City Plan

The MLCP gives Makassar a clearer, more coordinated way to plan for rapid growth

- Creates a shared foundation for decision-making. Agencies work from the same evidence base—strengthening alignment across departments.
- Brings data into daily planning practice. Spatial insights, citizen feedback, and digital tools support more targeted and realistic interventions.
- Improves coordination across sectors. A structured method helps transport, housing, environment, and public services plan together rather than in isolation.
- Makes progress measurable. Common indicators and dashboards help the city track whether programs reach the communities they aim to serve.
- Supports climate-responsive development. Risk mapping and scenario tools help the city understand where exposure is growing and how to plan around it.
- Strengthens long-term, inclusive urban development. The MLCP provides a framework the city can update, expand, and embed into policies and workflows as priorities evolve.



## Sustaining the Gains

The MLCP was originally developed under the previous administration, and the incoming mayor brings a fresh vision and new ambitions. Because the MLCP was built on earlier priorities and the previous Regional Planning and Growth Monitoring Documents (RPGMD), sustaining its value requires deliberate alignment with the city's updated direction.

This process began with a citywide sustainment workshop held to review how the original set of 64 proposed interventions (in 11 intervention categories) could evolve under the new vision. Agencies gathered to examine what still fit, what required refinement, and what needed to be added. The discussions started cautiously, but once participants grew more comfortable, the room became energetic and engaged. Staff began offering suggestions, raising questions, debating priorities, and actively shaping the updated MLCP framework through live polling and open dialogue. Their enthusiasm made it clear that agencies want the MLCP to reflect what Makassar is striving for today, and that they see themselves as key stewards of this next phase.

The conversations revealed that some interventions remain relevant, while others require expansion. With the new administration's seven priority programs and a detailed RPJMD spanning hundreds of pages, agencies recognized the need to refine and, in some cases, increase the number of MLCP interventions to fully reflect the city's direction. These discussions were also essential for understanding how each department plans to use the MLCP in its own policy development. Because the MLCP is grounded in comprehensive assessments, projections, and a structured planning approach, officials noted that embedding it into departmental policies would significantly strengthen decision-making.

Alongside the sustainment workshop, AASCTF has supported Makassar in preparing a Sustainment Plan to ensure that MLCP tools and processes continue long after the project period.

### The plan is built on two pillars:

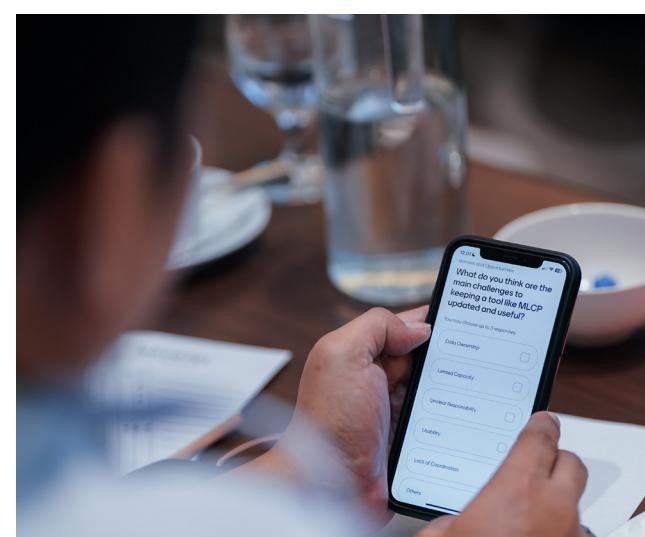


The first is **technical sustainability**, which focuses on routinely updating datasets, maintaining the dashboards, ensuring the continued operation of online tools through local IT teams, and expanding the MLCP framework to additional districts as the city grows.



The second is **institutional sustainability**, which includes integrating MLCP workflows into the RPJMD, aligning them with Indonesia's National Smart City Framework, and establishing a permanent Smart City Unit within the city government to oversee ongoing implementation.

Inclusivity remains a core part of these efforts. The Sustainment Plan emphasizes the importance of gender equality, disability, and social inclusion (GEDSI), ensuring that citizen data is used to understand who benefits from improvements and where gaps remain. This helps the city evaluate whether urban upgrades truly reach women, persons with disabilities, and underserved neighborhoods.



Makassar has expressed a clear commitment to embed the MLCP into its long-term planning processes. This includes refining indicators, updating spatial layers on a regular basis, strengthening analytical capacity across agencies, and formalizing MLCP procedures in city planning documents and standard operating procedures.

Mayor Arifuddin sees the MLCP as a key instrument for achieving the city's new vision, noting that it *"will certainly provide excellent support for the fulfillment of the vision pursued by the government today."*

By combining strong institutional commitment, growing technical expertise, and an open environment for cross-department alignment, the city is positioning the MLCP as a living tool—adaptable, regularly updated, and deeply grounded in the priorities of Makassar's communities. Through continued capability-building and data stewardship, Makassar can sustain the MLCP well beyond AASCTF project funding, ensuring it remains a central guide for development in the years to come.





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*"MLCP is one of the tools that will certainly provide excellent support for the fulfillment of the vision pursued by the government today. The MLCP will show us how to measure the various activities, programs, and initiatives implemented by the government, so that we can deliver them to the community in a tangible, direct, and well-measured manner."*

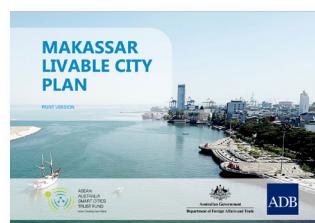
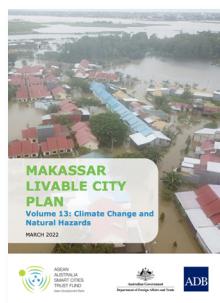
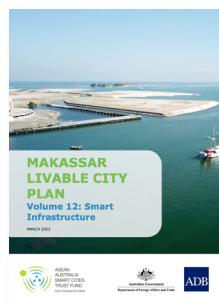
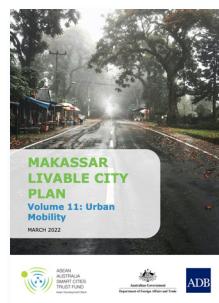
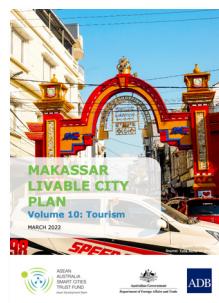
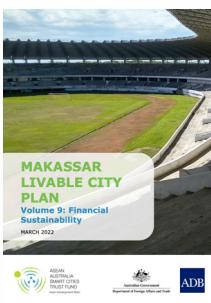
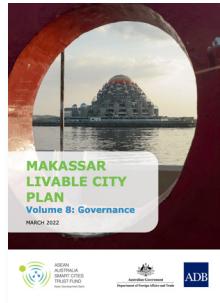
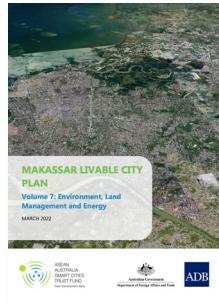
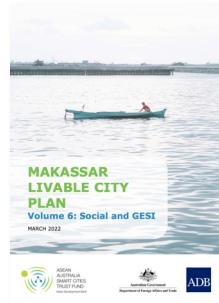
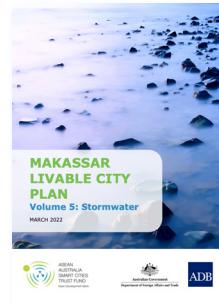
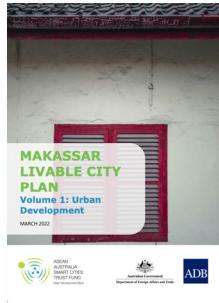
**Munafri Arifuddin,**  
Mayor, Makassar City

## A Ripple in Time: Past, Present, and Future

The development of the MLCP offers lessons for cities across ASEAN navigating rapid growth, fragmented systems, and shifting leadership priorities. Its approach provides a practical model of future-focused, resilient planning, showing how cities can refresh their strategies while maintaining alignment with long-term development goals. By combining technology, transparency, and citizen engagement, the MLCP offers a replicable model for other ASEAN cities seeking to bridge the gap between planning and implementation, and between people and policy.



## LEARN MORE



For more information on this project, check the Makassar resources in the AASCTF Data Room:



## ABOUT THE ASEAN AUSTRALIA SMART CITIES TRUST FUND

The ASEAN Australia Smart Cities Trust Fund (AASCTF) assists ASEAN cities in enhancing their planning systems, service delivery, and financial management by developing and testing appropriate digital urban solutions and systems. By working with cities, AASCTF facilitates their transformation to become more livable, resilient, and inclusive, while in the process identifying scalable best and next practices to be replicated across cities in Asia and the Pacific. AASCTF is supported by the Australian Government through the Department of Foreign Affairs and Trade, managed by the Asian Development Bank, and implemented by Ramboll.



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