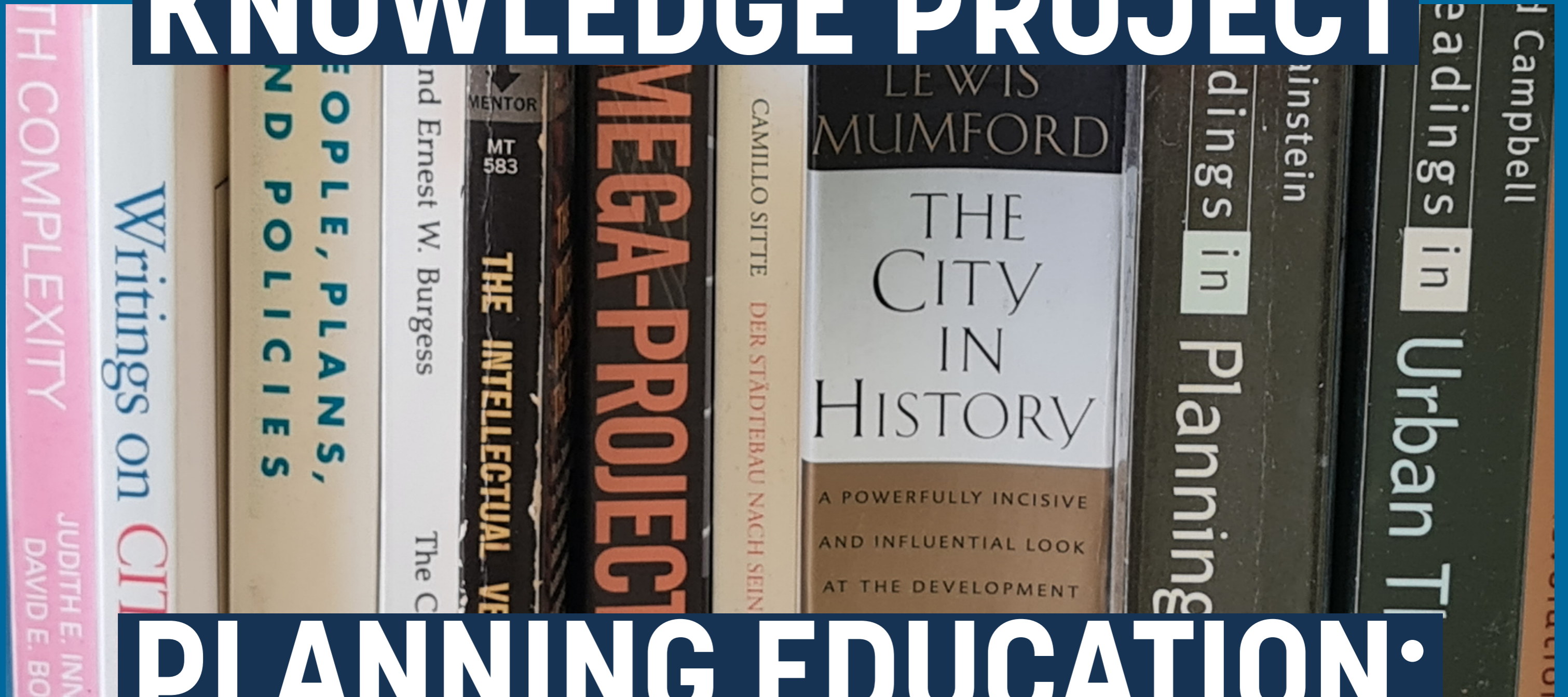


KNOWLEDGE PROJECT



PLANNING EDUCATION: ITS EVOLUTION AND RELEVANCE

About the Project

The Knowledge Project is envisioned to be a platform that experiments with different ways of curating and producing knowledge about contemporary issues in urban planning practice and education. It aims to create valuable planning knowledge resources for SIP members at all stages of professional life.

About the Team



FELICITY HWEE-HWA CHAN

FELICITY HH CHAN, is an educator and researcher at the Lee Kuan Yew Centre for Innovative Cities (SUTD). Her current research interests include: belonging, socio-spatial interaction, intercultural planning, and public space design. She enjoys experiencing cities by walking and loves waterfronts.

Her planning education trajectory: BA (Hons) in Geography and Southeast Asian Studies from National University of Singapore, Master in Urban Planning from Harvard Graduate School of Design, PhD in Policy, Planning and Development from University of Southern California.

CRISTINA MARIA NEARING

CRISTINA MARIA NEARING does research on urban innovation and placekeeping at the Lee Kuan Yew Centre for Innovative Cities. She likes to drink coffee, hang out at Lucky Plaza on Sundays and run around East Coast Park.

Cristina holds a BA (Hons) in Environmental Geography from the University of Toronto and a Master of Urban Science, Policy and Planning from the Singapore University of Technology and Design.

ASHLEY ELIZABETH KWAN

ASHLEY ELIZABETH KWAN is an urban planner at DP Architects and a lover of everyday heritage. She is an advocate for the celebration of the unique, repetitive and mundane ways in which living creates meaning in spatial and special ways.

She likes to experience the city by taking walks and discovering well-designed spaces. In her ideal city, she envisions a perfect blend of urban and nature, with vibrant, green streets, and an abundance of feline friends!

She holds a BA (Hons) in Architecture from the National University of Singapore and a Master in Urban Planning

WANG YI WEN

WANG YI WEN does project management and policy work in the transport and built environment sector.

She enjoys basking in the greenery sprinkled across the city from afar and finds delight in observing tranquil sceneries.

Yi Wen holds a BSc (Hons) in Real Estate and Master of Urban Planning from National University of Singapore.

WANG JIAXUAN

WANG JIAXUAN is a Master of Urban Planning graduate (NUS) and a researcher at Lee Kuan Yew Centre for Innovative Cities (SUTD).

She loves walking on the streets and going on a hike in nature, feeling the ambience of different parts of cities. She enjoys doing research about urban data, and currently she is hoping to pursue a PhD career.

Her planning education trajectory: BSc (Hons) in Real Estate from National University of Singapore, Master of Urban Planning from National University of Singapore.

ANGELA TEO

ANGELA TEO is an urban planner at the Housing and Development Board in Singapore. She delights in exploring the everyday spaces in cities and observing the different ways of life within them.

She holds a BSocSci (Hons) in Sociology from the Nanyang Technological University and a Master of Urban Science, Policy and Planning from the Singapore University of Technology and Design.

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Whither is Planning Education in Singapore headed?

Whither is Planning Education in Singapore headed?

Urban planning is an integral part of Singapore's identity and existence. However, less is known about the education of urban planners in Singapore – how it has evolved, how it has influenced practice over the years, and what are the challenges facing planning education presently and into the future. Why is this attempt to map the terrain of planning education worth researching and your time reading?

The well-trodden path to planning practice today is via a university degree in urban planning or close cousin disciplines of architecture, urban design, civil engineering, landscape architecture, real estate development and finance, geospatial analytics, geography, sociology, urban studies, economics, environmental psychology, environmental engineering, and more. In many countries, the only way to be professionally recognized as an urban planner is to graduate from an accredited program in planning coupled with several years of practice and passing a certification examination. Thus, planning practice is tightly intertwined with formal planning education and planning-related education in ways that influence the sticky existential question of our profession: "What is planning?" and "What qualifies an urban planner?"

More critically, in my interaction with young planners and aspiring planners-to-be, I hear time and again how they experience a professional crisis when they discover their university education in urban planning is inadequate to equip them with the skills necessary to land their first job. And for those who did get through the door, many find themselves disillusioned and not fulfilled: "Where do we apply that creative and visionary thinking to make cities better when most of our workday is coordinating meetings and writing meeting notes? Is there an education-job mismatch?" It begs the questions: Is the one to two-year master-level planning education inadequate to make practice-ready planners? Or more fundamentally, urban planning as a practice defies clear professional scope?

Ever so often when I meet foreign planners and educators who are somewhat familiar with Singapore, they would ask me: "Why is urban planning education in Singapore not more well-developed?" They expressed their puzzlement as they'd expected a well-planned city like Singapore to offer more and bigger urban planning programmes in the universities.

This volume's first contribution **Historical Snapshots of Planning Education in Singapore** shows us through archival research from multiple Saturday afternoons spent in the National Library Archives by Angela Teo and Cristina Nearing, that the history of urban planning in Singapore has been fraught with repeated birthing pains. History, if we would accept it as is, is a partial narrative with many gaps and silences. We hope this article will spin off a crowd-sourcing initiative to meaningfully fill the knowledge gaps of the evolution of planning education in Singapore.

The second contribution **Mapping the Contours of Planning Education in Singapore 2024** is an infographic report of findings from our survey research of how planners think about the relevance of their planning

education vis-a-vis their practice in 2024. The online survey ran for one month between January and February 2024, and we recruited a total of 51 participants via Singapore Institute of Planners website, social media, and other personal networks. It is our intention that this nascent project plants a seed of knowledge that could kickstart the collection of longitudinal insights about education-job dilemmas in time to come, which will be helpful to students, practitioners, and educators.

The process of putting this volume together is poignant. It challenged us to ask with practical purpose the existential questions about planning. This volume is also personally meaningful to me as a fellow urban planning sojourner whose journey is marked with several twists and turns.

We hope you find this volume engaging, productive, and inspiring for your work!

Felicity Chan, MUP, Ph.D
Knowledge Project Chair 2022 - 2024
Singapore Institute of Planners

Historical Snapshots of Planning Education in Singapore

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Cristina Nearing

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Wang Yi Wen
Felicity Chan

Historical Snapshots of Planning Education in Singapore

1. Introduction

Singapore is dubbed as one of the “most meticulously planned cities in the world”, and even hailed as a “planner’s dream”.¹ But what do we actually know about how planning education in modern Singapore has evolved since Singapore attained self-government in 1959 from British colonial rule? What do we know about their experiences of planning education?

2. Early Stages of Town Planning in Singapore, 1959-1969

With a strong imperative to ensure that robust urban foundations were properly laid, Singapore sought the expertise of the United Nations (UN) for technical assistance in urban planning. The UN played a pivotal role by providing comprehensive support in multiple phases. This collaboration aimed to chart out both long-term and short-term urban redevelopment programs and strategies for Singapore. A key component of this assistance included a two-month study to uncover the problems of the city and to propose legislative and executive measures. The study was led by three international urban planning experts from the UN: Otto Koenigsberger, Charles Abrams and Susumu Kobe.²

The first generation of planners in post-colonial Singapore comprised largely of expatriate planners. These expatriates played a foundational role in forming the Singapore branch of the Royal Town Planning Institute (RTPI) United Kingdom. The RTPI set the qualification standards of planners in Singapore. For the first 15 years, membership in RTPI Singapore was limited to twenty planners who were graduates from recognised planning schools in the Commonwealth and the United States, resulting in many pursuing their planning education in the UK, Australia, and the US. The Singapore Institute of Planners (SIP) was only formed in 1971, partly to secure a wider representation of town planners to address the need to adopt a more realistic approach in setting the qualification standards for town planners.

Lim Siah Chuan, an SIP member who attended a graduate planning course at Oxford Polytechnic, shared in an SIP newsletter about the difficulties he faced taking the RTPI examinations in the UK. In the newsletter, Lim shared that there was a lack of resources and guidance for the local students from Singapore. The examination syllabus also was centred on the British socio-economic, political and physical landscape conditions that differed significantly from Singapore’s. This made it difficult for Singaporean students to pass the RTPI exams.³

Consequently during the 1960s, the newly-established Planning Department in Singapore faced a crisis as it was heavily short-handed and had insufficient resources to develop a new planning framework. The situation worsened as many of the expatriate planners in the Singapore Improvement Trust (SIT) left upon Singapore’s self-governance in 1959. This exodus left the Planning Department in Singapore with only three local planners⁴. Throughout the civil service, the departure of expatriate officers created a challenge in finding “suitably qualified” and “experienced local officers” to fill their roles. This situation underscored the need for a manpower planning body responsible for developing tertiary education, both domestically and internationally, with the goal of training a new pool of civil servants.⁵

3. The Inception of an Urban Planning Programme in Singapore, 1970-76

The first urban planning postgraduate program in Singapore, Master of Arts in Urban Planning (MAUP), was established in 1970 at the University of Singapore (now known as National University of Singapore). This two-year postgraduate course was first of its kind in Southeast Asia and designed to support the urban renewal initiatives (see Figure 1). The MAUP also served as “a much-needed bridge between professional urban planners and implementation of the plans”.⁶ At that time, there was no urban planning training available in Southeast Asia, and the program aimed to address urban planning challenges specific to developing countries and their local contexts. British Professor and town planning specialist Jaqueline Tyrwhitt provided guidance for setting up the syllabus. The curriculum has four different specialisations: Urban Policies and Reform, Analytical and Predictive Methods, Urbanisation and Rural Development, and Resettlement Patterns (refer to Figure A.2. in Appendices). Supplementing the MAUP programme at NUS, members at SIP offered an ‘Urban Planning Course’ in the Geography Department of Nanyang University in 1973.⁷

Tan Cheng Siong, who completed the MAUP programme in 1973, shared that he found the then-local urban planning course content too abstract and impractical, and was disappointed by the lack of good instructors⁸. The MAUP programme was terminated in 1976 due to a lack of teaching staff and enrollment (see Figure 2)⁹. Between 1970 and 1976, only 15 graduates completed the programme as some students working full time eventually dropped out of the programme.

For the next 36 years until 2012, Singapore had no university planning programme.



Figure 1. Part-time Master of Arts (Urban Planning) programme at the University of Singapore in the 1970s (Source: NUS Department of Architecture¹⁰)

A Firstly we had the problem of staff shortage, fully qualified staff that is, and secondly the student applications received; we were not too satisfied with the quality of students applying for the course. Their backgrounds were also too diverse.

Initially the intention was only to suspend the course but we find that we are unable to re-introduce it basically because of the uncertainty over the supply of students. In the past there were two main groups of students. Firstly, private students with backgrounds in either architecture, engineering, estate management, building, etc. The number in this group is uncertain and it is often a problem with part-time students that they are not able to pursue the course to its completion because of work commitments. The second group of students are those sponsored by Government or statutory boards. Even with this group, there is no certainty that there would be a constant supply of students into the course. We are therefore unable to re-start the course as there is a fear that although started, we may not be able to continue.



Figure 2. Planews excerpt showing search for staff

4. The 36 Years Absence, 1976-2012

The absence of formal planning education in Singapore presented manpower challenges. Debates about the adequacy of skills, training and credentials of planners were continual as urban renewal in Singapore proceeded apace. Not all planners in the government possessed technical engineering and architectural backgrounds and there was the question of whether this would lead to negative consequences for the urban development of Singapore. With only 50 planners for a population of 2 million in, there was a concern that if Singapore was to have a strong future, there was a need to build up and expand the capabilities of planners.¹¹

During the 36 years, Singapore relied on international planning education to train its urban planners through the provision of scholarships.¹² From 1979 to 1983, 90 percent of scholar recipients went to the UK for higher education to institutions such as Cambridge and Oxford.¹³ As incomes increased, more families could afford to send their children overseas for higher education, further reinforcing this trend.¹⁴

In 2012, the National University of Singapore (NUS) Department of Architecture established the Master of Urban Planning (MUP) programme led by Associate Professor Ng Wai Keen who studied architecture and urban design in the UK and urban planning in the United States. Ng had previously worked as an architect with the Public Works Department in Singapore and as an urban planner for Fundación Metrópoli in Spain. The reestablishment of an urban planning programme in Singapore marked a significant step in the evolution of urban planning education in Singapore.

5. Urban Planning Education in Singapore, 2012-Today

Since 2012, establishment of urban planning-related programs has mushroomed, including urban design, urban studies, and urban science. As shown in Table 1, there are now fourteen urban planning-related programmes. In addition to the 2-year MUP programme at NUS since 2012, SUTD started the 1-year MSc in Urban Science, Policy and Planning (MUSPP) in 2018.

Today, many planners practising in Singapore continue to be educated in the universities of the Global North. Planning education offerings are unevenly distributed – despite only representing 20 percent of the global

population, over half of the planning schools are located in the Global North.¹⁵

In addition to further developing Singapore's planning education, Singapore could consider kickstarting a regional collaboration of planning knowledge exchange among Southeast Asian countries as first mooted by then SIP President A.G.S. Danaraj in 1977 for an ASEAN town planners association.¹⁶ According to Chua Peng Chye, "much of the unique experience and expertise gained, through modifying overseas planning principles, theories and models to local situations, cumulatively represent a special store of knowledge, which no educational institution is known to have stocked and transmitted to planning students".¹⁷

As planning education in Singapore evolves, we look forward to a near future when planners will become ever more robust multi-disciplinary professionals, who are even more equipped with the skills and qualities to work with people and residents from diverse social and cultural groups.

Table 1. Urban- and Planning-related programs in Singapore

Source: Curated by Cristina Nearing and Wang Yi Wen

Year Established (Approx.)	Program Level	University	Program	Details	Modules
1970-1976	Graduate	National University of Singapore (NUS)	Master of Arts in Urban Planning (part time)	The M.A. in Urban Planning was established under the School of Architecture at the National University of Singapore (NUS). It was terminated in 1976 due to a lack of enrollment.	N/A
1998	Graduate	National University of Singapore (NUS)	Master of Arts in Urban Design	The program uses Singapore and other Asian cities as design innovation labs to equip graduates with advanced knowledge, social responsibility, and entrepreneurial skills. The MAUD curriculum covers high-density urban environments, technological advancements in design, social engagement, community development, and systems thinking.	The modules include Urban Design Studio, Theory and Discourse, Methods and Tools, Urban Economics, Critiques of Contemporary Urban Design, and a Dissertation. These courses cover practical design, theoretical frameworks, analytical tools, economic considerations, contemporary critiques, and research projects in urban design.
2011	Undergraduate	Yale-NUS	Major in Urban Studies	Students learn about many different urban contexts, processes and topics, and are taught a range of explanatory frameworks (economic, political, social, cultural and spatial). After completing the program, students go on to Master's degrees in fields of urban planning and policy.	The courses explore comparative urban development, urban theory, spatial representation, geospatial and demographic methods, social science research methods, urbanization's environmental impact, urban planning debates, challenges in Global South cities, and various specialized urban topics.
2012	Graduate	National University of Singapore (NUS)	Master of Urban Planning	A two-year post-graduate programme offered by the Department of Architecture. MUP is open to students with various backgrounds. The Master of Urban Planning (MUP) programme was inaugurated with Associate Professor Ng Wai Keen as programme director.	The modules cover comprehensive aspects of urban planning and design, including practical studios in Urban Analysis and Urban Design and Planning, qualitative and quantitative methods, Urban and Regional Economics, Planning Policy and Process, and Planning Technologies. Additionally, they delve into the History and Theory of Urban Planning, providing a well-rounded education in both theoretical and applied aspects of the field.

Year Established (Approx.)	Program Level	University	Program	Details	Modules
2017	Undergraduate	National University of Singapore (NUS)	Minor in Urban Studies	A minor programme jointly Offered By Department of Geography (FASS) and NUS Business School.	The modules encompass the economic, social, environmental, and political aspects of urban development, including urban and transport economics, socio-ecological impacts, spatial dynamics, urban planning, infrastructure finance, and urban sociology.
2018	Graduate	Singapore University of Technology and Design (SUTD)	Master of Science in Urban Science, Policy and Planning (MUSPP)	A 12-month, full-time programme aimed at training the next generation of urban researchers, analysts and practitioners to be well-grounded in theory, skilled in data and analytics and adept at policy and planning. The program is jointly organised by the Humanities, Arts and Social Sciences (HASS) cluster and the Lee Kuan Yew Centre for Innovative Cities (LKYCIC) research institute.	There are three core focuses of this program including urban theory, data science, and urban policy. With urban theory, students are provided with a theoretical foundation that incorporates critical thinking about cities, social theory and urban planning paradigms. Students are trained in social science, Geographic Information Science (GIS) and relevant data science techniques such as machine learning, network analysis and interactive data visualisation. Lastly, students are prepared to critically assess, understand and craft evidence-based policies and programmes positioned within the institutional context of urban economics, politics and governance.
2018	Undergraduate	Nanyang Technological University (NTU)	Minor in Geography and Urban Planning	Offered by the School of Social Sciences and the College of Humanities, Arts, and Social Sciences, this minor programme introduces students to spatial thinking about contemporary societies, urban development, and the physical environment. Based in the School of Social Sciences, it cross-lists electives from various schools, offering a comprehensive curriculum. The program equips students with a theoretical understanding of space and practical skills in urban planning, preparing them to address contemporary societal issues and envision alternative urban futures.	Core courses include an introduction to geography or urban planning. Students choose four unrestricted electives from various departments, covering topics in urban life, development, environment, GIS, remote sensing, contemporary art in Singapore, and the politics and history of Southeast Asia. The electives allow for a broad interdisciplinary approach, integrating insights from geography, urban planning, environment, history, politics, and sociology. Only one course may be taken from the History, PPGA, and Sociology lists.

Year Established (Approx.)	Program Level	University	Program	Details	Modules
2021	Undergraduate	National University of Singapore (NUS)	Second Major in Sustainable Urban Development (SUD)	The Second Major in Sustainable Urban Development is open to all students with strong interests in urban sustainability. The objectives of the Second Major are to provide students with broad exposure to the field of urban sustainability and to equip them with interdisciplinary knowledge and skills to be able to address the most pressing issues of urban development and its human impacts in cities in the context of changing climate from the sustainability viewpoint.	The Foundation Course offers an introduction to sustainability, environmental studies, or urban livability. Core Courses cover managing the built environment, energy, and resources, while Elective Courses and Cross-Disciplinary Projects focus on building performance, energy management, climate change, and green development.
2022	Undergraduate	National University of Singapore (NUS)	Minor in Cities	Offered by College of Design and Engineering (CDE), NUS Cities offers an interdisciplinary curriculum underpinned by the Liveability Framework (LF) developed by the Centre of Liveable Cities (CLC) to explain how Cities are governed, planned, and managed. Programmes are jointly taught by seasoned practitioners, interdisciplinary faculty from departments within and beyond the College of Design and Engineering (CDE), and visiting professors.	The modules focus on creating liveable, inclusive, sustainable, smart, and effectively planned cities. They also address various urban challenges.
2022	Graduate	Singapore Management University (SMU)	Master of Philosophy in Asian Urbanisms	Offered by the College of Integrative Studies, the Asian Urbanisms is an interdisciplinary programme that blends urban studies with insights from the humanities, economics, public policy, business, climate science, and information systems. It combines taught and research components, equipping students with the knowledge and skills to address complex urban problems.	In Year 1, students complete core courses in urban studies, planning, sustainability, and research methods, alongside elective courses in comparative urbanisms, urban sustainability, technologies, and economics. Throughout the first year, students also develop their thesis proposal. In Year 2, they prepare and defend their thesis proposal, conduct research, and ultimately submit and defend their thesis.

Year Established (Approx.)	Program Level	University	Program	Details	Modules
2023	Undergraduate	University of the Arts Singapore	Bachelor of Arts (Honours) Biophilic Design	Offered by University of the Arts Singapore, an alliance between LASALLE College of the Arts and Nanyang Academy of Fine Arts, the undergraduate biophilic design programme integrates urban living with the natural world, addressing climate change and health concerns by reducing carbon emissions, regulating temperatures, and improving air quality. The three-year Bachelor of Arts (Honours) Biophilic Design programme focuses on organic and nature-inspired design for human well-being. Partnering with CPG Corporation, the interdisciplinary curriculum combines theory and practice to nurture skills in spatial design.	The program includes courses in spatial design, urban ecosystems, and biophilic design, emphasizing health, wellness, and green building strategies. It covers urban ecology, design tools, spatial representation, regenerative urban systems, and experiential design. The curriculum culminates in a capstone project, integrating co-creation and advanced urban design concepts.
2023	Undergraduate	University of the Arts Singapore	Diploma in Design (Landscape & Architecture)	This programme focuses on the understanding of relationships between people, space and environmental forces and how these impact the landscapes and built environment you design and create. The programme emphasises a strong foundation of design skills, architecture theory, with an emphasis on studio work, industry attachments, and project work, the program is focused on landscapes and built environment.	The modules cover fundamental skills in drawing, 2D and 3D design, creative thinking, and visual arts history, with general studies on life skills and professional preparation. Practical experiences include overseas immersion, internships, and community projects, alongside specialized courses in design theory, communication, studio work, and contextual studies.
2023	Continuing education	National University of Singapore (NUS)	Professional Development in Placemaking	In collaboration with the Urban Redevelopment Authority and Ministry of Culture, Community & Youth, NUS launched two Professional Certificates in Placemaking including Professional Certificate in Placemaking for Vibrant Places and a Placemaking for Community Management). They also launched the Advanced Profession Course in Placemaking.	The modules cover topics related to placemaking, such as vital placemaking, contract management, project management, stakeholder engagement, building and sustaining communities, place economics, placemaking design thinking, event management and marketing, and placemaking for city spaces. Courses are taught by experts from across the faculty from the College of Design and Engineering, College of Humanities and Sciences, and the Lee Kuan Yew School of Public Policy.

Figure A.1 Timeline of the Evolution of Singapore's Planning Education (Below)
(Source: Compiled and designed by Cristina Nearing)

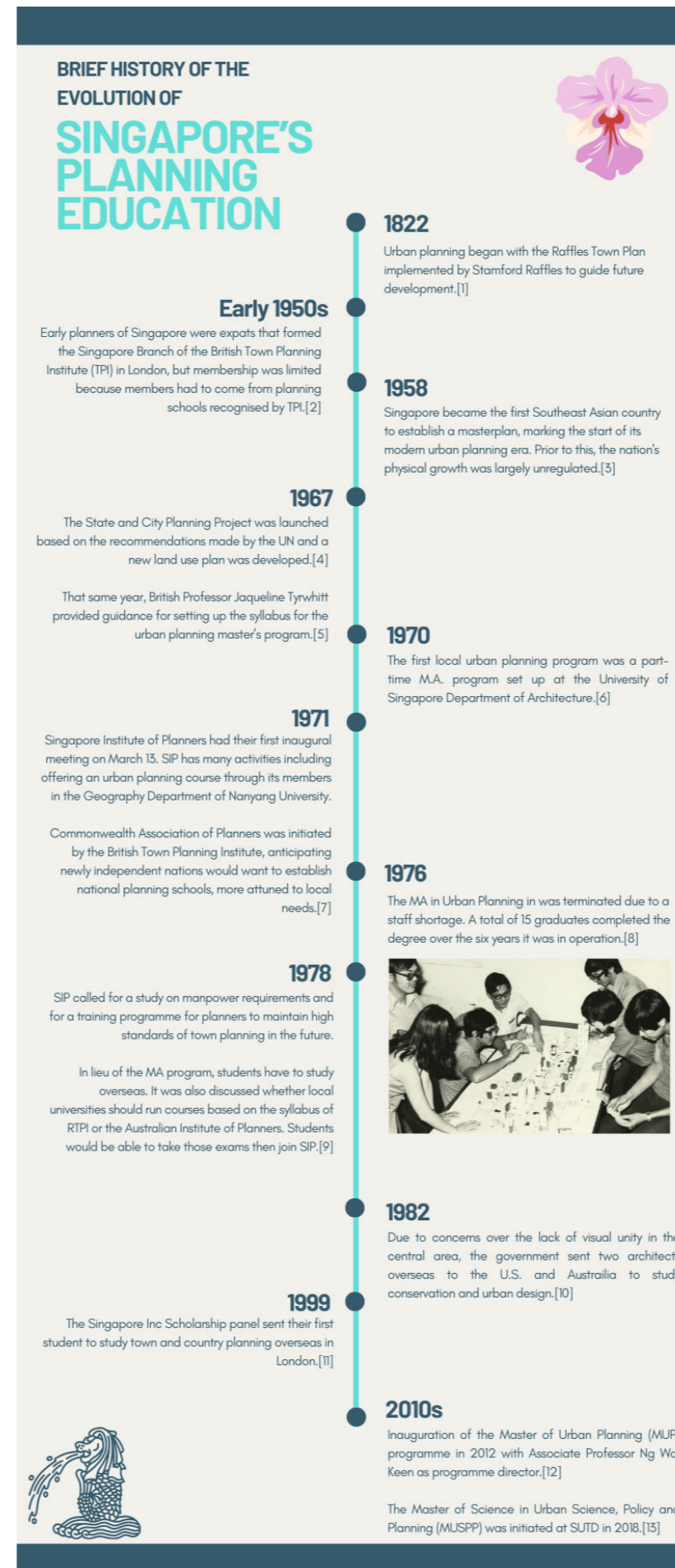
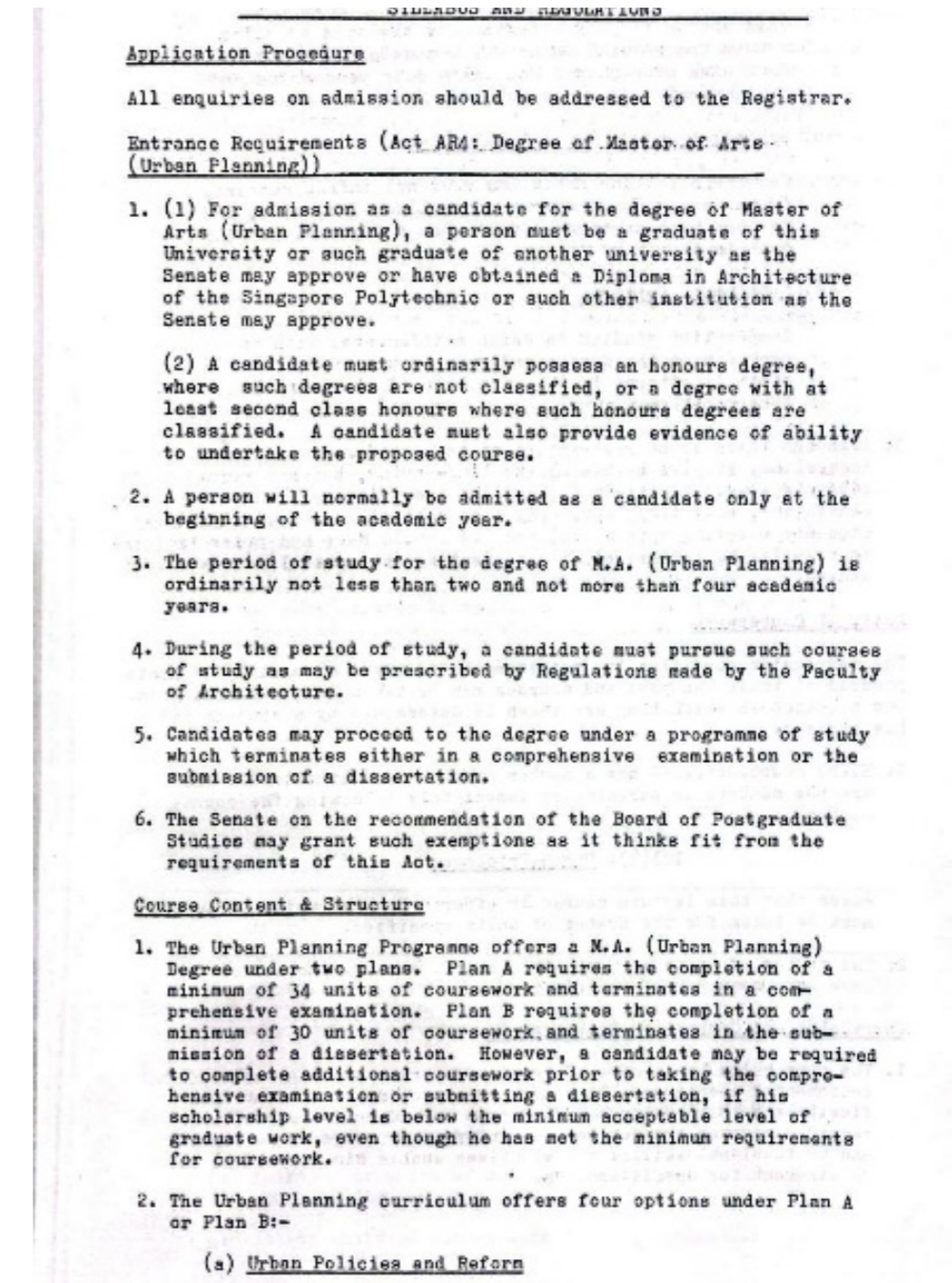


Figure A.2 Extract of Syllabus for University of Singapore's MA (Urban Planning)
(Source: National Library Archives)



(b) Analytical and Predictive Methods

This option focuses attention on theories of urban growth and spatial interaction models. A rigorous knowledge of regional and urban data processing and statistical methods is essential.

(c) Urbanization and Rural Development

Factors affecting urban and regional infrastructure, population movements, resource allocation, etc., are matched with strategies for urban & regional development in the third option.

(d) Settlement Patterns

Comparative studies on Asian settlements, with an emphasis on the design and maintenance of best-fit spatial patterns is the main area of study in the fourth option.

3. Although there is no restriction as to a student's undergraduate background, it will be useful and time-saving, but not required, if students electing options (a) and (b) had prior work in mathematics, statistics, sociology, geography, and economics or law. Similarly students electing options (c) and (d) should have had prior training in visualizing and graphically presenting the spatial parameters of design.

Units of Coursework

The curriculum specifies its requirements in terms of units. Students proceed at their own pace and courses may be taken in any combination. The sequence in which they are taken is determined by a student and his adviser.

1. Every course offered has a number of units credited to it. These are the numbers in parenthesis immediately following the course number, e.g.:

101(2): Urban Processes

means that this lecture course is offered for two units. Courses must be taken for the number of units specified.

2. The number of units assigned to a course is a reflection of the work load required of a student.

Curriculum and Coursework Requirements

1. The curriculum has a core of required courses and a group of recommended electives. This structure provides a student with flexibility in planning his programme for advance study. The required courses are designed to enlarge his range of perceptual and professional skills; the electives enable him to fulfill the requirement for specialization.

category	number	value	descriptive title
100 series (lectures)	101	(2)	Urban Processes
	102	(2)	Urban Society
	103	(2)	Urban Analytical Methods
	104	(2)	Transportation Systems
	105	(2)	Urban Geography
	106	(2)	Urban Economics
	107	(2)	Planning Law & Administration
	108	(2)	Resource Conservation
	109	(2)	Planning Theory
	110	(2)	Planning Practice
200 series (studios)	201	(4)	Urban Area Problems
	202	(4)	Comprehensive Planning
300 series	300	(1-4)	Electives
400 series	400	(2)	Research Seminars

Note: Courses in the 100 and 200 series are core courses and are common to all options. 300 and 400 series courses are courses leading to specialization.

2. The minimum unit requirements are as follows:

	Plan A	Plan B
100 series (lectures)	14 units in not less than 7 courses	12 units in not less than 6 courses
200 series (studios)	8 units	8 units
300 series (electives)	10 units in not less than 3 courses	8 units in not less than 2 courses
400 series (research)	2 units	2 units
Total	34 units	30 units

It is anticipated that most students can complete the programme under Plan A in two years; those electing Plan B can expect to be enrolled for a minimum of two and one half years.

Regulations

1. The course leading to the degree of Master of Arts (Urban Planning) consists of either -

(a) thirty-four units of course work and a comprehensive examination;

or (b) thirty units of course work and the submission of a dissertation.

In either case, the candidate must follow to the satisfaction of the Head of the Urban Planning Programme, the course of study leading

Endnotes

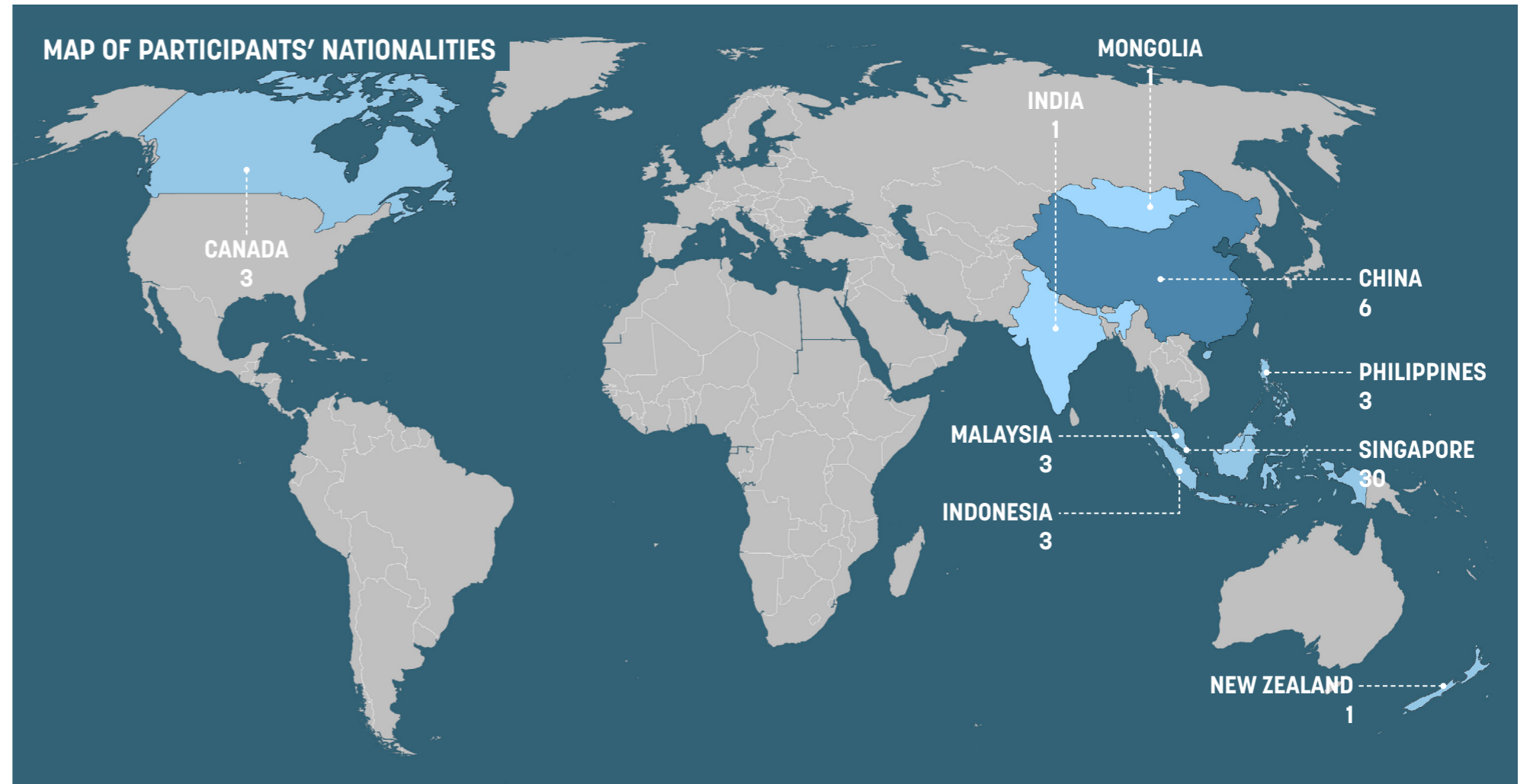
- 1 Marshall, C. (2016, April 21). Story of cities #27: Singapore – the most meticulously planned city in the world. *The Guardian*. <https://www.theguardian.com/cities/2016/apr/21/story-cities-singapore-carefully-planned-lee-kuan-yew>
- 2 Guo, Remy. Urban Systems Studies: *Urban redevelopment: From urban squalor to global city*. Edited by Alvin Pang. Singapore: Centre for Liveable Cities, 2016.
- 3 Singapore Institute of Planners. (1978, November). Planners and Planning Education in Singapore. *Planews*, 6(1).
- 4 Guo, Remy. Urban Systems Studies: *Urban redevelopment: From urban squalor to global city*. Edited by Alvin Pang. Singapore: Centre for Liveable Cities, 2016.
- 5 Fernandez, W. 2001. *Without Fear or Favour: 50 Years of the Public Service Commission*. Singapore: Times Media for the Public Service Commission.
- 6 "Two-Year Urban Planning." *The Straits Times*. March 6, 1970.
- 7 Chua, Peng Chye. (1973, November). "The Development of National Planning Institutes in the Commonwealth and Their Regional Collaboration." *SIP Journal* 3, no. 1: 2–6.
- 8 NUS Department of Architecture. (n.d.). *History*. <https://cde.nus.edu.sg/arch/about/history/>
- 9 Ibid.
- 10 Ibid.
- 11 Ibid.
- 12 Lee Kuan Yew emphasised the necessity of overseas education, stating in 1966 that "it is cheaper really, to do it that way: to send them abroad, the bright ones, pay their passages, their fees. And then, they come back". In the late 1970s, the Singapore government sent prospective policymakers to be educated in the United Kingdom and the United States. This approach was influenced by the history of prestigious scholarships awarded during the colonial period, such as the Queen's Scholarship, which funded students to study at British universities.
- 13 Ye, R. (2021). Schooling for government: Institutionalised sponsored mobility and trajectories of public service scholarship recipients in Singapore (1979–2018). *Journal of Education and Work*, 34(4), 518–532. <https://doi.org/10.1080/13639080.2021.1943335>
- 14 Sanderson, G. (2002). *International education developments in Singapore*. <http://hdl.handle.net/2328/3142>
- 15 Ibid.
- 16 Singapore Institute of Planners. (1977, October). Message from the President. *Planews*, 5(1).
- 17 Chua, Peng Chye. (1973, November). Op. cit.

Mapping the Contours of Planning Education in Singapore

WHO ARE OUR PARTICIPANTS?



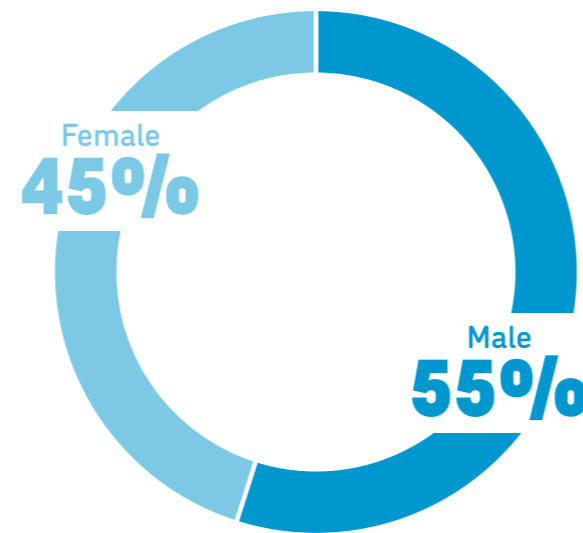
51 PARTICIPANTS



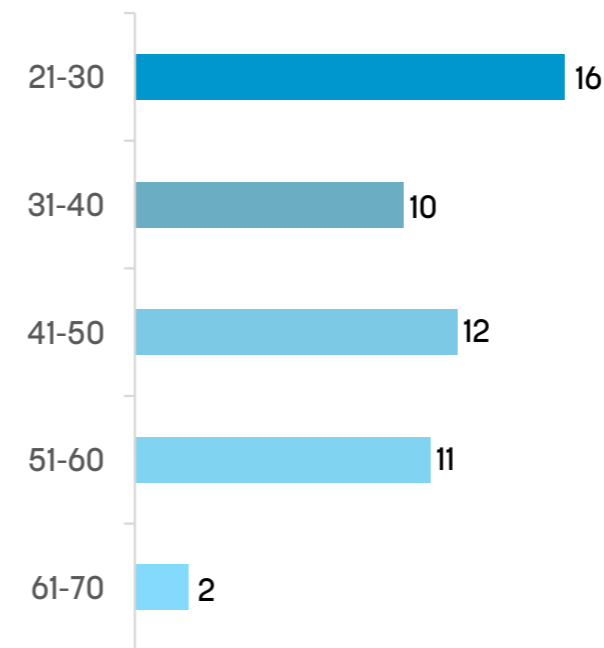
The participants of our survey come from across the globe with the majority of them from Southeast Asia and East Asia. Most of them are working professionals from Singapore and have obtained a Master level degree.

The 51 participants are composed of members and non-members of the Singapore Institute of Planners (SIP), and several SIP members are also members in organisations including Royal Town Planning Institute (RTPI) and American Planning Association (APA).

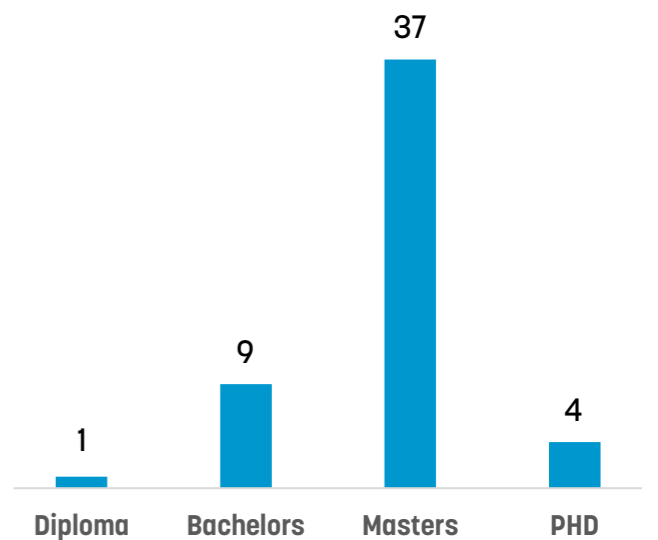
GENDER



AGE GROUPS



HIGHEST QUALIFICATIONS



WHO ARE OUR PARTICIPANTS?

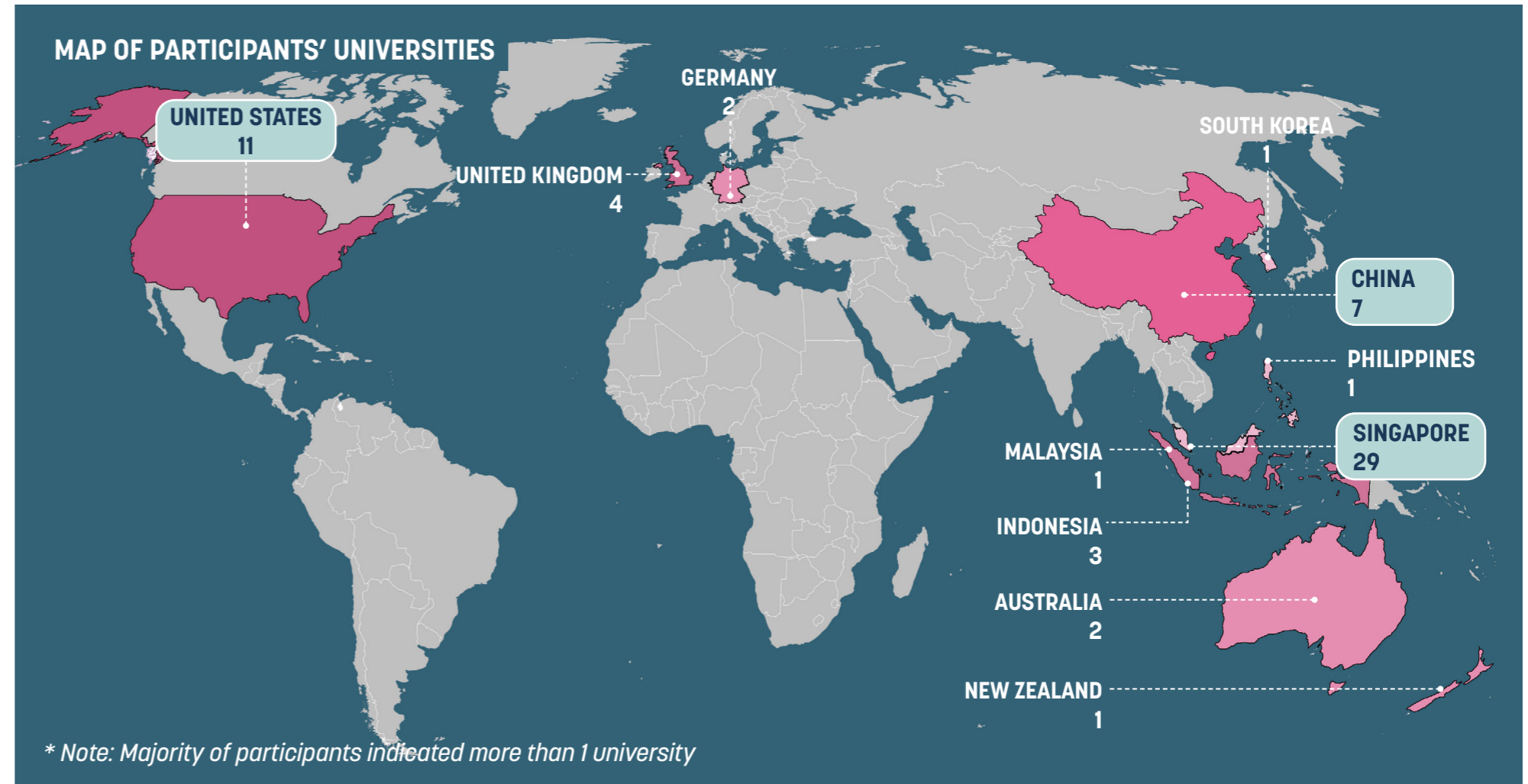
EDUCATIONAL BACKGROUNDS

Singapore, United States, and China are the 3 top countries where our participants received their planning education.

Singapore: participants received their Masters level education. More than 50 percent of them have multiple disciplines in architecture, urban design, or real estate, in addition to planning education.

The United States: many participants received Masters level education in planning, in addition to education in social science and humanities.

China: participants received a mix of Masters level and Bachelor level education, often in one discipline that includes architecture, urban design, or urban planning.



LIST OF PARTICIPANTS' UNIVERSITIES

United States:

- Harvard University
- Massachusetts Institute of Technology
- Pratt Institute
- Rutgers University
- University of Illinois Chicago
- University of Southern California

United Kingdom:

- Heriot-Watt University
- University College London
- University of Oxford
- University of Reading
- University of Sheffield

Germany:

- University of Karlsruhe
- University of Stuttgart

Malaysia:

- University of Malaya

Indonesia:

- Institute of Technology Bandung
- Parahyangan University of Bandung

Australia:

- University of New South Wales

South Korea:

- Seoul National University

China:

- Beijing University of Civil Engineering & Architecture
- Chongqing University
- Tongji University
- Tsinghua University
- Taiyuan University of Technology

Philippines:

- University of Santo Tomas

Singapore:

- James Cook University Singapore
- National University of Singapore
- Singapore University of Technology and Design

New Zealand:

- University of Auckland

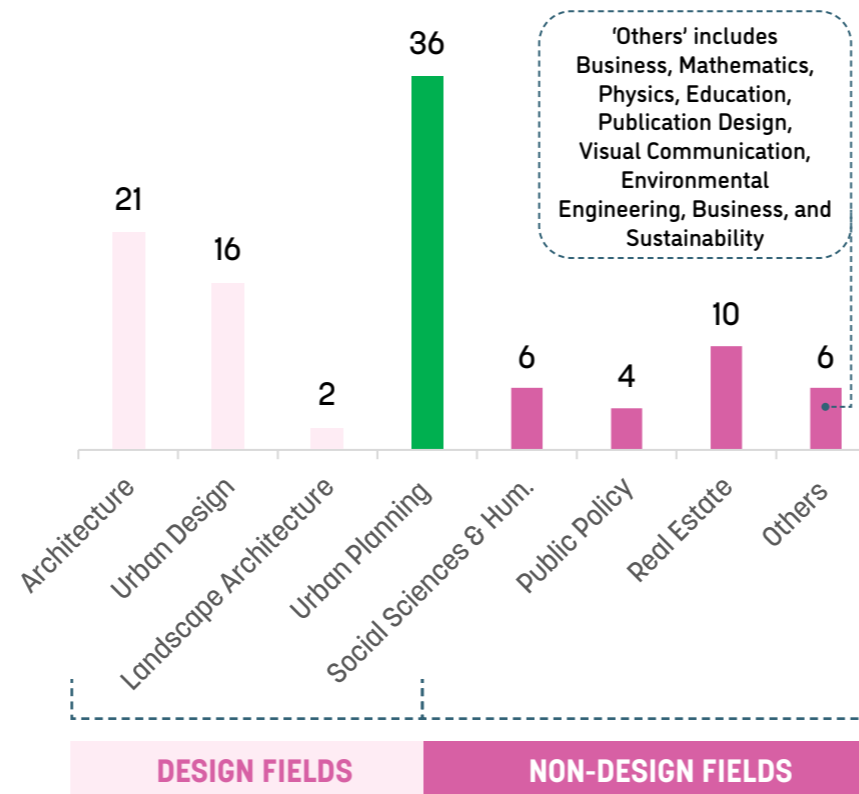
WHO ARE OUR PARTICIPANTS?

PLANNING EXPERIENCE

Urban Planning is a field of practice and research that integrates multiple disciplines and skill sets. 69 percent of our participants have more than one area of expertise, of which a combination with architecture, urban design, or landscape architecture is most common (design disciplines). A handful also have expertise in real estate and social sciences like Sociology and Geography, public policy, real estate, and environmental engineering (non-design disciplines).

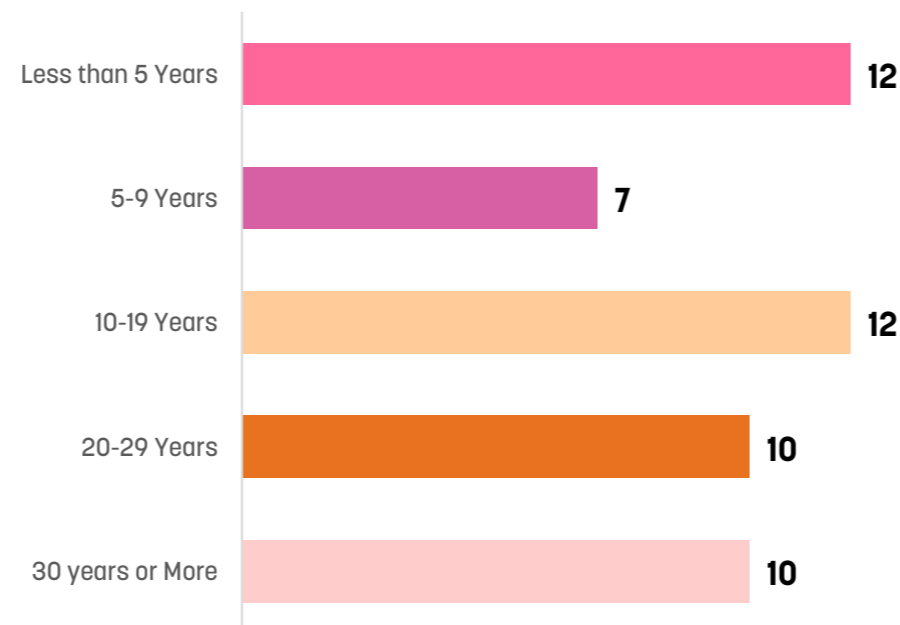
Most of our participants are working either in the public sector or private practice. A handful of the participants work in both sectors, and a small number are involved in research and education. Among the five student participants, the majority are pursuing their Masters in Urban Planning. Several also have degrees in real estate, architecture, or urban design.

AREAS OF EXPERTISE



* Note: Majority of participants indicated more than 1 specialisation

YEARS OF INVOLVEMENT



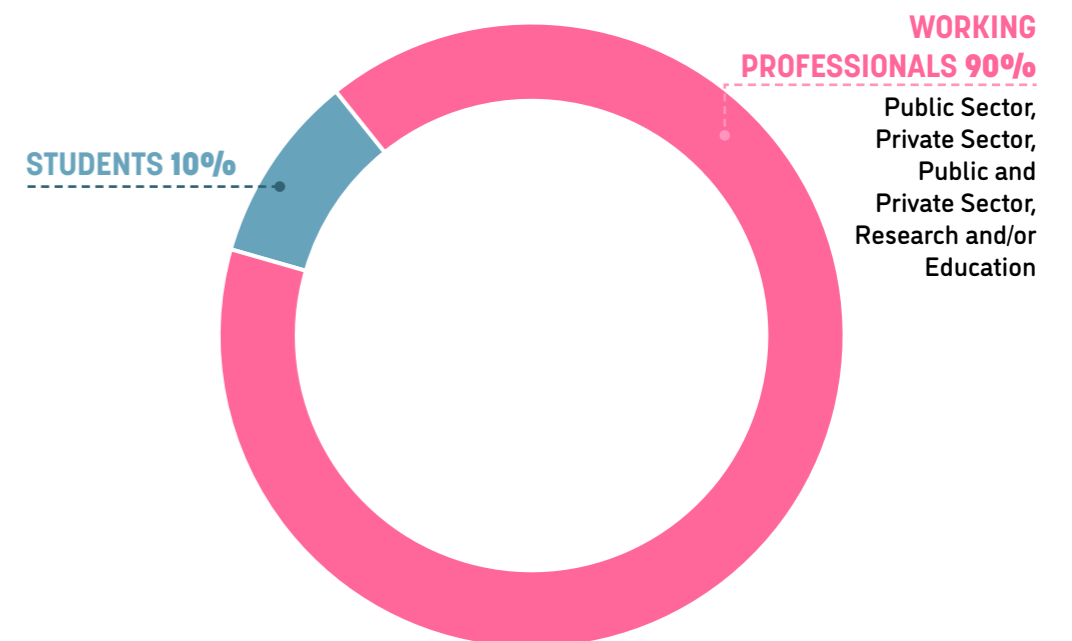
EXPERTISE PAIRINGS

	COUNT	%
Participants with only 1 specialisation <i>Urban planning, architecture, urban design or environmental engineering</i>	16	31%
Participants with more than 1 specialisation	35	69%
TOTAL	51	100%

EXPERTISE PAIRINGS

- Urban planning; Real estate (5)
- Architecture; Urban planning (5)
- Urban planning; Urban design (3)
- Architecture; Urban planning; Urban design (2)
- Urban planning; Social sciences and humanities (2)
- Architecture; Urban design (2)
- Architecture; Urban planning; Urban design; others: Business
- Architecture; Urban planning; Urban design; public policy; Real estate; other: mathematics, physics, education
- Architecture; Urban design; others: Interdisciplinary Program in Urban Design
- Urban planning; Urban design; others: Publication Design, Visual Communication
- Urban planning; Landscape Architecture
- Architecture; Urban planning; public policy
- Architecture; Urban design; Real estate
- Urban planning; Urban design; Real estate
- Urban planning; others: Sustainability
- Urban design; Landscape Architecture
- Urban planning; Urban design; Social sciences and humanities; Public policy
- Architecture; Urban planning; Public policy; Real estate; others: Built environment

STUDENTS AND WORKING PROFESSIONALS



WHAT ARE THE SKILLS TAUGHT IN PLANNING EDUCATION?

According to the participants, urban planning curriculum has emphasised predominantly Physical Planning and Design Techniques. Comparing the two lists, we observe a disparity that suggests to us that there is an unevenness in the teaching of Data Analysis, and Strategic and Systematic Design Thinking skills in planning education.

From the list of "What you wish you learnt in school" : skills such as Project Management, Infrastructure and Transport Planning, knowledge of sustainability, ethics, and practice experience are important for planners, but are not as widely taught. Planning educators may want to consider how to weave these areas into their curriculum.

SKILLS LEARNT IN SCHOOL THAT ARE USEFUL NOW

- *** Physical Planning & Design Techniques
- *** Data Science & GIS
- *** Systems & Scalar Thinking
- *** Policy and Research Skills
- ** Visual Communications
- ** Real Estate
- ** Site Analysis and Zoning
- * Planning and Design Principles
- * Urban Theory and Planning Theory
- * Stakeholder Engagement
- * Project Management

WHAT YOU WISH YOU LEARNT IN SCHOOL

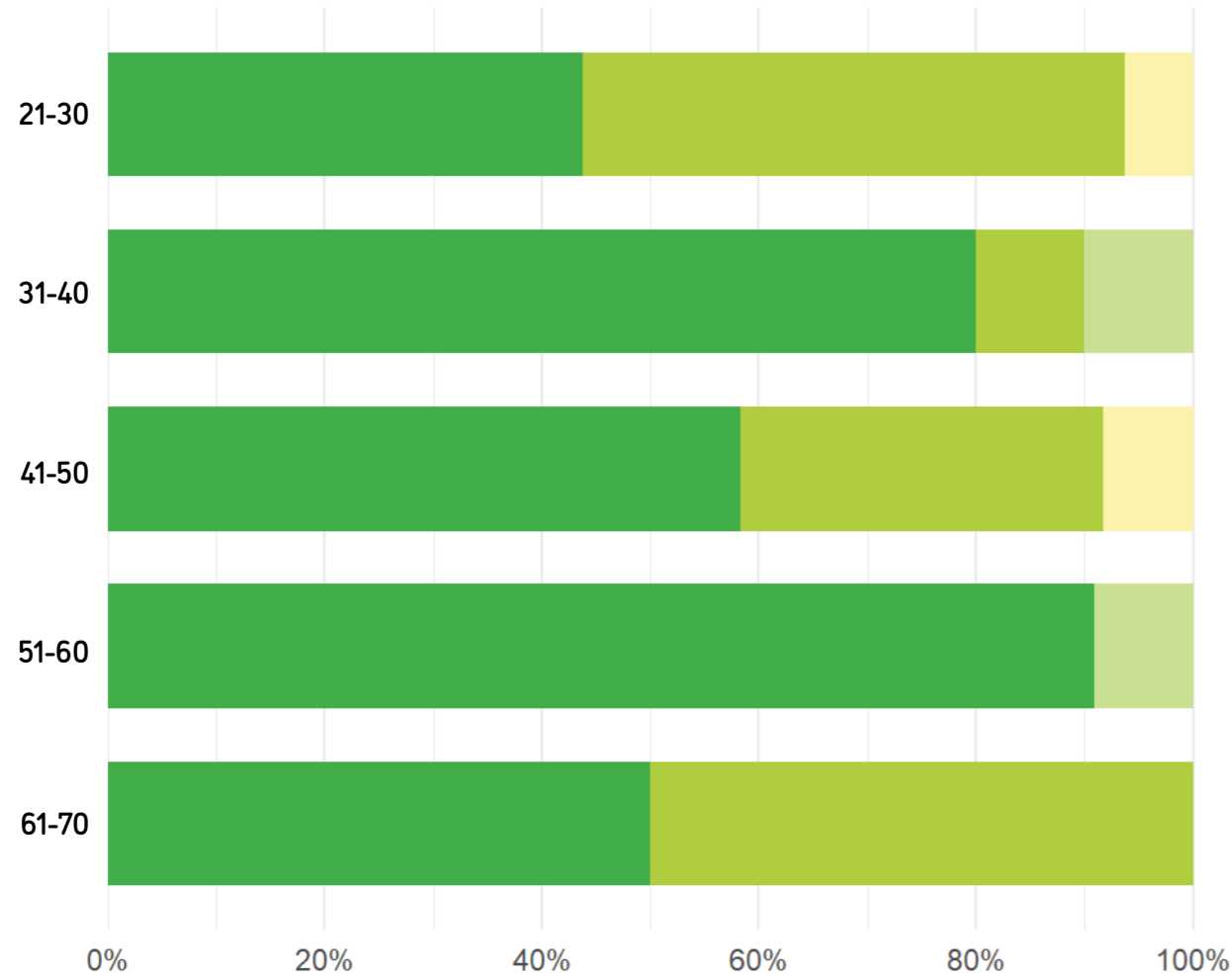
- *** Systematic Design Thinking, Strategic Thinking
- *** Big Data Analysis & Digital Tools
- ** Infrastructure & Transport Planning
- ** Project Management & Communications
- * Sustainability
- * Drawing & Making Models
- * Exposure to Practice
- * Ethics
- * Financing
- * Land Use Planning
- * Future Forecasting

The 21st century's emphasis on data science and digital technologies is reshaping how planners work and the skill sets they need. For this reason, we have asked our participants for their views about the importance of physical planning and data science.

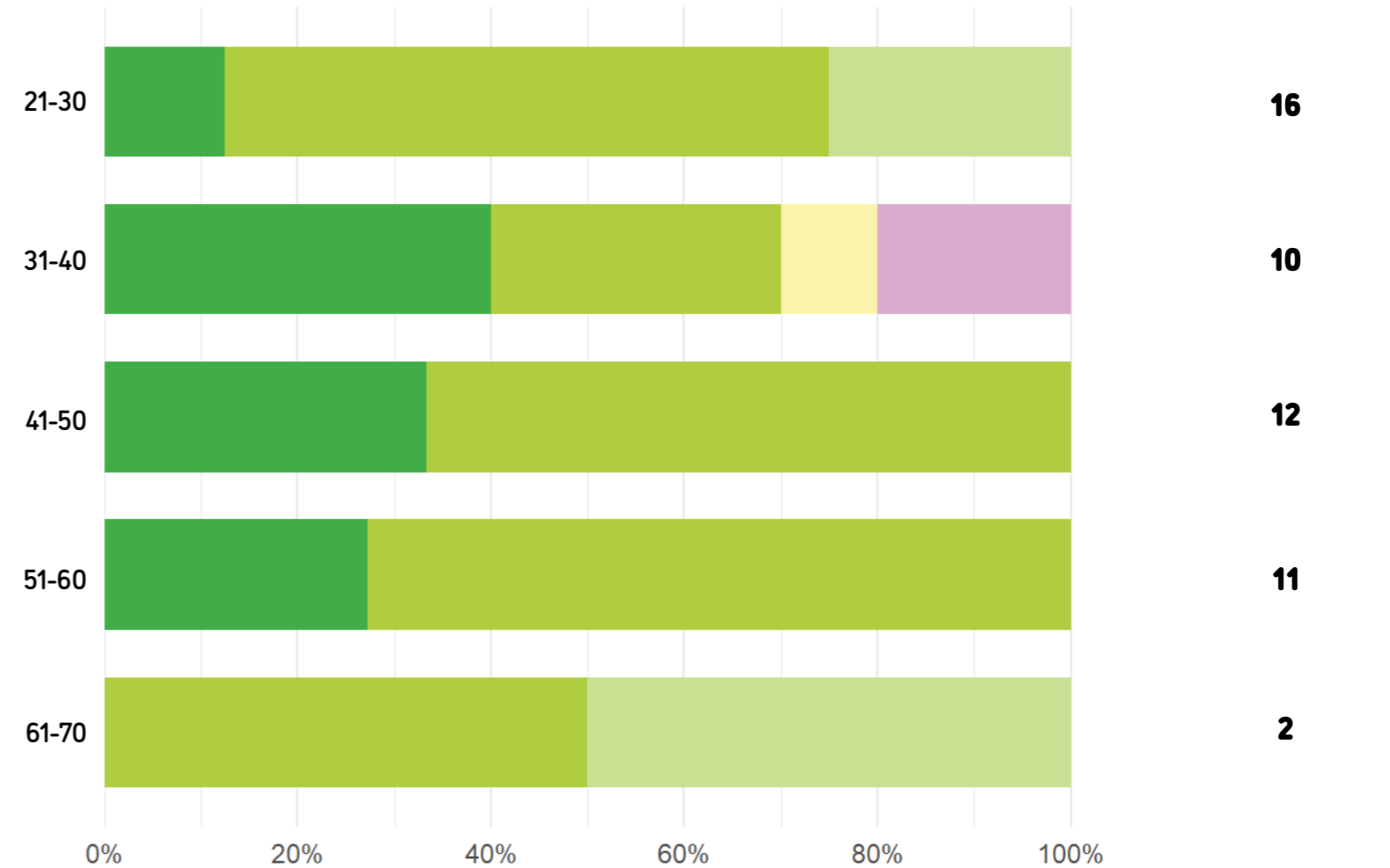
HOW IMPORTANT IS PHYSICAL PLANNING & DATA SCIENCE?

ACROSS AGE GROUPS

PHYSICAL PLANNING IS...



DATA SCIENCE IS...



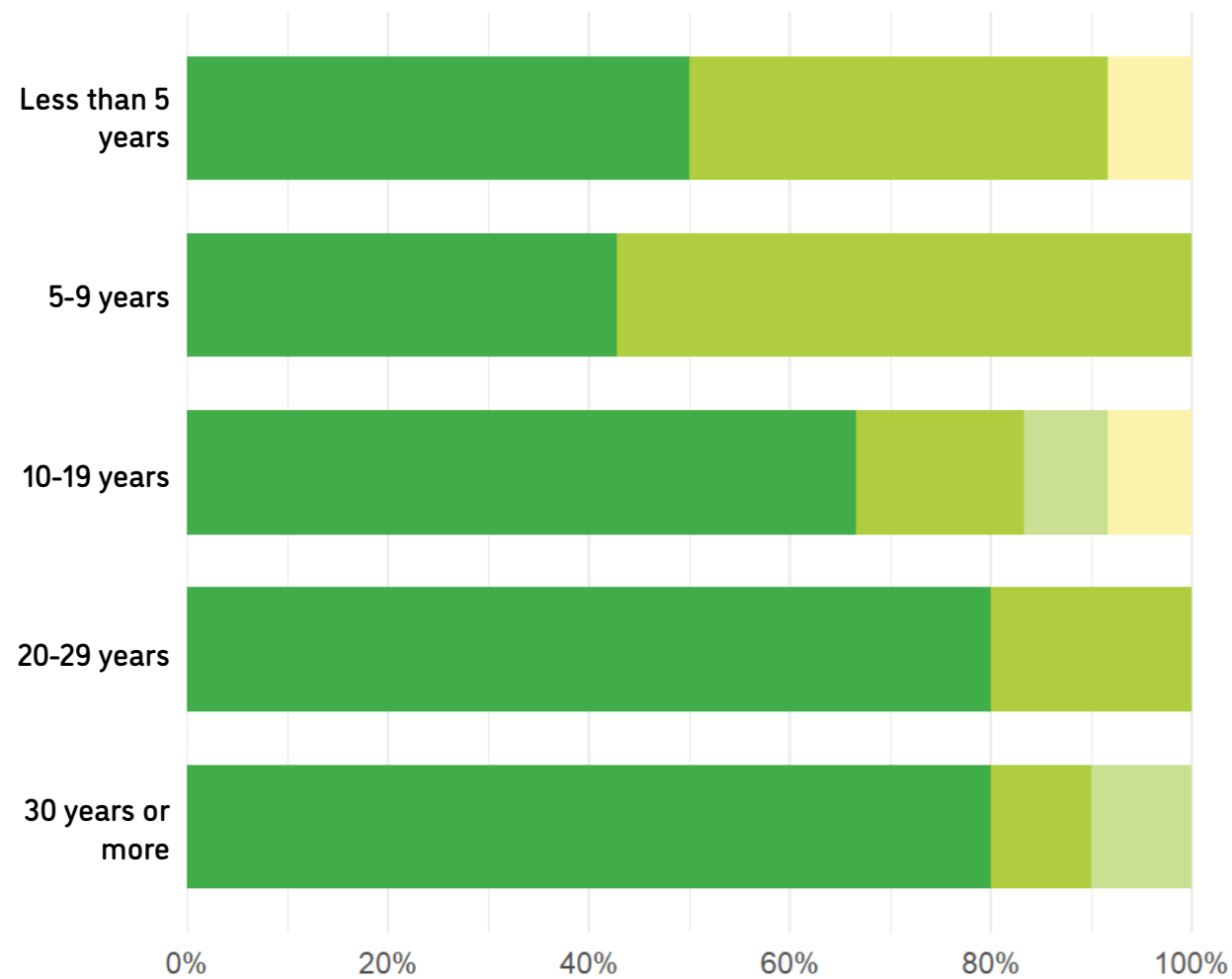
Across age groups, about 90 percent of our participants view physical planning knowledge as “important” and “very important”; while for Data Science, the importance varies across age groups. 100 percent of those between 41-60 years regard data science as “important”, while less than 80 percent in the youngest and oldest age group thought likewise.

Very Important Important Fairly Important Slightly Important Not Important

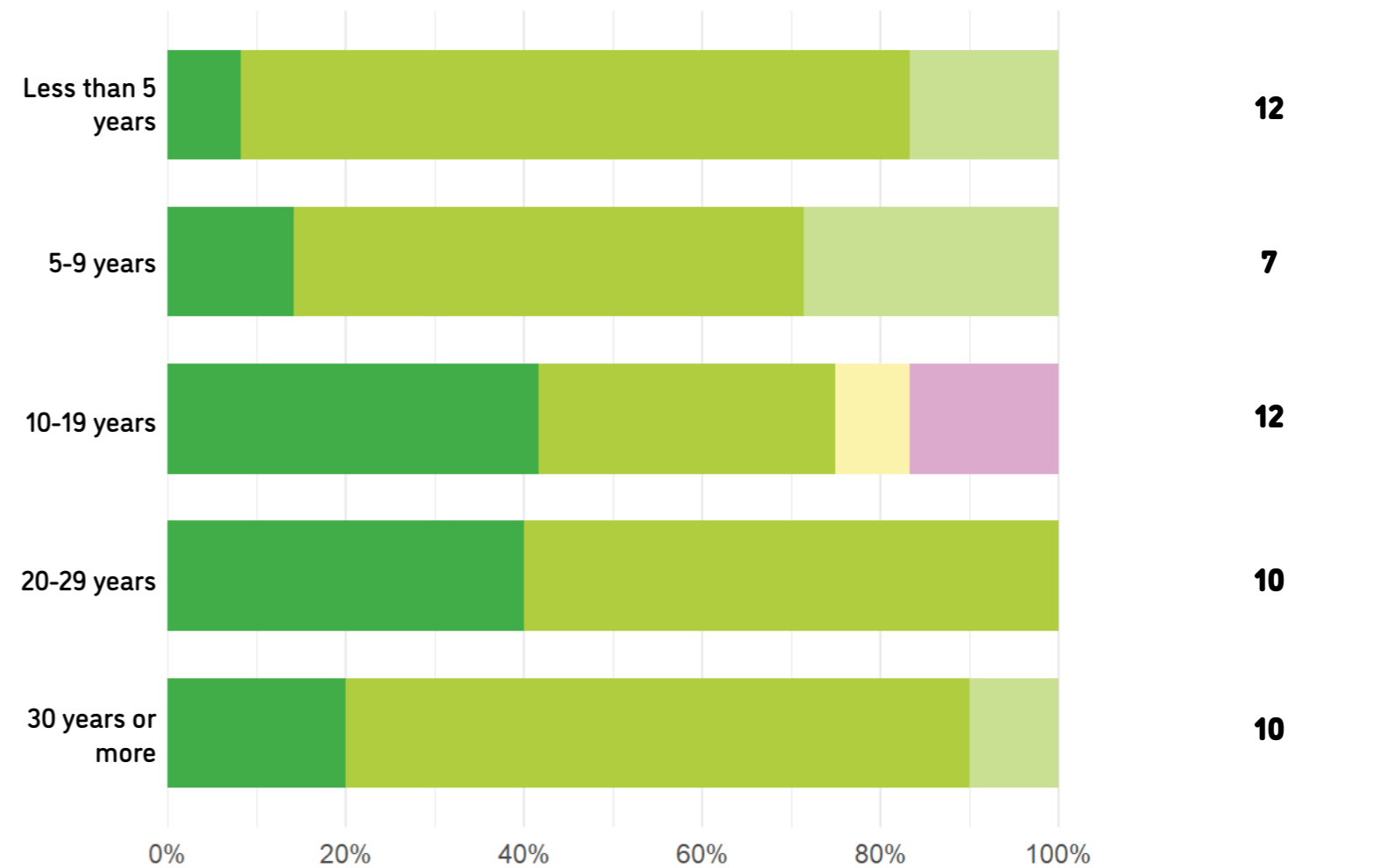
HOW IMPORTANT IS PHYSICAL PLANNING & DATA SCIENCE?

ACROSS YEARS OF INVOLVEMENT

PHYSICAL PLANNING IS...



DATA SCIENCE IS...



No. of Participants

12

7

12

10

10

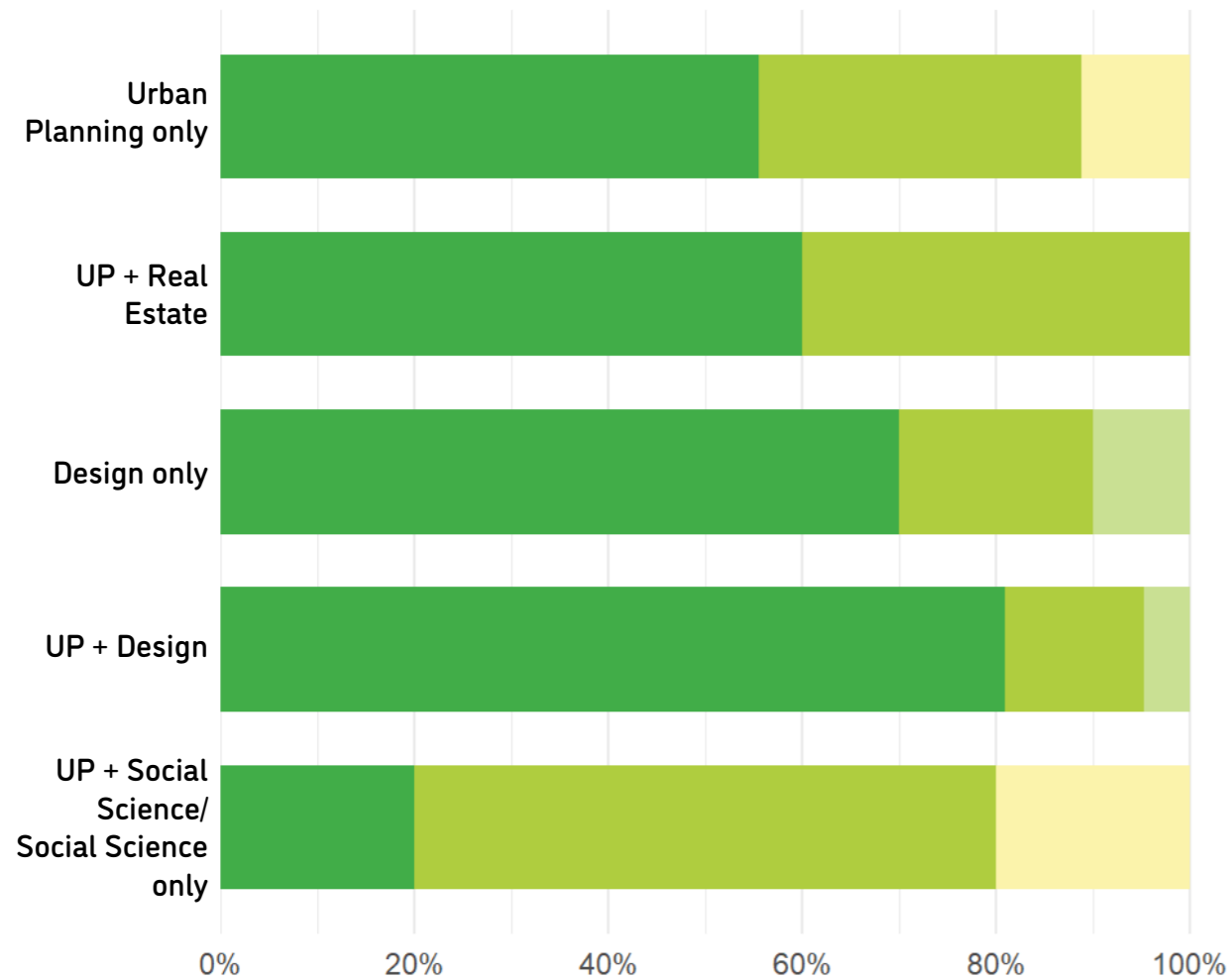
When compared across years of involvement, physical planning knowledge is again considered more important than data science knowledge for urban planning. However, the findings suggest that data science knowledge is becoming a critical skillset for gaining employment given the importance it holds for those with 20 years and above of involvement in planning, who we could expect to be the hiring managers.

Very Important Important Fairly Important Slightly Important Not Important

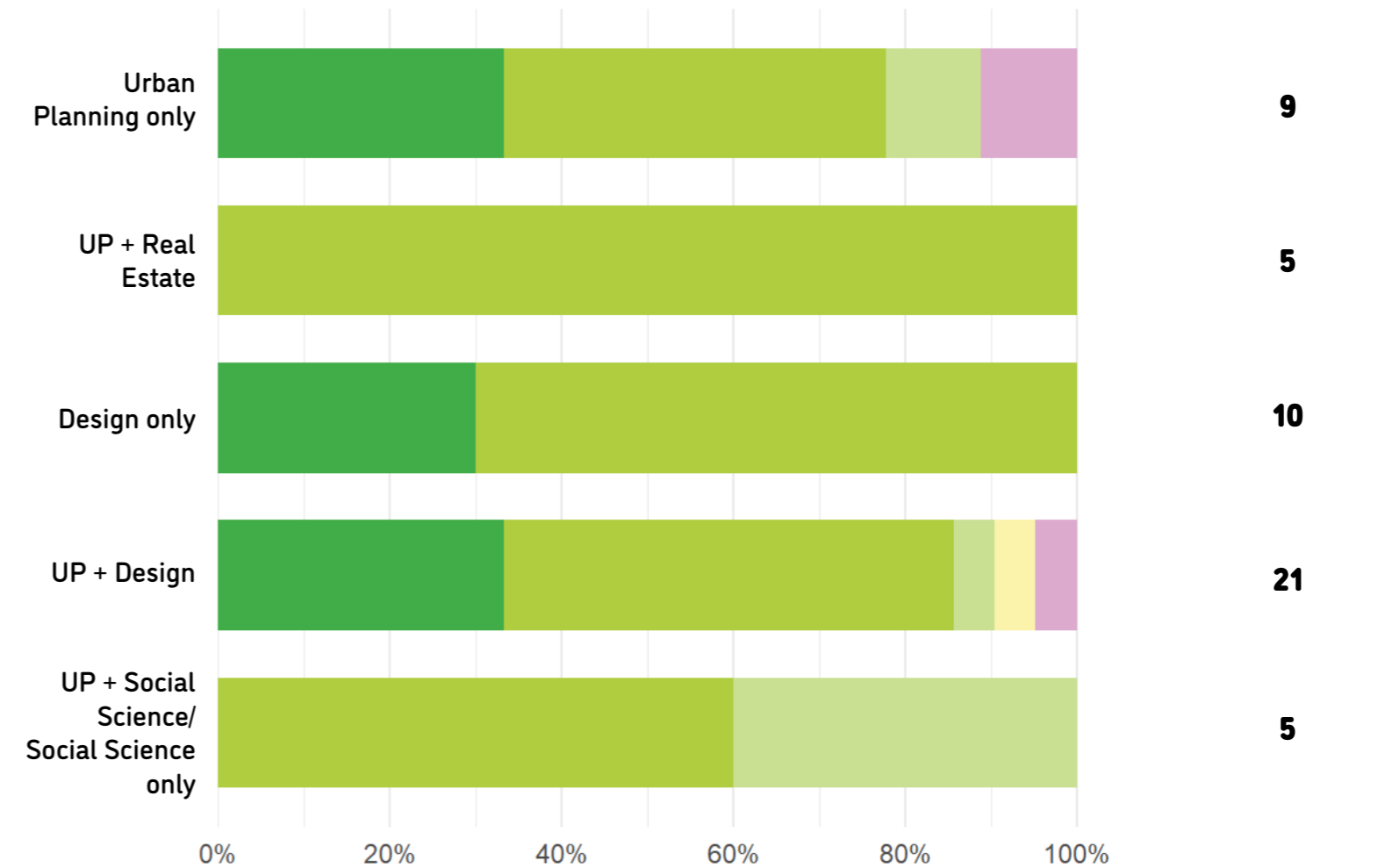
HOW IMPORTANT IS PHYSICAL PLANNING & DATA SCIENCE?

ACROSS EDUCATIONAL BACKGROUNDS

PHYSICAL PLANNING IS...



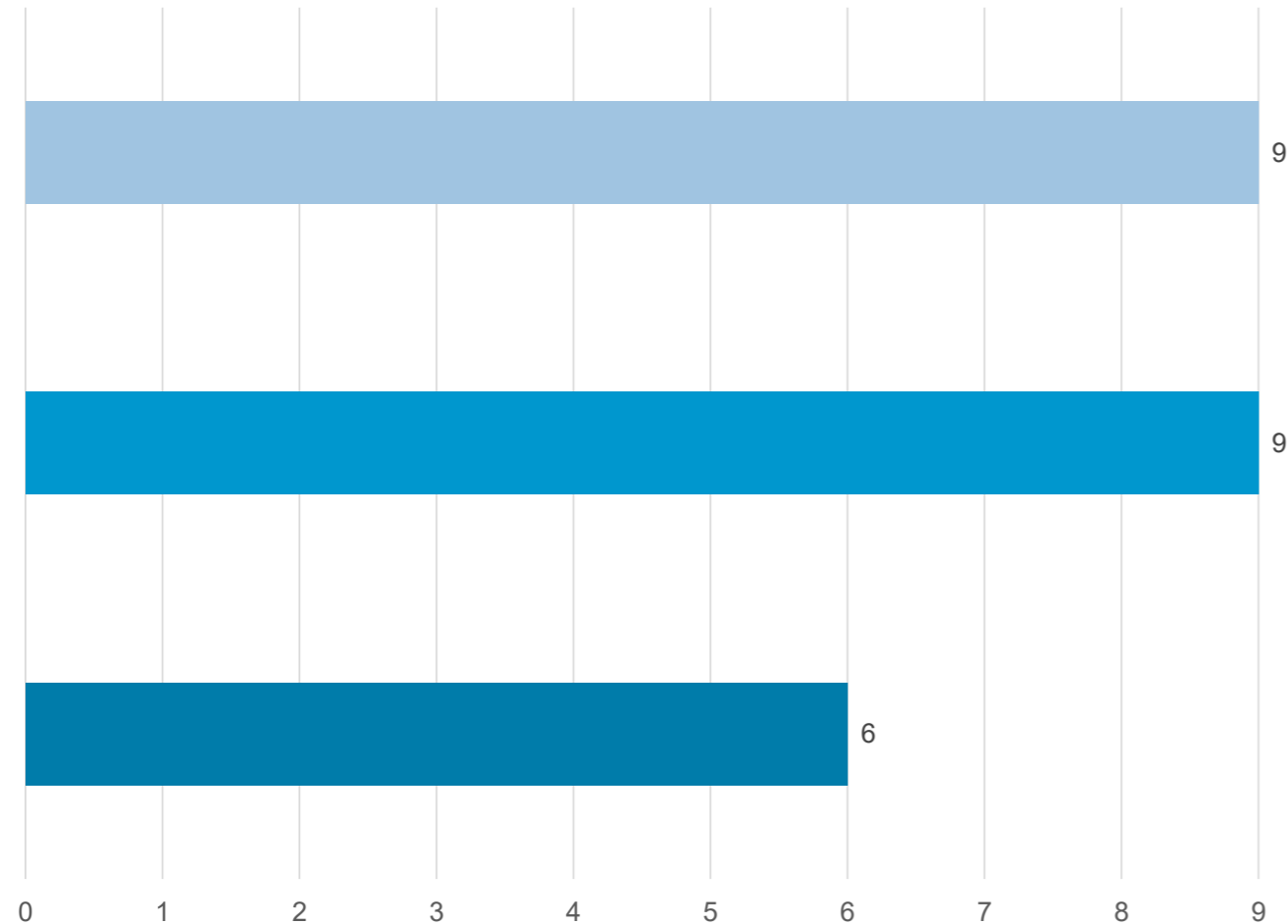
DATA SCIENCE IS...



Across educational backgrounds, physical planning knowledge is regarded as very important for the majority of the participants, with the exception of participants who have social sciences (Geography, Sociology), public policy, environmental engineering as their educational backgrounds. Comparatively, the relevance of data science knowledge in urban planning appears to be less important across all educational backgrounds.

HOW IMPORTANT IS PHYSICAL PLANNING & DATA SCIENCE?

PHYSICAL PLANNING IS IMPORTANT BECAUSE...



- Physical Planning is foundational knowledge for urban planning
- Our built environment is physical in structure and expression
- Physical Planning skills enable ideas that shape our cities to be translated into physical reality



Anonymous Panda, 40 years of experience, says...

"Physical planning is a **comprehensive embodiment** of the **core content** of urban planning."



Anonymous Whale, 1 year experience, says...

"It is **required knowledge** for **urban planning work** relating to development of physical spaces/ town coordination as it involves looking at infrastructure services, road reserve lines etc. Some **basic understanding of physical planning** is required to engage in discussions with colleagues and staff from various agencies."



Anonymous Camel, 2 years of experience, says...

"During my job search, when the employers found that I was **not trained in drawing or physical planning**, they **immediately rejected me**. And during my studies, even though sometimes I have my ideas during studios, I was **unable to translate it on to physical plans** because I can't draw well, and others who can draw better would just fully take over."



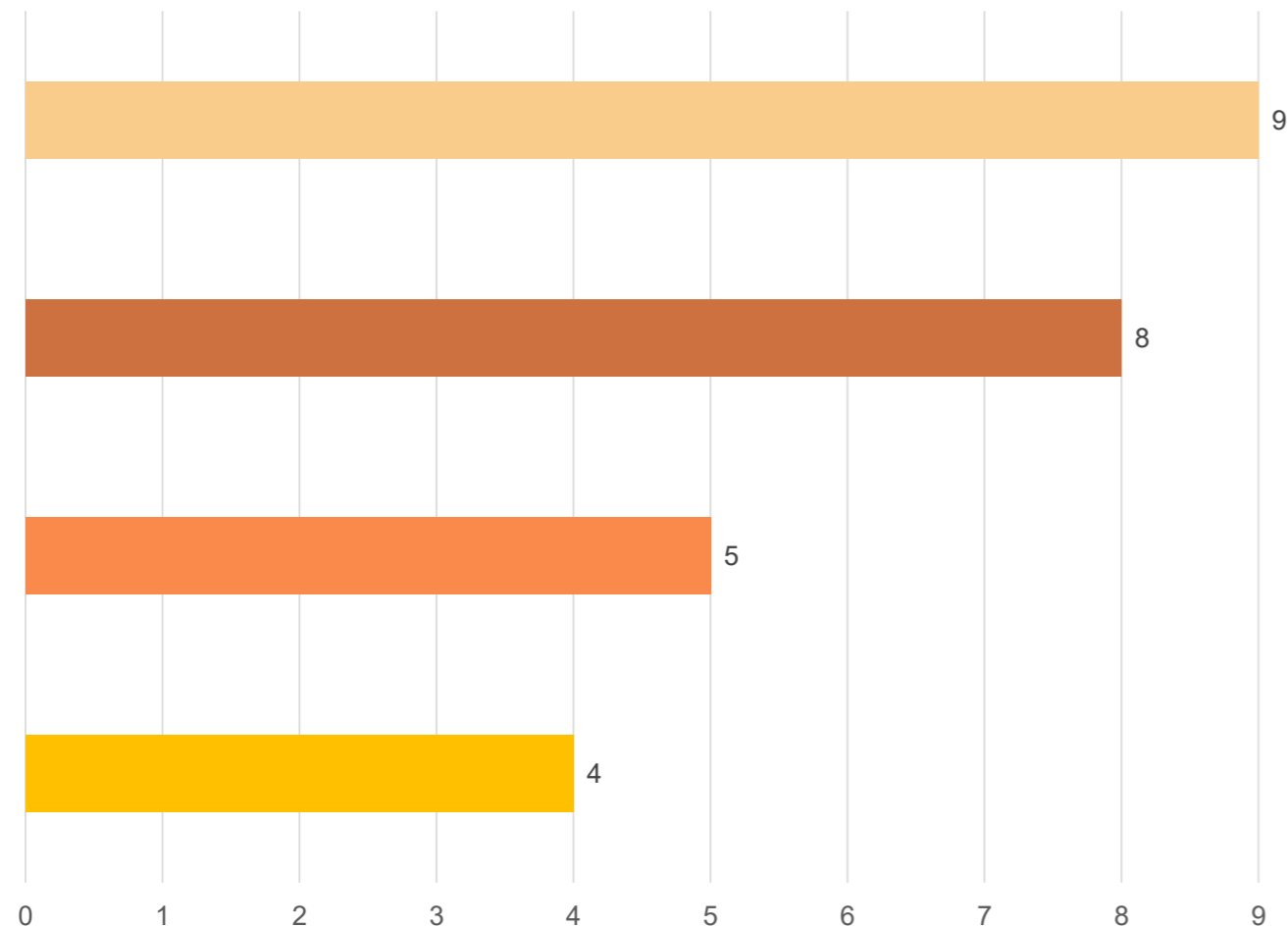
Anonymous Penguin, 24 years of experience, says...

"Appreciation of environmental space and **being able to respond in tangible ways to propose design interventions** is extremely critical to urban planning as a **spatial complex of social, economic, and political relations**. It is also extremely important in addressing the issues of ecology and environmental sustainability"



HOW IMPORTANT IS PHYSICAL PLANNING & DATA SCIENCE?

DATA SCIENCE IS IMPORTANT BECAUSE...



- Increases efficiency and predictability of planning
- Offers objective and scientific evidence to do planning
- Offers additional information about our urban environment useful for planning and projection purposes
- Increasingly relevant in the way our society functions



Anonymous Shark, 25 years of experience, says...

"Not only data science but also **linking with relevant modelling skills** (parametric, ArcGIS, climate science etc.)"



Anonymous Kangaroo, 1 year experience, says...

"Because now everything is **performance driven** and should be supported by **quantifiable outcomes** and or performance matrix."



Anonymous Squirrel, 1 year experience, says...

"Depending on the information, analysis of data can provide a **broader more objective and insightful perspective** on complex cities and urban populations."



Anonymous Seahorse, 15 years of experience, says...

"I think the **importance of data science in urban planning will increase exponentially**, so long as AI and ICT technologies continue to gain traction in the built environment professions and allied industries."

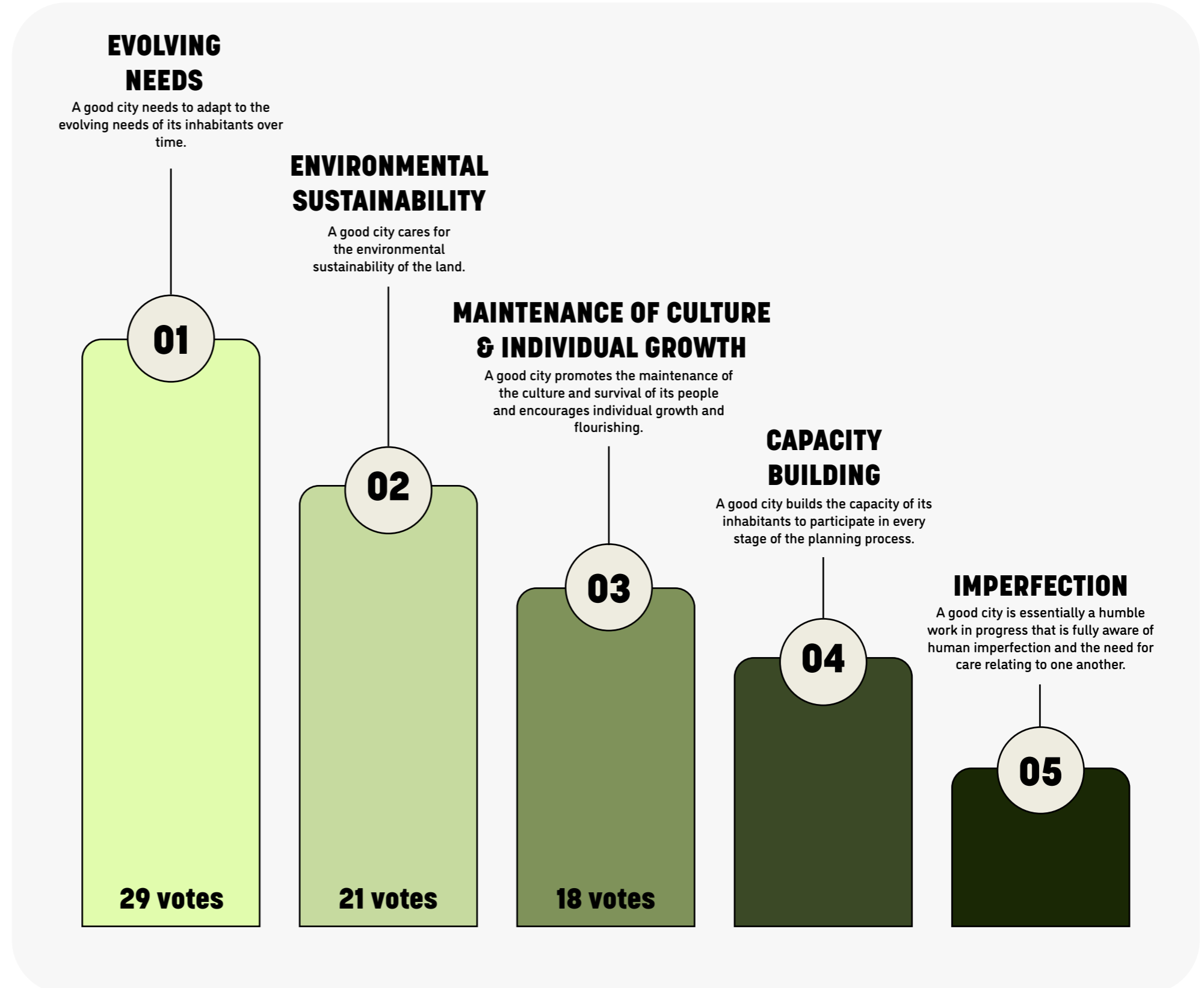


To continue the discussion we started in Volume 1 on *What is a Good City? What do Future-ready planners look like?*, we posed the same questions to the participants.

WHAT IS A GOOD CITY?

“A good city is one that adapts to the evolving needs of its inhabitants over time” received the most votes as the top criterion of a good city. User-centric and human-centric cities are viewed as important standards for a good city. Environmental sustainability is ranked a little lower, albeit much higher than other criteria that focus on individual growth, capacity building, and care.

Taken as a whole, the ranking results gave us a cause for pause and fodder for future research: How does a good city adapt to the evolving needs of its inhabitants? Might we also need to build capacity for participatory planning, and the ethos of care for one another? How is a city truly good? And how do we get there?



WHAT IS A FUTURE-READY PLANNER?

It's a laboratory to explore scenarios, possibilities and solutions to address current and futures challenges through collaboration and multi disciplinary approach. Courage, Idealism, Righteousness, Humaneness, History, Culture n Civilisation. Art n Science. Take risk. Be bold. Think long term. See Big Picture. Teaching skills required in diverse workplaces that does planning Learn the complete set of problem thinking streams **Exposure to real life projects and case studies. Train them to use latest digital tools. People / User engagement to understand user behaviour and needs To include more diverse coverage of other topics related to urban planning. Allow them to think long-term and holistically to address the changing physical, social and natural environment** 1 mindset development to think broadly and deeply, out of box; to be exposed in multi-disciplinary academic environments; 2 to encourage conversation and participation with practitioners to understand real world operations; **More field trips and case studies of places around the world, for greater exposure of the present and future review and put the relevant courses into planning education aware of the current happenings and to adapt to it Equip planners to the impending environmental challenges of climate change, heat island etc.** Understand the needs and wants of people. Current architecture, urban planning or urban design education focus too much on the technical skills, aesthetics of final product and forgot the need to understand the psychology of society. We need to understand the society better to cater to the needs and wants of the future. **Change the curriculum often, be competitive, compare against other schools, ensure a good balance of all topics, offer a holistic education. Aside from building the essential technical skills, the education system should prepare the students the confidence to engage people, skills on managing projects, use quantitative data as part of the design process, harness AI tools as an advantage for a more efficient planning, exposed students to the region where they would most likely build their careers a solid guiding knowledge Case-studies from other countries** Future forward learning **The education needs to adapt evolving technology. NA explore more diverse way to understand city development and relevant issues in terms of social, economic, environmental, geographic, historical, management and implementation items etc.** Aside from traditional planning training, planning education should stay relevant to what is happening in the world, and pay more attention to help student understand what are the challenges facing cities now, and how to find a solution. **Build competency and confidence through practice To equip students with an open mindedness considering the fast evolving world, technology and lifestyle More Critical analysis of urban solutions and externalities to understand how planning impacts different social groups, and ways to ensure that planning is beneficial for the majority if not all** Exposure to real life cases Knowledge about psychology, sociology, economics. **Provide a realistic view of what to expect in practice. Address current and future problems and trends. Integration of data analytics and AI Encourage critical inquires and challenge fixed norm** Education should develop planners more in tune with people and culture, facilitating placemaking and urban renewal in an increasingly urbanised world. **Specific approach and tools to deal with these challenges PROVIDING AN UP-TO-DATE WELL ROUNDED KNOWLEDGE ACROSS A NUMBER OF TECHNICAL FIELDS INCLUDING ON POLICY CRAFTING, SUSTAINABILITY AND ENVIRONMENT, DESIGN, DIGITAL SKILLS ETC.** Think out of the box and be innovative **Understanding the past theory and rationale of past planning practices, and learn from the pros and cons that was implemented in the timeline period of the society To meet the challenges of the future, urban planning education should foster: curiosity and innovation (by encouraging free play of ideas) + resilience (by providing opportunities to "unlearn" and "relearn") + humility (by demonstrating that problem-solving is a collective responsibility beyond the planning domain alone). Teach critical thinking skills and soft skills, be rooted in more real world case studies as context is so important!** Understand the needs of the industry. Current urban planning education in Singapore is too outdated & superficial, doesn't equipped graduates well for the real work. **LEARN NEW KNOWLEDGE AND SKILL IN ALL LIFE.** It would be good if planners can sign up for different courses that are relevant with time, to ensure that they possess the basic knowledge in new arenas of urban planning that are important. It will also be good for planners to have a platform to discuss and bounce off ideas on the challenges they face. **Use real world scenarios in planning that recognise political, financial and real estate dynamics and develop planning tools and mechanisms that recognise those forces.** It needs to equip future planners with a mix of social science and physical planning skills. Even better would include knowledge of ecology. Also, planners should gain competences to communicate with a diversifying public and an appreciation of how politics and economics interact with planning. **More practice with industrial players** Climate change, increasing cost of living and the housing crisis are challenges that will disproportionately impact low income earners, minorities, those with precarious work, and other marginalised groups. Planning education needs to centre equity and nourish and develop students' capacity for empathy. Provide more projects related to current challenges **ADMIT ONE FACT: WHAT WE LEARN IN SCHOOL WILL BE OUTDATED VERY SOON, LEARN THE METHODOLOGY OF LEARNING IS RELATIVELY IMPORTANT COMPARING WITH KNOWLEDGE ITSELF To familiarise with global trends and future technologies More relevance to sustainability concepts Adapt to changes, learn and re-learn while gaining new knowledge for a better built environment To understand what goes into developing a master plan, technical considerations**

Appendix

LIST OF SURVEY QUESTIONS

Section A.

Q1. What are your area(s) of primary involvement in planning or planning-related fields?

You may pick more than 1.

- Student
- Public sector planning
- Private sector planning
- Education
- Research
- Others, please specify:

Q2. Education background: What is your field(s) of study?

You may pick more than 1.

- Architecture
- Urban Planning
- Urban Design
- Landscape Architecture
- Social Sciences and Humanities
 - Please specify:
- Public Policy
- Real Estate
- Others, please specify:

Q3. What is your highest qualification attained?

- Diploma/Advanced Diploma
- Bachelors
- Masters
- PhD
- Others, please specify:

Q4. Where did you receive your education? Please state the country and the university.

Q5. How many years have you been involved in planning or planning-related fields?

Section B.

Q6. What are the skills you have learnt in your education that are valuable in the work you

do now?

Q7a. List the top two (2) essential qualities of good planners.

- 1:
- 2:

Q7b. List the top two (2) essential technical skills for good planners.

- 1:
- 2:

Q8. What are the important planning knowledge and skills that you wish were taught in school?

Section C.

Q9a. In your opinion, how important is physical planning knowledge in urban planning?

Please rank the importance of this topic on a scale from Not Important to Very Important.

Q9b. Why do you think physical planning knowledge is/is not important?

Optional.

Q10a. In your opinion, how important is data science in urban planning?

Please rank the importance of this topic on a scale from Not Important to Very Important.

Q10b. Why do you think data science is/is not important? (Optional)

Optional.

Section D.

Q11. What is a good city from your point of view?

Please rank the following statements in order of importance from 1 to 5, where '1' is the most important and '5' is the least important.

1. A good city needs to adapt to the evolving needs of its inhabitants over time
2. A good city builds the capacity of its inhabitants to participate in every stage of the planning process (from blueprint to implementation)
3. A good city promotes the maintenance of the culture and survival of its people and encourages individual growth and flourishing
4. A good city is essentially a humble work in progress that is fully aware of human imperfection and the need for care relating to one another

5. A good city cares for the environmental sustainability of the land

Q12. How can urban planning education equip future planners to meet future challenges?

Section D.

Q13. Are you a member of any professional organisations?

You may pick more than 1.

- Singapore Institute of Planners (SIP)
- Royal Town Planning Institute (RTPI)
- American Planning Association (APA)
- Planning Institute Australia (PIA)
- Canadian Institute of Planners (CIP)
- Hong Kong Institute of Planners (HKIP)
- Ikatan Ahli Perencanaan Indonesia (IAP)
- Korea Planning Association (KPA)
- Others, please specify:

Q14. What is your age group?

- Below 21
- 21 - 30
- 31 - 40
- 41 - 50
- 51 - 60
- 61- 70
- 71-80
- 81 and above

Q15. What is your gender?

Q16. What is your nationality?

Q17. Any last thoughts?

Optional.

