

# Bridging past and future: Opportunities and challenges of transit-oriented development in heritage urban districts from practitioners perspectives

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**Abstract.** As cities pursue sustainability through Transit-Oriented Development (TOD), historic urban districts face increasing pressure to modernize without losing their cultural identity. While TOD supports compact, accessible, and low carbon development, its integration with heritage areas remains underexplored, especially from the perspective of practitioners in planning, design, and conservation. This study addresses that gap by examining the opportunities, challenges, and strategies for aligning TOD with heritage preservation. A mixed-method approach was adopted, combining bibliometric analysis to identify research gaps, a structured questionnaire of 15 practitioners across Asia, and comparative case studies from Chicago, Istanbul, Tokyo, and Menteng. The findings reveal that TOD, when contextually adapted, can enhance connectivity, stimulate local economies, and promote adaptive reuse. Yet, challenges persist, including zoning conflicts, visual disruption, and limited financial incentives. Strategic tools identified include Transfer of Development Rights (TDR), tax incentives, placemaking, and multi-stakeholder collaboration. The findings are synthesized in a Comparative Matrix to offer actionable insights. This research contributes to Sustainable Development Goal (SDG) 11 by promoting strategies that reconcile progress with preservation and supports more integrated TOD approaches in heritage settings, offering guidance for practitioners, policymakers, and scholars navigating this critical urban intersection.

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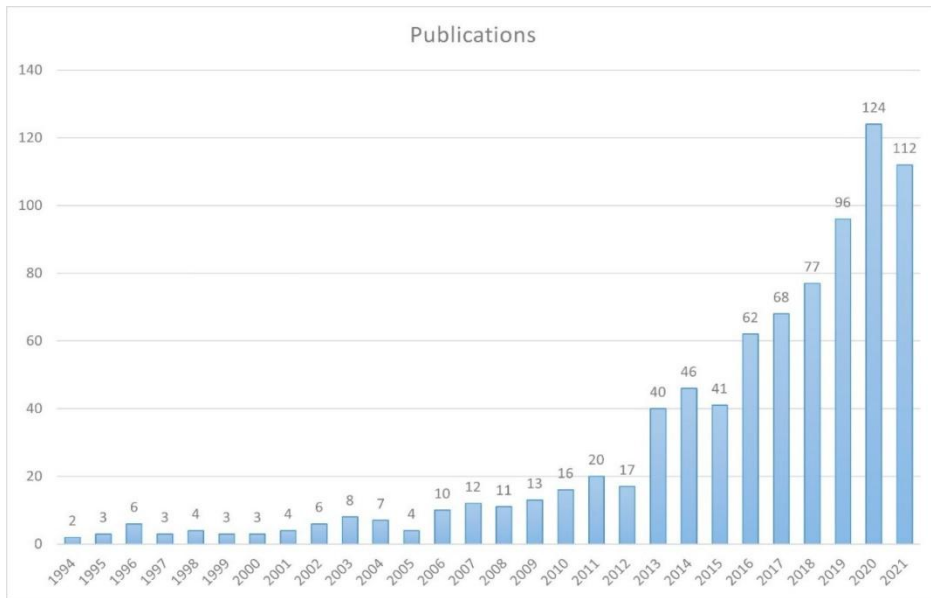
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## 1 Introduction

Developing sustainable cities remains a central priority for urban decision makers worldwide [1]. Transit-Oriented Development (TOD) serves as a key strategy to promote sustainable and equitable urban growth by integrating mobility systems with land use planning. Defined by high density, mixed land uses, and pedestrian-friendly environments typically located within a ten-minute walking distance from transit stations. TOD has been widely adopted for its ability to foster vibrant, accessible, and connected communities. Initially conceived in North America to address the problems of urban sprawl [2, 3], TOD has since gained global relevance, aligning with broader goals of urban revitalization, environmental sustainability, and livability.

Its adoption in cities across Europe and Asia [4], where compact, transit-oriented urban forms have long existed [5], demonstrates how TOD functions not merely as a corrective model but as a framework for reinforcing existing urban characteristics while enhancing accessibility and sustainable mobility. In historic urban areas, however, the application of TOD presents complex challenges that extend beyond technical considerations of density and transportation integration. Heritage cities embody layers of historical, cultural, and architectural values that shape urban identity and continuity over time. Implementing TOD in such contexts requires balancing development pressures with the preservation of cultural heritage and the sociocultural integrity of public life [6]. Scholars such as Renne and Listokin [7] argue for an “anti-globalized” approach to TOD as one that resists standardized models and instead embraces local history, culture, and spatial traditions. This context-sensitive perspective ensures that TOD supports not only sustainable urban growth but also the continuity of cultural identity, social cohesion, and the vibrancy of public spaces embedded within heritage areas.

Despite its potential benefits, the increasing demand for high-density, mixed-use development within TOD zones often conflicts with the fine-grained morphology and social patterns of historic neighborhoods. Many heritage districts were not originally designed to accommodate such intensification, and insensitive interventions risk diminishing their historical and architectural significance. Yet, evidence from practice suggests that heritage preservation and TOD can coexist productively. However, evidence from practice supports in 2001, the Great American Station Foundation published a report titled *Economic Impact of Rail Station Revitalization*, which found that the revitalization of historic rail stations can generate substantial positive impacts, including increased employment, household income, property values and local property tax revenues for cities and towns of various scales [1]. This indicates that when TOD principles are aligned with conservation efforts, they can generate both cultural and economic benefits, transforming preservation from a constraint into an opportunity for inclusive and resilient urban development.



**Fig. 1.** Publications of TOD-related literature 1994-2021 [1].

These unresolved tensions between modernization and preservation highlight a broader gap in academic and professional discourse. While the literature on TOD has expanded significantly since the 1990s (Figure 1), few studies have explored how its principles can be applied in heritage contexts without undermining historical and cultural values. To address this gap, this study investigates practitioner perspectives on the integration of TOD and heritage preservation through questionnaire surveys involving planners, architects, academics, heritage professionals, and policymakers. The findings reveal a range of opportunities, challenges, and strategies related to heritage-led TOD implementation, which are synthesized in a Comparative Matrix to guide context-sensitive practice.

Ultimately, the study argues that TOD and heritage conservation should not be seen as opposing agendas but as complementary approaches that, when carefully planned and coordinated, can reinforce one another. With the right mix of regulatory tools, financial incentives, and institutional collaboration, TOD can serve as a catalyst for revitalizing historic areas, enhancing urban livability, and sustaining cultural identity. In this way, heritage-led TOD aligns closely with the goals of Sustainable Development Goal 11, creating cities that are sustainable, inclusive, and culturally resilient.

## 2 Literature review

### 2.1 TOD, historic preservation, and why they need each other

Historic preservation and transit-oriented development (TOD) have often moved on separate tracks, yet cities increasingly face situations where they intersect. Preservation projects struggle with funding and incentives, while TOD policies tend to push for higher densities that can clash with the scale and character of historic fabric. At the same time, historic districts can guide future growth when supported by targeted tools, such tax credits, property-tax relief, TDR, which are rarely available outside heritage contexts [8-11]. Seeing preservation and TOD as connected goals helps planners confront real trade-offs and uncover practical synergies.

## **2.2 TOD as planning objective**

TOD advances sustainability by shifting trips to transit and active modes, reducing car dependence, and fostering compact, mixed-use, connected neighbourhoods [7, 12]. Different actors back TOD for different reasons: (1) transit agencies to boost ridership and system efficiency [13], (2) developers to capture value in high-access, high-density, mixed-use projects [2], (3) MPOs to curb congestion and emissions [14], and (4) municipalities to catalyze local regeneration. Spatially, high-capacity transit works best in dense, mixed-use settings; walking/cycling serve local access; cars dominate in low-density, dispersed patterns [15]. Effective TOD combines mass transit for longer trips with short, walkable access for daily needs, delivered through horizontal/vertical mixed-use, continuous pedestrian networks, and great public spaces [16]. In short, TOD is more than just infrastructure, it is an integrated transport, land use, and urban design strategy aligned with SDG 11.

## **2.3 Historic preservation as planning objective**

Preservation today goes beyond saving structures, it supports identity, regeneration, and sustainability, especially through adaptive reuse that saves materials and carbon [11, 17]. A practical toolkit has emerged: (1) TDR to shift density away from protected sites [9, 17]; (2) fiscal incentives (heritage tax credits, fee waivers, grants) to close feasibility gaps [8]; (3) zoning overlays/design guidelines to manage massing, height, and façades [10, 11]; and (4) multi-stakeholder governance to reconcile objectives [10]. Culturally based placemaking weaves tangible and intangible heritage into everyday urban spaces, strengthening belonging and local identity. The Pressure from rapid urbanization and tourism mean preservation cannot be a defensive “freeze or passive”, it must be actively integrated with contemporary, and low-carbon urbanism [18].

## **2.4 Research gap and this study contribution**

Despite a large TOD literature, work at the TOD - heritage intersection is rare, as found in previous literature [1], in a Scopus scan of 2,162 TOD items (from 1993 to July 2025), < 1% explicitly address heritage, so heritage terms barely appear in bibliometric maps. Yet practice shows frequent overlap: in the U.S., a notable share of fixed-route stations lie in or near historic districts [19], and cases like Istanbul’s Haliç Metro Bridge demonstrate how transit can enable culturally sensitive placemaking [4]. More broadly, 53 countries now contribute to TOD scholarship, but integration with heritage remains thin.

This study responds by reframing TOD and preservation as shared objectives. It brings practitioner perspectives (planners, architects/urban designers, heritage professionals, policymakers) to examine how incentives, governance, and design tools can align mobility, climate, and cultural goals. The contribution is twofold. The first is conceptual, showing how compact, mixed-use, walkable TOD can fit heritage contexts without erasing identity. The second is practical, identifying implementable mechanisms (TDR, targeted tax tools, overlays, clear design guidance, collaborative governance) to make integrated outcomes deliverable [20, 21]. In sum, both TOD and preservation are socio-technical, multi-actor processes. Integrating them transparently offers cities a path to meet SDG 11, strengthen place identity, and improve everyday access, without sacrificing cultural continuity.

### 3 Research method

#### 3.1 Research design

This study employs a descriptive–quantitative design (Figure 2) using a questionnaire survey of practitioners, urban planners, architects/urban designers, policymakers, academics, and heritage professionals, to capture perceptions of TOD heritage integration. The instrument consisted mainly of multiple-choice items for descriptive statistics, with two open-ended prompts used only to enrich interpretation. This approach is appropriate for identifying trends, frequencies, and patterns [22, 23]. To justify novelty, a bibliometric analysis of Scopus literature via VOSviewer was conducted to map the discourse and verify the research gap.

To broaden context, a comparative case review of Chicago, Istanbul, Tokyo, and Menteng was added as a descriptive, interpretive frame, complementing the survey by situating findings in real planning, policy, and design settings. The cross-case contrasts and commonalities illuminate the complexity of implementing TOD in heritage districts and inform adaptable, context-sensitive strategies for conservation and planning.

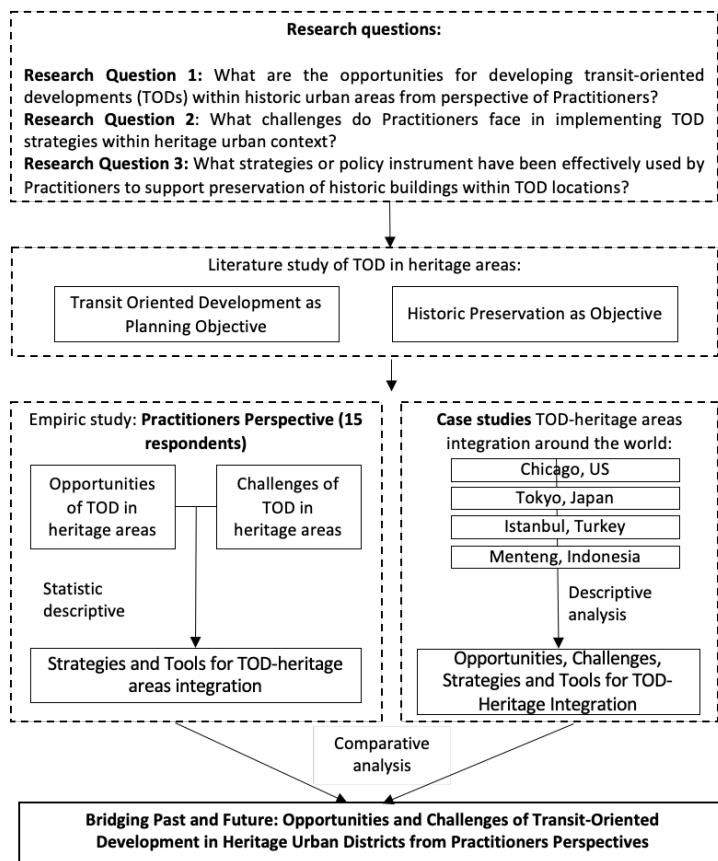


Fig. 2. Research workflow. Source : Author, 2025

### **3.2 Data collection method**

The primary data were gathered via a one-month online questionnaire (Google Forms) from May until June 2025, targeting professionals involved in TOD and heritage, such as urban planners, architects/urban designers, policymakers, academics, and heritage specialists. In line with Creswell & Creswell [22] and Bryman [24], the survey instrument was designed to align directly with the study objectives and to capture attitudes, opinions, and perceptions systematically. The questionnaire comprised five sections: (1) respondent background; (2) opportunities of TOD in heritage contexts; (3) perceived challenges; (4) strategies and tools; and (5) open-ended reflections. Most items used multiple-choice formats (Figure 5) to enable descriptive statistical analysis, while two open-ended prompts provided limited qualitative insights to support interpretation. The survey was distributed online to efficiently reach diverse locations and backgrounds using purposive selection of relevant practitioners [24, 25], with voluntary participation and informed consent obtained from all respondents.

To complement the primary data, a literature-based review of selected international cases, such as Chicago, Istanbul, Tokyo, and Menteng (Jakarta), was conducted using peer-reviewed articles and official planning reports. These cases were not treated as separate empirical evidence but as contextual and illustrative comparators that situate the survey findings within real-world planning, policy, and design settings, thereby enriching the interpretation of quantitative trends and clarifying how TOD principles are applied in heritage districts globally. The distribution of the questionnaire was conducted online to ensure efficiency in reaching participants across diverse locations and professional backgrounds. This method enables researchers to deliberately select participants who are considered the most appropriate for providing information aligned with the study's objectives [24, 25]. In accordance with standard research ethics, participants were entirely voluntary and informed consent was obtained from all respondents to ensure they fully understood their involvement.

The questionnaire collected responses from fifteen professionals with expertise in various fields closely related to urban development, including urban planning, architecture, urban design, heritage conservation, and academia. This diversity reflects the interdisciplinary nature of TOD and heritage preservation, providing perspectives from countries where heritage districts are increasingly facing challenges related to urban growth and the implementation of TOD strategies.

The majority of respondents (46.7%) identified as architects and urban designers, followed by academics (33.3%), urban planners (13.3%), and policymaker (6.7%). In terms of professional involvement, 53.3% reported working across both TOD and heritage related projects, while 33.3% specialized primarily in heritage conservation, and 13.3% focused on TOD fields. This range of backgrounds ensures that the survey captures a board of perspectives from practice-based and research-based domains alike, enhancing the relevance of the study to contemporary urban planning challenges.

Respondents were drawn from two countries, Indonesia, Malaysia, which are undergoing rapid urban transformation, particularly in metropolitan areas. Both nations are actively developing extensive mass transit systems while simultaneously confronting the pressures of conserving their historical urban fabrics. Although this study is limited to practitioners in two countries, it responds to a broader academic concern highlighted by Fang et al. [1], despite a global increase in TOD research, publication from developing countries, particularly in Asia remain underrepresented, indicating a gap in the literature that this study helps begin to address.

### 3.3 Data analysis techniques

The primary data collected through the structured questionnaire (Figure 3) were analyzed using descriptive statistical techniques to identify trends, frequencies and patterns in respondents' perceptions of the opportunities and challenges of integrating TOD with heritage preservation. Responses from multiple-choice questions were processed using Microsoft Excel, producing frequency distributions and percentage analyses to provide a clear overview of practitioners' perspectives.

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The image shows a screenshot of a questionnaire with two columns of multiple-choice questions. The left column asks for 'main opportunities' and the right column asks for 'main challenges'. Both columns have several options with checkboxes, some of which are checked. The options include transportation connectivity, heritage tourism, local economy, public spaces, historic buildings, and other for opportunities; and conflict with conservation, visual impact, gentrification, zoning regulations, coordination between agencies, and financial incentives for challenges.

Question	Options
What are the <b>main opportunities</b> you see from implementing TOD in heritage areas? (select all that apply)	<input checked="" type="checkbox"/> Improving transportation connectivity <input checked="" type="checkbox"/> Supporting heritage tourism <input type="checkbox"/> Strengthening the local economy (SMEs, creative industries) <input type="checkbox"/> Enhancing public spaces <input type="checkbox"/> Revitalizing historic buildings (adaptive reuse) <input type="checkbox"/> Other: _____
In your opinion, what are the <b>main challenges</b> in developing TOD within heritage areas? (select all that apply)	<input checked="" type="checkbox"/> Conflict between TOD density requirements and historic conservation <input checked="" type="checkbox"/> Visual impact risks on the heritage value of the area <input type="checkbox"/> Gentrification pressures or displacement of local communities <input checked="" type="checkbox"/> Inadequate zoning regulations <input checked="" type="checkbox"/> Lack of coordination between agencies (transportation, heritage, urban planning) <input checked="" type="checkbox"/> Lack of financial incentives <input type="checkbox"/> Other: _____

**Fig. 3.** Multiple-choice question. Source : Author, 2025

Additionally, responses from the two open-ended questions were analyzed qualitatively through simple content analysis. This analysis aimed to capture recurring themes and key insights from respondents' narratives to complement the quantitative findings. However, these qualitative insights were treated as supplementary and did not constitute a separate qualitative research phase.

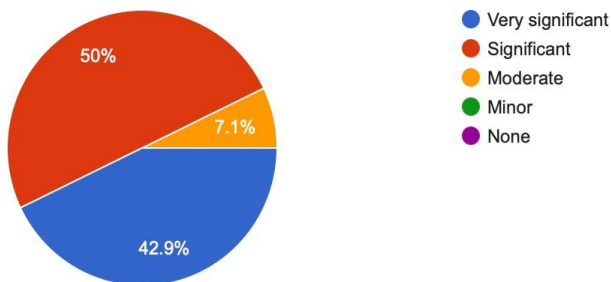
## 4 Finding and discussion

This chapter summarizes the survey's main results, relates them to the literature and global practice, and organizes the analysis around practitioners' perspectives on integrating TOD and heritage districts. The discussion is complemented with city examples that have attempted to reconcile preservation goals with transit-oriented planning.

### 4.1 Findings from primary data (practitioners perspective)

#### 4.1.1 Perceived opportunities (answering RQ1)

One of the key positions posed in the questionnaire aimed to understand practitioners' perceptions regarding the potential opportunities that TOD can bring to heritage urban areas. Specifically, the question asked respondents, "in your opinion, to what extent can TOD bring benefits to heritage areas". This question was designed to capture the level of confidence among professionals in recognizing TOD as a strategy capable of delivering added value to heritage environments. It serves to provide a direct answer to Research Question (RQ1): What are the opportunities for developing TOD within historic urban areas from the perspective of Practitioners'?

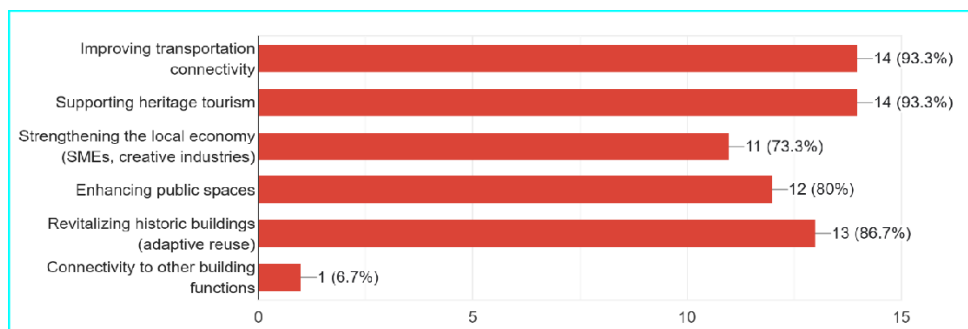


**Fig. 4.** Perceived benefits of TOD for heritage areas according to practitioners. Source : Author, 2025.

As illustrated in Figure 4, the majority of respondents hold a positive perception towards the potential of TOD to contribute positively to heritage areas. Specifically, 50% of respondents indicated that TOD can bring “significant” benefits, while 42.9% considered these benefits to be “very significant”. Only a small proportion, 7.1% viewed the benefits as “moderate”. None of the respondents selected “minor” or “none”, reinforcing a general consensus among professionals that TOD can indeed play a strategic role in enhancing the value, functionally, and the sustainability of heritage districts.

These findings suggest that Practitioners not only recognize TOD as a tool for improving urban mobility and connectivity, but also see it as a catalyst for revitalization, increased accessibility, and economic stimulation in historically sensitives area. TOD’s emphasis on walkability, mixed-use development and transit connectivity aligns well with the preservation and adaptive reuse of heritage sites, potentially reducing pressures from automobile-centric development and sprawl.

As shown in Figure 5, respondents identified several key opportunities associated with the implementation of TOD in heritage urban areas. The most prominent were improving transportation connectivity and supporting heritage tourism, each selected by 93.3% of respondents. These findings suggest a strong belief that TOD can simultaneously enhance mobility and attract visitors, thereby reinforcing the economic and cultural value of historic districts.



**Fig. 5.** Practitioners’ perceptions of the main opportunities from implementing TOD in historic areas.

Revitalizing historic buildings through adaptive reuse was also highlighted by a significant majority (86.7%), reflecting the potential of TOD to breathe new life underutilized heritage assets. In addition, enhancing public spaces (80%), and strengthening the local economy through support for SMEs and creative industries (73.3%) were perceived as important benefits. Other response, such as connectivity to other building functions, were mentioned by only small minority, indicating that practitioners prioritize broader social and spatial impact over architectural integration alone. These results indicate a generally

optimistic view of TOD's potential to support not only infrastructure goals but also cultural vitality, economic activity, and spatial quality within heritage context.

#### *4.1.2 Perceived challenges (answering RQ2)*

While there are clear perceived benefits to implementing TOD within heritage areas, it is equally important to acknowledge the inherent challenges that such integration presents. TOD strategies typically induce significant changes in the built environment surrounding transit nodes, particularly through densification and intensification of land use. These changes are intended to support mixed-use development and enhance accessibility, enabling people to engage in a wide variety of activities within walkable radius of transit hubs.

However, such dynamics can be at odds with the intrinsic character of heritage areas, which are often historically low density and shaped by urban forms from periods of lower population and activity intensity. Furthermore, heritage buildings are typically protected by conservation laws and regulations that restrict major physical alterations. As a result, the pressure to increase density through high-rise or large scale developments can lead to visual intrusion, undermining the integrity and authenticity of historic urban settings. These developments may also generate increased traffic volumes and parking demand, potentially disrupting the spatial quality and pedestrian friendly that TOD and heritage district both seek to uphold.

To examine these tensions more closely, the second research question explores practitioners' perceptions of the main challenges associated with implementing TOD in heritage contexts. The result shows, the most frequently cited challenge was the lack of coordination between agencies, selected by 80% of respondents. This highlights a fundamental institutional issue in which responsibilities for heritage conservation are often siloed from transit planning and land developments authorities. Given that TOD typically involves multiple actors, such as municipal governments, private developers, transit authorities, and heritage boards, which make coordination essential. When agencies do not work together effectively, it becomes difficult to create integration plans, and this may lead to conflicting actions of disconnected project outcomes.

These findings reveal growing concerns that TOD's emphasis on vertical development and land optimization may clash with the traditional urban morphology and skyline of historic areas. Moreover, 53.3% of respondents pointed to gentrification and community displacement as key social concerns, TOD related economic development may displace long-term residents and affects the traditional social and cultural identity of heritage neighborhoods.

Other challenges were seen as less critical but still important. For example, 46.7% of respondents pointed to the lack of financial incentives as a concern. This reflects the reality that while TOD projects often attract private investment, heritage preservation usually depends on long-term financial support or incentives for adaptive reuse. This is a nuanced issue, while TOD projects often generate substantial economic value and may not rely heavily on public subsidies, heritage preservation typically entails high maintenance costs and limited opportunities for financial return. As such, property owners of heritage assets may require government backed incentives or grants to ensure sustainable upkeep and adaptive reuse. In contrast, inadequate zoning regulations were considered the least pressing issue, selected by only 26.7% of respondents. This may suggest that existing planning instruments in the studied contexts are generally seen as sufficient to distinguish and manage the balance between development and conservation needs.

The findings also highlight the need of comprehensive, multidisciplinary assessment before development takes place, including evaluations of heritage impacts (HIA / heritage impact assessment), infrastructure readiness, compatibility with surrounding urban design,

and the well-being of local communities. A well-planned and balanced approach is essential to ensure that TOD contributes positively to sustainable urban transformation, while also protecting the cultural and historical values of heritage areas.

#### *4.1.3 Perceived challenges (answering RQ2)*

In addressing the third research question, this study explores which strategies and policy tools practitioners have found most effective in supporting the preservation of historic buildings within TOD areas. Based on the survey responses, it becomes clear that successful integration is not only a matter of physical planning but also depends on institutional cooperation, economic support, and cultural sensitivity.

Based on the observation, two strategies stood out as the most widely supported, each selected by 86.7% of respondents: specific zoning regulations tailored for heritage and TOD integration, the collaboration among multiple stakeholders. These findings suggest that practitioners see the need for a flexible but clear regulatory framework, alongside strong cooperation between local authorities, transit agencies, heritage bodies, developers, and communities. In heritage areas where competing priorities often overlap, such collaboration is essential to align objectives and avoid fragmented or conflicting outcomes.

Tools like the Transfer of Development Rights (TDR) were also seen as valuable. Chosen by 60% of respondents, TDR offers a practical way to ease development pressure in heritage zones by allowing owners to sell unused development rights to designated growth areas. This mechanism supports heritage conservation while still enabling urban intensification where it is more appropriate.

Financial incentives such as heritage tax benefits were equally selected by 60% of respondents. Maintaining and adapting historic buildings often involves high costs, and these tools help make preservation more viable, especially in urban environments where property values and expectations for development returns are high.

On the cultural side, placemaking rooted in local heritage was highlighted as a meaningful strategy. By embedding cultural identity, local stories, and traditions into the design of public spaces, TOD developments can create stronger emotional connections between people and place. This approach not only enhances the livability of heritage areas but also strengthens community support for preservation efforts.

Lastly, although visual design guidelines received slightly lower support (46.7%), they still play a key role in shaping the character of development near heritage sites. When used appropriately, such guidelines ensure that new buildings respect the surrounding historic fabric, helping to maintain a sense of visual continuity and place identity.

As summarized, the overall picture reflects a layered and balanced approach. Practitioners recognize that there is no single solution for managing the intersection between TOD and heritage. Instead, a combination of planning regulation, economic incentives, a inclusive collaboration, and cultural engagement is needed to ensure that development enhances rather than erodes the value of historic places.

#### *4.1.4 Narratives from practitioners*

Beyond statistical insights, practitioners' personal experiences reveal deeper nuances about how TOD interacts with heritage urban areas in practice. These reflections, while diverse, highlight both the practical opportunities and the persistent tensions inherent in such integration efforts.

Several respondents noted positive experiences regarding accessibility and intermodal connectivity in heritage- rich districts. One practitioner, for instance, described how research activities in Pasar Baru, Jakarta, were supported by the availability of reliable public transit

from Bogor, with smooth transitions to local modes such as becak and pedestrian routes. This case underscores the potential of TOD to enhance access to heritage zones and support academic, cultural, or community engagement activities on-site. Another highlighted the unique experiential quality of heritage areas within TOD frameworks, stating that their “distinctive view” and diversity in building styles fostered a stronger sense of place and rootedness for visitors and users alike.

Involvement in professional projects also provided meaningful insights. A respondent shared experiences in formulating urban design guidelines (UDGL) and proposing Transfer of Development Rights (TDR) policies for areas like Bundaran HI, Kota Tua, and Glodok. These engagements emphasize the relevance of planning tools in reconciling development intensity with conservation mandates. Another noted that early improvements, such as enhancing the streetscape and providing immediate benefits for residents, can help build public support and create a smoother path for long-term TOD implementation.

However, not all experiences were positive. A recurring concern involved the visual and spatial disconnection between new infrastructure and historic environments. In Jakarta, several respondents criticized the lack of design sensitivity in TOD developments near heritage areas, where commercial priorities often overshadowed preservation values. One reflection mentioned that “heritage buildings feel abandoned or even like a burden,” especially where the design of new transit structures failed to complement the surrounding historical context.

Concerns also arose around participatory processes. While some respondents noted successful stakeholder engagement, particularly when inclusive planning reduced displacement risks, others felt that such collaboration was inconsistent or lacking. In some cases, TOD projects proceeded without adequate consultation or alignment with heritage goals, leading to missed opportunities for integrated design and placemaking.

## 5 Conclusion

This study examined how Transit-Oriented Development (TOD) can be integrated with heritage preservation through a mixed-methods design combining a practitioner survey and global case references. Practitioners view well-designed TOD as a lever for accessibility, walkability, and adaptive reuse that can revitalize historic districts without sacrificing architectural or cultural integrity. Yet implementation is often hindered by fragmented institutions, weak coordination between planning and heritage agencies, inadequate pedestrian connectivity, and spatial pressures from densification and commercialization. To navigate these tensions, respondents emphasize context-aware design and regulation, participatory governance, and enabling tools, such as integrated zoning, multi-stakeholder collaboration, TDR, and heritage tax incentives, tailored to local conditions. While insights are constrained by a small sample, Indonesia and Malaysia sample and secondary case data, the findings point to the potential of heritage-led TOD to advance inclusive, livable, and culturally resilient urban futures and call for broader, field-based comparative research.

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