The 3rd International Conference of Imam Bonjol Library 2025
"LIBRARIES: GATEWAYS TO SDG'S"
https://proceeding.perpus.uinib.ac.id e-ISSN: 3090-3599

Transforming Surabaya's Library Spaces: Strategies Inspired by Brisbane City Council Libraries

Mengubah Berbagai Ruang Perpustakaan Surabaya: Strategi yang Terinspirasi oleh Berbagai Perpustakaan milik Brisbane City Council

Gunawan Tanuwidjaja
Petra Christian University, Faculty of Engineering and Planning, Architecture Program Study and Queensland University of Technology, Faculty of Engineering, School of Architecture and Built Environment, gunteitb2012@gmail.com
Janice Rieger
Griffith University, School Engineering and Built Environment - Arch and Design, j.rieger@griffith.edu.au
Jill Franz
Queensland University of Technology, Faculty of Engineering, School of Architecture and Built Environment, j.franz@qut.edu.au
Connie Susilawati
Queensland University of Technology, Faculty of Business & Law, School of Economics & Finance, c.susilawati@qut.edu.au
Priskila Adiasih
Petra Christian University, School of Business and Management, Accounting Program Study, priskila@petra.ac.id
Florencia Leonora Giovanni
PT. Trans Property Indonesia, florencialeonora@gmail.com

Abstract

Background of the study: Neighbourhood public libraries play a crucial role in supporting urban communities by providing spaces for reading, writing, social interaction, and creative activities. The Surabaya Municipality and Brisbane City Council (BCC) have adopted similar strategies in offering free public library services to enhance urban liveability and educational accessibility for all ages and abilities. BCC Libraries offers a wide range of programs such as reading initiatives, book talks, and Information Technology (IT) training. Surabaya's library network comprises 1,449 service points, including two main public libraries and 533 micro-libraries (or known as *Taman Bacaan Masyarakat/ TBM*). However, the accessibility of some micro-libraries remains a challenge, particularly for people with disabilities (PWD) and older individuals, necessitating urban replanning efforts. The study used Google mapping techniques to analyse library distribution in Surabaya, comparing it with Brisbane's system. It assessed spatial relationships, accessibility, and service radii while conducting land use analysis to evaluate urban integration. The findings emphasised library distribution disparities, supporting replanning strategies to enhance accessibility and optimise government assets for improved services. Furthermore, a comprehensive design was executed, incorporating all those recommendations.

Purpose: This study aims to assess the need for neighbourhood library relocation in Surabaya, taking inspiration from Brisbane City and other global examples. The research seeks to improve library accessibility and explore alternative strategies for underserved areas.
Method: The study employed Google mapping techniques, land use analysis, and interviews with key stakeholders, including Surabaya's library management and urban planning authorities. These methods were used to evaluate the feasibility of relocating libraries and identify potential solutions for improved accessibility.
Findings: Preliminary results indicate that relocating existing libraries is not a viable option due to the limited availability of municipal assets that can be repurposed for accessible library spaces. However, the study suggests that collaboration with private and community-owned libraries could provide an effective alternative to serve areas with limited access to public libraries.
Conclusion: A new library facility has been proposed for the western area of Surabaya, integrating open space with an innovative semi-outdoor library concept. This design includes additional health mitigation measures to reduce the potential spread of COVID-19. If accepted by the Surabaya Municipality, this initiative could serve as a model for enhancing library accessibility while fostering community engagement.

Keywords: *public library; replanning; access improvement; people with disabilities; googleMaps*

Abstract in Indonesia

Latar Belakang Penelitian: Perpustakaan umum di lingkungan sekitar memainkan peran penting dalam mendukung masyarakat perkotaan dengan menyediakan ruang untuk membaca, menulis, interaksi sosial, dan kegiatan kreatif. Pemerintah Kota Surabaya dan Dewan Kota Brisbane (Brisbane City Council/ BCC) telah mengadopsi strategi yang sama dalam menawarkan layanan perpustakaan umum gratis untuk meningkatkan kualitas hidup masyarakat perkotaan dan aksesibilitas pendidikan untuk segala usia dan kemampuan. Perpustakaan - perpustakaan BCC menawarkan berbagai macam program seperti inisiatif membaca, diskusi buku, dan pelatihan Teknologi Informasi (Information Technology/ IT). Jaringan perpustakaan di Surabaya terdiri dari 1.449 titik layanan, termasuk dua perpustakaan umum utama dan 533 perpustakaan mikro (atau Taman Bacaan Masyarakat/ TBM). Namun, aksesibilitas beberapa perpustakaan mikro masih menjadi tantangan, terutama bagi para penyandang disabilitas dan orang tua, sehingga perlu dilakukan upaya perencanaan ulang di perkotaan. Penelitian ini menggunakan teknik pemetaan Google untuk menganalisis distribusi perpustakaan di Surabaya, dan membandingkannya dengan sistem di Brisbane. Studi ini menilai hubungan spasial, aksesibilitas, dan radius layanan sambil melakukan analisis tata guna lahan untuk mengevaluasi integrasi perkotaan. Temuannya menekankan pada kesenjangan distribusi perpustakaan, mendukung strategi perencanaan ulang untuk meningkatkan aksesibilitas dan mengoptimalkan aset pemerintah untuk meningkatkan layanan. Selanjutnya, sebuah desain komprehensif dilaksanakan dengan menggabungkan semua rekomendasi tersebut.
Tujuan: Penelitian ini bertujuan untuk menilai kebutuhan relokasi perpustakaan lingkungan di Surabaya, dengan mengambil inspirasi dari Kota Brisbane dan contoh-contoh global lainnya. Penelitian ini bertujuan untuk meningkatkan aksesibilitas perpustakaan dan mengeksplorasi strategi alternatif untuk daerah yang kurang terlayani.
Metode: Penelitian ini menggunakan teknik pemetaan Google, analisis tata guna lahan, dan wawancara dengan para pemangku kepentingan utama, termasuk manajemen perpustakaan dan otoritas perencanaan kota Surabaya. Metode-metode ini digunakan untuk mengevaluasi kelayakan relokasi perpustakaan dan mengidentifikasi solusi potensial untuk meningkatkan aksesibilitas.
Temuan: Hasil awal menunjukkan bahwa merelokasi perpustakaan yang ada bukanlah pilihan yang layak karena terbatasnya ketersediaan aset kota yang dapat digunakan kembali untuk ruang perpustakaan yang dapat diakses. Namun, studi ini menunjukkan bahwa kolaborasi dengan perpustakaan swasta dan milik masyarakat dapat menjadi alternatif yang efektif untuk melayani daerah dengan akses terbatas ke perpustakaan umum.
Simpulan: Sebuah fasilitas perpustakaan baru telah diusulkan untuk wilayah barat Surabaya, mengintegrasikan ruang terbuka dengan konsep perpustakaan semi-outdoor yang inovatif. Desain ini mencakup langkah-langkah mitigasi kesehatan tambahan untuk mengurangi potensi penyebaran COVID-19. Jika diterima oleh Pemerintah Kota Surabaya, inisiatif ini dapat menjadi model untuk meningkatkan aksesibilitas perpustakaan sekaligus mendorong keterlibatan masyarakat.

Kata Kunci: perpustakaan umum; perencanaan ulang; peningkatan akses; penyandang disabilitas; googleMaps

Introduction

A neighbourhood public library is essential for serving the urban community. The community can enjoy the library as a third space for reading, writing, interacting, and creating new

activities. Surabaya Municipality and Brisbane City Council (BCC) have similar approaches to providing free public libraries for their residents and creating liveable cities with educational facilities for all ages and abilities (Roosa, 2021, Brisbane City Council., 2025c). BCC Libraries provide excellent inclusive library services, including reading programs, book talks, Information Technology training, and workshops (Brisbane City Council., 2025b). On the other hand, the Surabaya Municipality Library and Archives Management Agency provides 1.449 library service points, consisting of two main public libraries, 533 micro-libraries, and others. During the Google mapping process, it was recognised that Libraries in Surabaya were not distributed equally accessible to the communities and were not effectively serving Surabaya residents, including people with disabilities (PWD) and the older generation. Therefore, a new replanning and redesigning public libraries strategy are essential for improving the accessibility of public libraries.

A public library is considered an essential in education in Indonesia and therefore careful planning and design are needed (Peraturan Pemerintah No. 24 Tahun 2014 Pelaksanaan Undang-Undang No. 43 Tahun 2007 Tentang Perpustakaan [Government Regulation No. 24 Year 2014 Implementation of Act No. 43 Year 2007 on Library], 2014; Sumekar, 2011). However, technology and digitalisation have changed how information is used and managed. The planning and design process requires new design thinking for library space. (Dewe, 2016; Foster et al., 2016; Roberts, 2018; Scott Banks et al., 2014; E. Steinfeld & Maisel, 2012). Library users' reading interest and comfort decreased because of the dull image and design of the library (Aliyatin, 2016). Further, there are two opposing factors relating to users' reading comfort.

The first factor relates to users' comfort and rest in reading; readers' eyes need to rest by looking at distances and green scenery (Canadarma et al., 2020; Lee & Lee, 2019; Liu et al., 2022; Such readers can enjoy extensive reading (Kurniawati & Prajarto, 2015). Also, the current library space design does not separate the circulation, book repository and reading zones. The spatial design limits the use of the space so that users have a comfortable area for reading and eye-resting activities, such as simply looking out in the open or outside of the library. The conventional library concept also has a limited sense of space, especially where the ceiling in the space is low. Many library designs avoid glare and shadows that will create user discomfort (Lasa, 2020; Velasquez, 2013).

The second factor contributing to readers' discomfort is the book's requirement for artificial ventilation, with specific humidity and temperature (Lasa, 2020; Velasquez, 2013). Therefore, the book repository cannot be exposed to natural ventilation that brings humidity or sunlight and causes fragility and damage. Book repository also requires direct lighting with certain specifications to create more accessible shelves ;Mediastika, 2013; Sumekar, 2011). Moreover, Koontz & Gubbin, (2010) and Cerdan Chiscano, (2021) also recommend improving access to people with disabilities (PWD) to technology and library collections. Therefore, simplicity, consistency and flexibility are needed to create accessible libraries. Additionally, measures must be taken during library planning to create accessible libraries (Dewe, 2016; Kurniawan et al., 2017). Thus, consideration of appropriate collections facilities, library services and additional needs is essential. Other factors to consider are developing good communication with communities and understanding the local conditions (Dewe, 2016).

Method

The study employed Google mapping techniques and land use analysis to examine neighbourhood libraries in Brisbane City and other cities worldwide. The Google mapping technique utilised Google Earth Engine (GEE), a powerful cloud-based platform for geospatial analysis. Researchers used Landsat imagery and Sentinel satellite data to classify land use and land cover (LULC). For land use analysis, the study focused on identifying key urban features, including built-up areas, green spaces, and transportation networks. The analysis incorporated spectral indices and topographic data to improve classification precision. The study examined LULC changes over time, assessing trends in urban expansion, and infrastructure development (Akanbi & Agunbiade, 2013; Hurley, 2013).

Regarding informants, the study involved interviews with Surabaya library management and urban planning authorities with Case Study Research (CSR) framework (Yin, 2014). The selection criteria for participants included expertise in urban planning, library management, and community engagement. There are 19 participants interviewed in this research, but key informant interviews were conducted to gather qualitative insights. Additionally, the study explored a library design process to integrate university libraries west of Surabaya. This process was based on urban analysis, aiming to develop a new typology that addresses gaps in library services across different areas of Surabaya. The findings contribute to urban planning strategies and the optimisation of public library accessibility.

Table 1. The Numbers of Participants involved in the research

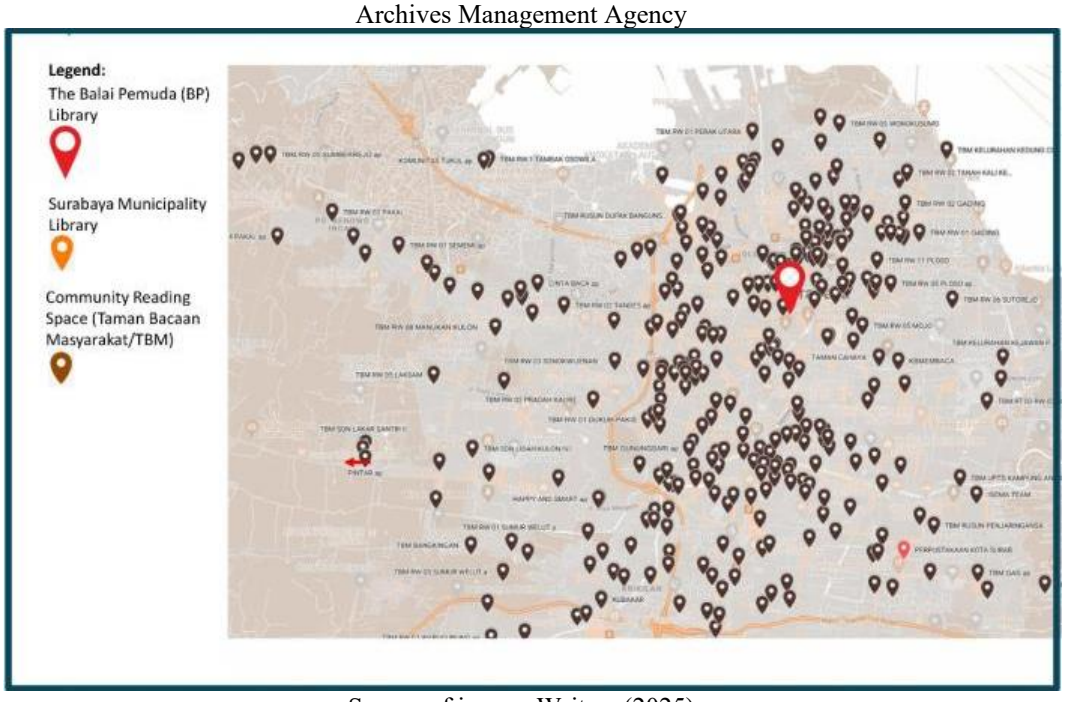
Participants	**Indonesian Case Study**	**Australian Case Study**
	Indonesian Participants (8 People)	Australian Participants (11 People)
People with disabilities (PWD)	**3 Participants with Disabilities:**	**3 Participants with Disabilities:**
	• Participant with wheelchair • Participant with total blindness • Participant with low vision	• Participant with wheelchair • Participant with total blindness • Participant with low vision
Library Services	**5 Head of Librarian and Librarians**	**5 Brisbane City Council (BCC) Central Librarian and Librarians**
	• Head of Public Library • Head of Library Service Section • Surabaya Librarian no 1 • Surabaya Librarian no 2 • Surabaya Librarian no 3	• BCC Libraries Manager • Central Librarian • Collection Manager • Local Librarian • Library Futures
Architects		• Architect in charge of the NF Library redesign
Inclusive Design Advocates and Access Consultants		• UD Advocate in Australia

Result and Discussion

This study's Google mapping technique and land use analysis provided a detailed spatial comparison of library distribution between Surabaya and Brisbane. Using Google Maps API, researchers extracted geospatial data, including GPS coordinates and real-time mapping insights, to assess accessibility and integration within the urban landscape. Distance analysis, employing a 400-meter walkability radius, revealed significant segregation in Surabaya's library placement compared to the more accessible Brisbane model. Kernel Density Estimation and Buffer Zone Analysis showed that Surabaya's libraries were often repurposed government buildings—such as *Balai Rukun Tetangga, Balai Rukun Warga, Kantor Kelurahan, and Kantor Kecamatan*—rather than purposefully planned community spaces. The majority of micro-libraries in Surabaya were local government offices that were converted into libraries, including *Balai Rukun Tetangga* (the gathering place of the smallest administrative unit in Indonesian neighbourhoods serving up to 250 residents), *Balai Rukun Warga* (the gathering place of a community-based administrative unit serving up to 2,500 residents), *Kantor Kelurahan* (urban village centre serving up to 50,000 residents), and *Kantor Kecamatan* (district centre serving up to 100,000 residents). These libraries frequently lacked accessibility features for persons with disabilities and older people, limiting their reach and effectiveness.

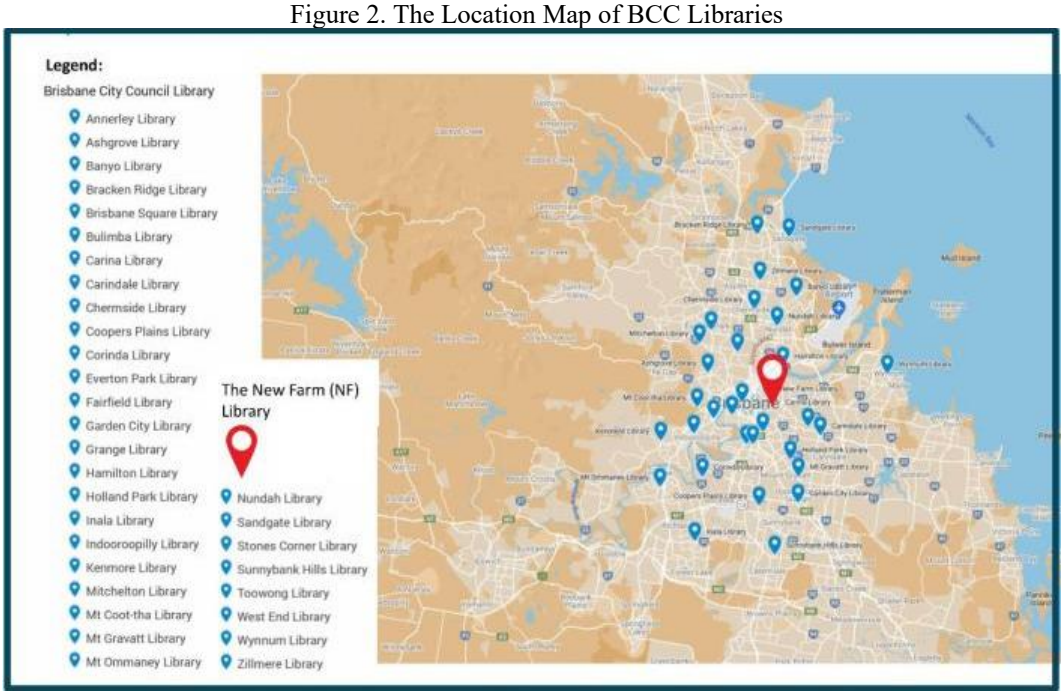
Meanwhile, of the thirty-three (33) public libraries in Brisbane, the New Farm Library was selected to show the integration of libraries at the neighbourhood level and how the library was located within 400 meters of walking distance in the central urban area of New Farm. To address Surabaya's spatial inequalities, the study proposed two key strategies: first, reorganizing library locations within residential areas for better access, and second, redesigning existing libraries to align with universal design principles and pedestrian-friendly infrastructure. This approach aims to create a more inclusive, equitable urban library system in Surabaya, enhancing its long-term sustainability.

Figure 1. The Location Map of Libraries under the Management of the Surabaya Municipality Library and Archives Management Agency



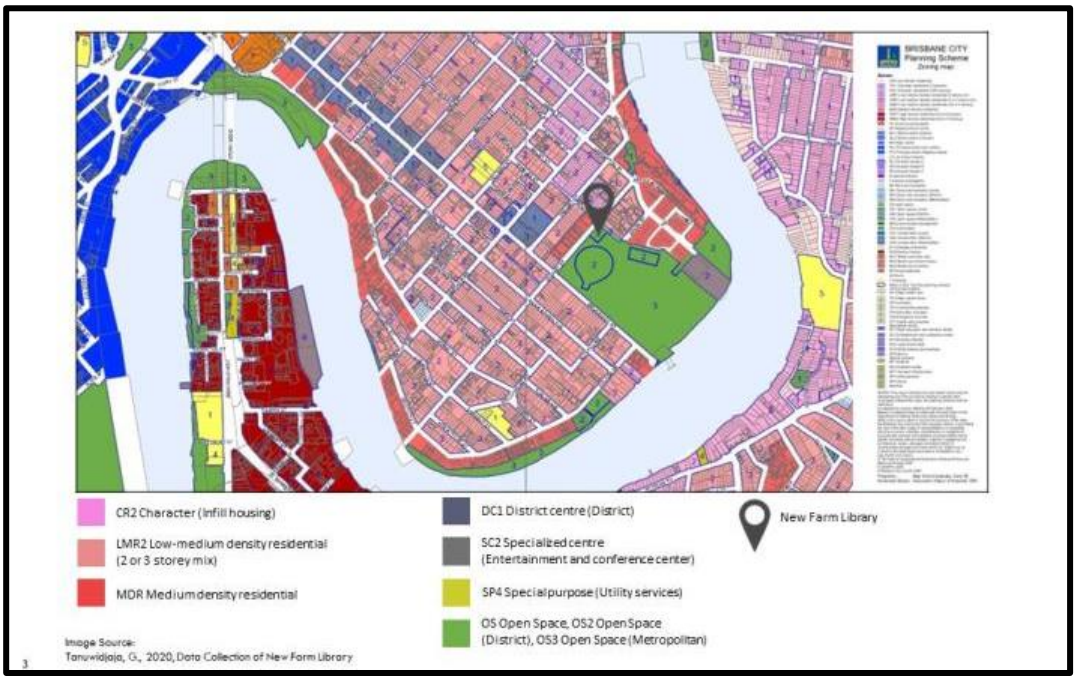
Source of image: Writers (2025)

Figure 2. The Location Map of BCC Libraries



Source of image: Writers (2025) based on (Brisbane City Council., 2025c)

Figure 3. The Context of the New Farm Library based on Googlemap Brisbane 2014 Land Use Plan.

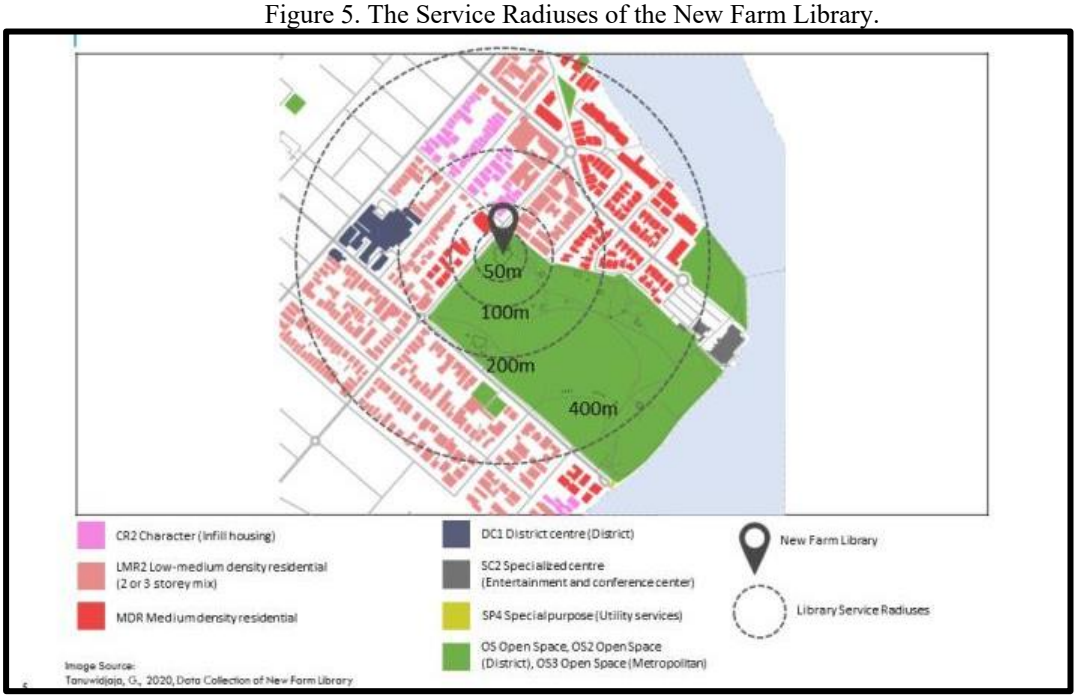


Source of image: Writers (2025) based on Brisbane City Council., (2025a) and Brisbane City Council., (2025d).

Figure 4. The Urban Context Analysis of the New Farm Library.

Source of image: Writers (2025) based on Brisbane City Council., (2025a) and Brisbane City Council., (2025d).

Figure 5. The Service Radiuses of the New Farm Library.



Source of image: Writers (2025) based on Brisbane City Council., (2025a) and Brisbane City Council., (2025d).

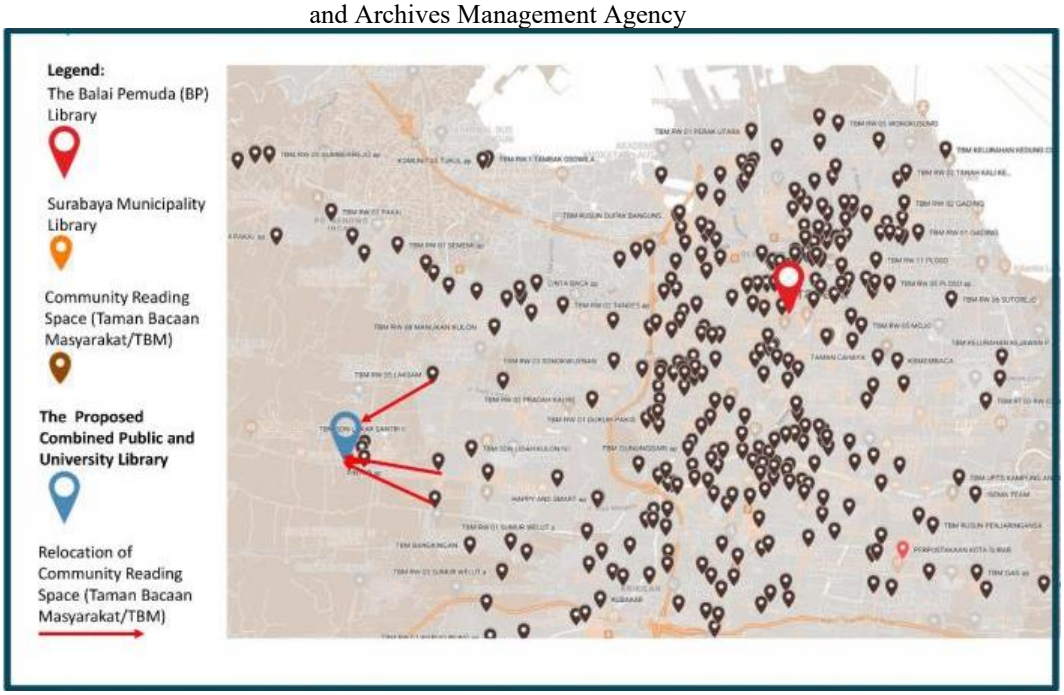
Replanning strategy

Based on the Brisbane City Council (BCC) libraries case study, a new combined neighbourhood public and university library was proposed in the Jl. Citraraya University of Surabaya (UNESA), located in the Lakarsantri District, Lidah Kulon Village, within the Wiyung Planning Unit (UP Wiyung). The proposal aimed to integrate academic and public library resources to enhance community access to educational materials and library services. A 10,000 square meter site was selected within the UNESA complex, specifically designated for institutional

or social facilities land use. The location was strategically chosen to serve both university students and local residents, fostering a knowledge-sharing environment and supporting lifelong learning initiatives (Yin, 2014). Additionally, the site's accessibility, proximity to academic institutions, and availability of infrastructure were key factors influencing its selection.

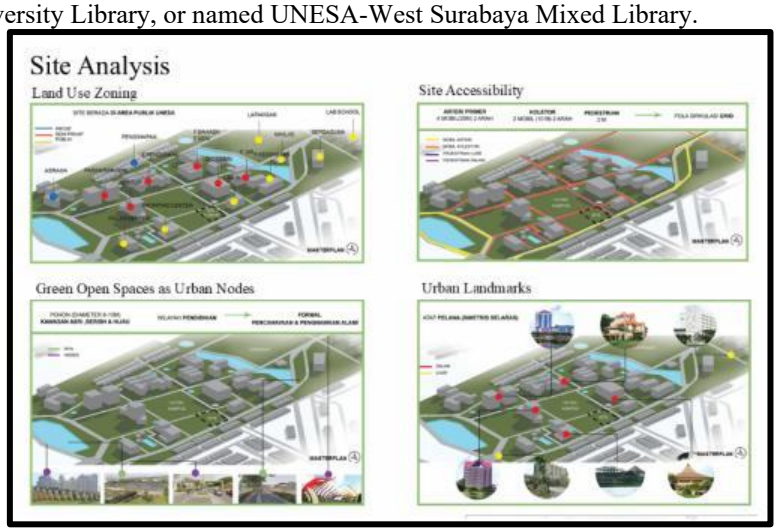
An extensive urban and land-use analysis was conducted to assess the potential development of the library facility. This analysis included geospatial mapping, demographic studies, and accessibility evaluations to ensure the library's optimal placement and functionality (Akanbi & Agunbiade, 2013; Hurley, 2013). Moreover, discussions with local stakeholders, including Surabaya library management and urban planning authorities, provided insights into community needs, expected usage patterns, and design considerations. The findings from the study suggested that a hybrid library model, combining university research resources with public services, could address existing gaps in library accessibility and service distribution in Surabaya. By leveraging urban planning principles and library design strategies, the proposed facility aims to create a new typology of public-university libraries that can enhance literacy rates, digital access, and community engagement.

Figure 6. The Proposed New Combined Public and University Library Location compared to other Libraries under the Management of the Surabaya Municipality Library and Archives Management Agency



Source of image: Writers (2025).

Figure 7. The Site Analysis of Proposed New Combined Public and University Library, or named UNESA-West Surabaya Mixed Library.



Source of image: Giovanni, (2017).

A combined public and university library, rebranded as UNESA-West Surabaya Mixed Library, was proposed to cater for the need for a public library in the western area of Surabaya. The area was dominated by new high-class housing and universities. The mixed library concept was also selected to respond to the limited land availability managed by the Indonesian government in the west of Surabaya. This strategy aligned with the strategy to optimise government assets in replanning Surabaya libraries. Surabaya Public Library, with its relevant collections, was proposed to occupy the lower levels (first and second floors). At the same time, the UNESA library and its collection are on the upper level (third, fourth and fifth floors). Therefore, user confusion can be minimised.

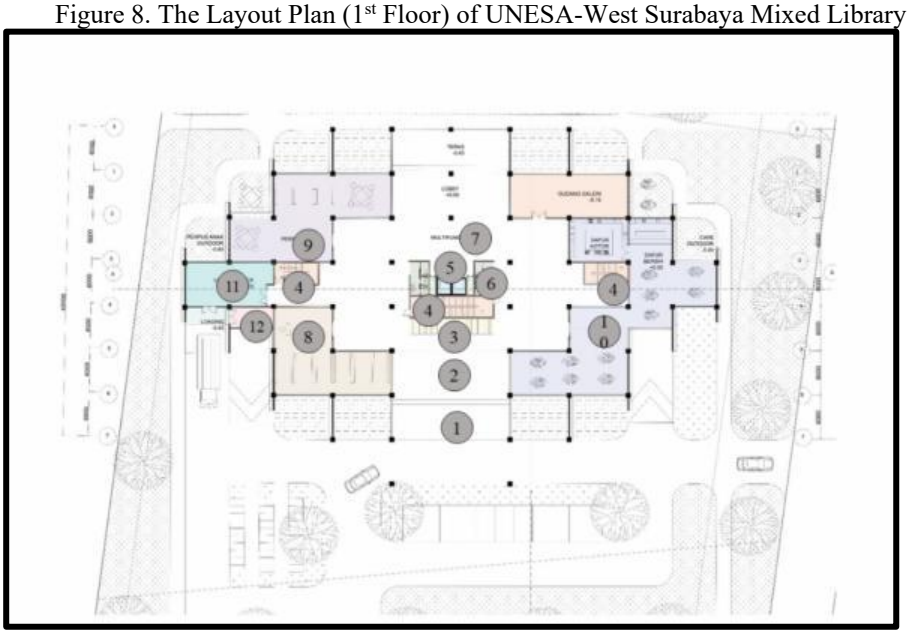
Design strategy for UNESA-West Surabaya Mixed Library

The UNESA-West Surabaya Mixed Library was conceptualised to incorporate a semi-outdoor public library design, as outlined by Giovanni, (2017). The architectural approach integrates outdoor elements into the building structure, creating a harmonised indoor-outdoor transition that promotes accessibility and openness. This mixed library was designed to utilise natural ventilation and indirect lighting, enhancing sustainability and reducing energy consumption. The semi-outdoor layout serves as an informal learning and information hub, adopting a frame structure that enables continuous spatial flow between indoor and outdoor areas, while leveraging natural light exposure from the North and South. To ensure a quiet and efficient circulation system, visitor movement within the reading area and book repository was planned with minimal disruption. Consequently, book delivery circulation was positioned adjacent to the book repository and management zones, facilitating seamless access for users and library staff. The library system adopts an open service model, allowing users to retrieve reading materials independently. Five distinct zones were proposed, including the public zone (featuring a café, gallery, bookstore, and children's library), semi-public zone (with audiovisual and multifunctional rooms), semi-private zone (designated for reading spaces and community meetings), and private university zones (comprising reading areas, discussion spaces, and a reference book repository), along with essential utility spaces.

Given the necessity of preventing virus transmission, particularly in response to COVID-19, the library design incorporates semi-outdoor and air conditioning concepts (Morawska et al., 2020). These strategies include adequate ventilation, particle filtration, and disinfection facilities to mitigate airborne transmission risks in public spaces such as libraries (Abuhegazy et al., 2020; Somsen et al., 2020; Sun & Zhai, 2020). The UNESA-West Surabaya Mixed Library, developed utilising available government assets, represents an efficient and cost-effective solution for library infrastructure expansion in Surabaya. This approach provides a replicable model for future urban

planning and library redesign initiatives, ensuring enhanced accessibility and sustainable public learning environments.

Figure 8. The Layout Plan (1st Floor) of UNESA-West Surabaya Mixed Library

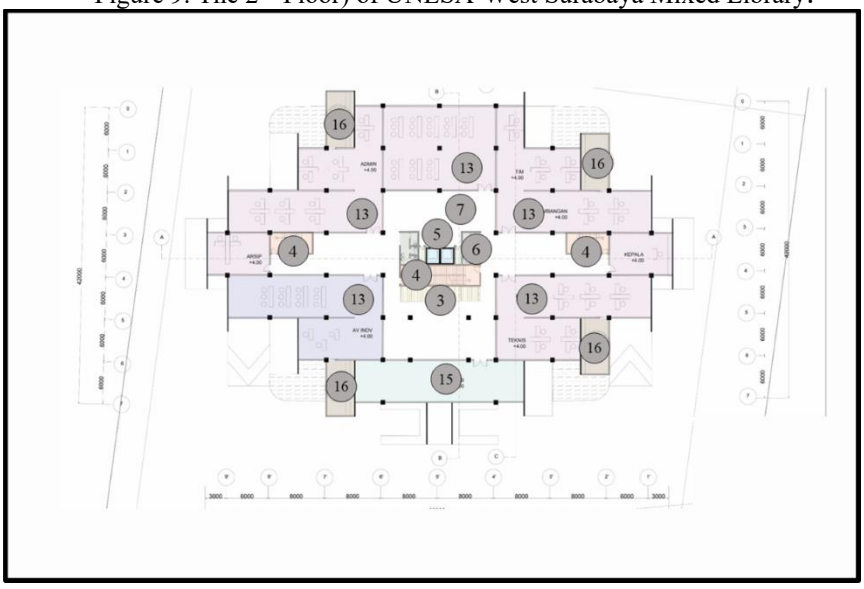


Source of image: Writers (2025).

Legend:

1. Entrances
2. Lobby
3. Circulation Stairs
4. Fire Stairs
5. Lift
6. Toilets
7. Gallery
8. Book Stores
9. Children's Library Section
10. Café
11. Loading Dock
12. Utility Rooms

Figure 9. The 2nd Floor) of UNESA-West Surabaya Mixed Library.



Source of image: Writers (2025).

Legend:

1. Entrances
2. Lobby
3. Circulation Stairs
4. Fire Stairs
7. Gallery
13. Library Administration
14. Audio Visual Rooms
15. Multifunctional Rooms

5. Lift
6. Toilets
16. Balconies

Figure 10. The Perspective of UNESA-West Surabaya Mixed Library

Source of image: Writers (2025)

Figure 11. The Semi-outdoor Reading Areas of UNESA-West Surabaya Mixed Library

Source of image: Writers (2025).

Conclusion

A neighbourhood public library is essential in community development. The community can enjoy the library facility as their third place, a space for reading and writing, a place to interact, and a hub for new community-based activities. In recognising this, Surabaya Municipality sees the need for a properly designed free public library for all residents of all ages and abilities. The two interrelated issues in library development in Surabaya are micro-libraries that are not easily accessible and inadequate funding and resources for replanning and building. Therefore, this research that examines the concept of library replanning in Brisbane City could propose a new library in the western area of Surabaya, integrating the open space and library typology on empty land owned by the government.

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