Article

Stakeholder Deliberation on Developing Affordable Housing Strategies: Towards Inclusive and Sustainable Transit-Oriented Developments

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Abstract: Transit-oriented developments (TODs) are commanding high land and rental values due to improved accessibility and economic opportunities. Owing to the increase in land and rental values, the highly desirable TODs are gradually becoming inaccessible to the poor, creating social exclusion and housing inequities within the TODs. To address this consequence, the study proposes a three-level stakeholder deliberation framework (inform, involve, and collaborate) towards developing inclusive housing strategies for equitable and sustainable TODs. The framework is applied to the context of the Yeshwanthpur industrial area, Bengaluru, India. The first level of deliberation, 'information', foregrounds the need for affordable housing strategies for stakeholders. In the second level of deliberation, the stakeholders involved identify the major challenges in incorporating affordable housing into TODs. In the third level of deliberation, stakeholders collaborate to contemplate strategies to combat each challenge. The results show that mandatory inclusionary zoning, special-purpose planning vehicles, land banking entities, innovative financing tools, and local area level plans in collaboration with the community, emerged as potentially feasible strategies to create inclusive housing outcomes in the TOD case study area.

Keywords: inclusive TODs; affordable housing strategies; stakeholder deliberation; sustainable TODs

1. Introduction

Transit—and its associated transit-oriented developments (TODs)—are emerging as sustainable solutions to address various transportation and rapid urbanization issues facing cities [1,2]. By definition, TOD stands for enabling compact, mixed land use, and non-motorized transport (NMT) outcomes within the 500 m to 800 m radius of centrally-located transit stations [3,4]. TODs present significant market opportunities—absent in the car-dependent urban fabric [1]—but these can only be realised if cities provide the necessary planning structures, in terms of zoning, land assembly, and other regulatory enablers. These enablers, combined with TOD amenities and high-quality public transit accessibility, are generating demand for transit neighbourhoods, and inevitably increasing land and rental values. Cities frequently use the TODs' potential to raise land value to capture this transit-generated land value, and invest it to finance transit and social infrastructure [1,5]. In the absence of inclusive affordable housing strategies, the high land and rental values of TODs induce displacement or exclusion of the poor from the coveted TOD areas [6–10]. The phenomenon of the exclusion of the poor and their replacement by the affluent due to housing inequities, is referred to as gentrification [8,11–13].

Although some cities have a few affordable housing implementation programmes in place, they often prefer peripheral areas to locate such housing units due to lower land costs [14–16].

However housing affordability is not the same as living affordability as transportation costs increase greatly [17,18]. The occupants of these units can end up losing their livelihood by relocating farther from urban opportunities [19,20]. According to Litman, "Housing is not really affordable if located in isolated areas with high transportation costs. True affordability therefore requires affordable-accessible housing" [21] (p. 10). Integrating affordable housing with affordable transport yields equitable TODs. It can also contribute significantly to transit ridership, as the poor who do not have access to private vehicles are more dependent on transit [22].

The process of incorporating affordable housing in TODs can be complex, given the high production cost, and the involvement of multiple agencies (transit, housing, municipality, state, bankers, private investors, landowners, and local and national governments). This process is more complicated in developing countries, like India, where the case study in this research project takes place, due to the lack of coordination and regulation, and minimal experience with mass transit and its TOD opportunities [23].

In many developed cities, gentrification in TODs has been researched for some time as they have been dealing with it since the mid-20th century [24–26]. To combat the gentrification-related issues in TODs, cities in developed countries have adopted a combination of strategies and innovative tools based on the opportunities, challenges, and legislation governing their transit neighbourhoods [6]. For example, BART, California, USA began converting parts of its large parking lots in TODs to mid-rise affordable housing [27]. Inclusive TODs were further catalysed through development incentives for TODs, such as parking reduction, high floor area ratio (FAR), relaxed open space requirements, and public subsidies. In another example, in the Hong Kong "rail + property" (R+P) program, the transit and housing authorities actively participated in real estate activities around the station area, which yielded sustainable and inclusive TOD developments [28,29]. Similar projects have been implemented in Singapore, as well [30].

Since each TOD has unique characteristics, the strategies and tools applicable to one TOD many not be relevant to another [31,32]. The characteristics include location, economic opportunities, land use characteristics, density, design, market strength, redevelopment opportunities, and more [32]. The variation in TOD types is probably greater in developing countries than the developed ones, due to vast differences in the above listed neighbourhood characteristics, but in almost all cases developing countries are unlikely to have the extensive issues of density and land use mix associated with redevelopment [33].

Identifying the strategies suited to the local context, based on the local TOD characteristics, is crucial for inclusive TOD planning. Traditionally, these strategies have been determined by urban planners, based on manuals or guidelines on mixed income TODs [34]. The implementation of these strategies is often minimal, due to the lack of coordination and collaboration among multiple agencies involved in the TOD planning. The study proposes—alternatively to traditional planning—a framework for stakeholder deliberation, which facilitates collaboration with the stakeholders in identifying feasible strategies towards equitable TODs. This innovative process provides meaningful opportunities for stakeholders to engage in a dialogue and share their views from the planning stage onwards. This process transforms the stakeholders' role in the traditional planning process from combative and divisive to cooperative and collaborative; Hartz-Karp calls this co-intelligence [35]. It generates communitywide buy-in and enhances the odds of stakeholders supporting inclusive TOD goals and implementing the corresponding strategies [23,36].

The proposed stakeholder deliberation framework developed in the study is applied in the context of the Yeshwanthpur industrial area metro station, Bengaluru, to identify affordable housing strategies to mitigate the emerging TOD inequities.

2. Literature Review

This section provides further insights on TOD concepts, gentrification issues in TODs, and the exiting tools—adopted in developed countries—to mitigate them.

2.1. TOD Concept and Its Adoption by Various Countries

TODs are being embraced as a means to focus the rapidly-growing urban population around a well-planned transit system [1]. They encourage the use of public transport and NMT, and discourage that of private vehicle(s). Further, cities are adopting the TOD concept as an innovative financial tool to direct capitalized land values towards investing on transit and other social infrastructure [5]. The TOD concept was first introduced in the USA, to enable more socially, environmentally, and economically sustainable communities. In the USA, TODs are often planned as single node TODs, which focus only on the 3Ds concept (density, diversity, and design), within the 800 m radius of a centrally-located transit station. Though developed as mixed-use TODs, in practice they are often used for mono-functional purposes [37].

The TOD concept was widely recognized as a sustainable urban transport solution and adopted by other regions across the globe. In many European countries the term TOD is rarely used, however, its concept has been incorporated in urban planning for many decades, albeit with other names [38,39]. Unlike the USA, European countries develop TODs as multi node TODs, which are similar to single node TODs, except that they go beyond a single location, to create a regional network of nodes around rail stations [38,40]. They focus on the 6Ds concept (density, diversity, design, destination, distance, and demand management), to realign all urban regions around rail transport, away from cars as a mode of travel [37,41]. However, the recent economic crisis in Europe has prioritized market-led economic developments over planning-based developments. Hence, efforts to implement TODs in European cities are losing momentum [39]. Despite these difficulties, most planners are still positive about the future of TODs in European cities.

Few Asian countries are also successfully implementing TODs. Hong Kong's R+P program best illustrates the successful implementation of multi-node TODs. The first generation R+P programs focused only on the density concept, neglecting the other TOD concepts. Later, however, the downward trend of real estate prices, coupled with people's unwillingness to use transit, prompted Hong Kong's transit authorities to incorporate high-quality designs, place-making, and land use diversity in the next generation R+P programs [29]. Chinese cities are also taking to multi-node TODs as an alternative form of urbanism, to reduce over-reliance on private automobiles [2,42,43].

Following the example of many developed and developing countries, Indian cities are also incorporating the TOD concept in urban planning [43]. The primary focus of these TODs is densification to increase transit ridership and raise funds for transit infrastructure. Though the TODs are cashing in on the land value in station areas and ensuring proximity to transit, however, from neglecting all other D-variables, they may not yield liveable, walkable, sustainable, and healthy neighbourhoods [44].

While implementing the various TOD aspects highlighted above, often planners do not focus on inclusive densities or mixed-income developments. As a result, the highly-desirable TODs are observed to exclude and replace the poor—by the affluent—thus creating gentrification [45]. Unfortunately, the existing literature does not focus on gentrification issues in TODs in the developing world, as gentrification has only recently become an emerging issue there. However, developed countries offer a few studies. The next section summarises these studies.

2.2. Gentrification in TODs

TODs are attractive both as residential, as well as working, spaces due to the various benefits they offer. This increase in demand for TODs attracts higher capital investments [46] and increasing land and rental values [1,5,47–49]. The higher housing cost of new developments and the increase in rental values of old ones can render the coveted TOD areas unaffordable for the poor who will, therefore, remain excluded from the new developments and be replaced by the affluent in the older ones and, thus, create gentrification issues [9,10,50]. There are very few studies which have focused on the process of gentrification in TODs in developed countries.

Firstly, Kahn conducted a study in 14 cities in the US. He considered the change in average home prices and the share of college graduates before and after transit operations were gentrification

indicators. The study concluded that there was greater gentrification near the walk-and-ride transit stations than the park-and-ride transit station [9]. Secondly, Feinstein and Allen conducted a study in the Boston metropolitan region in the US. They considered the education, income, and households receiving public assistance, and the influx of new residents were proxies to the gentrification. The study results show that the extension of rail lines compels less affluent, long-established residents in rental housing to move due to increases in housing costs [7]. Thirdly, Grube-Cavers and Patterson conducted a study in Canada. They considered education, income, house rent, occupation, and percentage of owner-occupied housing are proxies to gentrification. The study concluded that rail transit has had a significant impact on gentrification [51].

All of the aforementioned studies focused on developed countries. Unfortunately, the examination of gentrification in TODs has received relatively little attention in developing countries. There is, therefore, little written on strategies to mitigate inequity in the developing world context. A recent study conducted in Bengaluru illustrates that housing units in the new TODs cost 68% more than the houses located in the suburbs. Due to high price and larger unit sizes, the new TODs are excluding the poor and are providing them only for the affluent, thus undergoing new-build gentrification. The residents of these new TODs are wealthy, highly-qualified professionals with a high vehicle ownership rate [8]. It is evident from the study that developing countries which are traditionally characterized by neighbourhoods which are mixed-income in nature are also undergoing gentrification. To combat the gentrification related issues in TODs, cities in developed countries adopt various strategies and innovative tools. Though these might not be directly applicable to other TODs (in developing countries), they can inspire and guide the development of existing or new tools applicable to the local context. The next section describes the strategies and tools adopted in cities from the developed world.

2.3. Existing Tools and Case Cities Adopting Them

Developed countries facing severe gentrification issues since the mid-20th century have implemented various housing strategies and tools—especially in TODs—with the objective of reducing both housing and transportation costs. This section highlights a few such tools to guide the stakeholders in identifying the affordable housing strategies in the case study area. Shoemaker classified these tools broadly under three categories, listed below [52]:

(1)　Tools related to zoning regulations, local codes, fees, and procedures;
(2)　Financing tools; and
(3)　Joint development programs tools.

2.3.1. Tools Related to Zoning Regulations, Local Codes, Fees, and Procedures

This section highlights the tools related to change in regulations, local codes, and approval procedures to incorporate affordable housing in TODs.

a.　*Inclusionary zoning ordinance*: The ordinance functions essentially as a trade-off between the government and the developers, with the series of predetermined parameters [53]. Such ordinances:

- Apply only to the developments specified;
- Create affordable units for families with a certain percentage or less of area median income; and
- Ensure affordable units stay affordable for a specified time period, which usually differs for rental and sale units.

An inclusionary ordinance mandates that the developers must set aside a certain percentage of units in the new residential developments as affordable, in exchange for government incentives, such

as density bonuses, impact fee waivers, streamlined permitting, and relaxing regulations [54,55]. In exceptional cases, developers may provide land, money, or affordable housing off-site. The government incentives, predetermined parameters, and exemptions under the inclusionary zoning ordinance vary among cities, as well as among neighbourhoods. The most commonly adopted development incentives are highlighted below.

Density bonus: This permits developers to construct additional units than the local zoning regulations typically allow, and enables them to create more housing units without having to purchase additional land. This "free land" acts as subsidy in the rent or sale price of affordable units. Montgomery County, Maryland, USA best exemplifies this. In Maryland, in all developments with more than 50 units, developers must set aside 12.5%–15% of the units as affordable housing, in exchange for a density bonus of up to 22% [54].

Density bonus is also being adopted—by cities—as an innovative financial tool to raise funds for transit infrastructure [56]. In such cases, the transit agencies and housing authorities negotiate—with each other—before framing the inclusionary zoning policy, to ensure that a certain percentage of funds raised through density bonuses are committed towards the provision of affordable housing in TODs.

Impact fee waiver: This incentive waives/reduces/defers the traditional one-time charge—applicable to developers—for the cost of adding additional public services to the new development. Boulder County, Colorado, USA best exemplifies this. The developers here must provide 20% of the total units as affordable housing, in exchange for an impact fee waiver [54]. This tool might be feasible in developed countries, where adequate funds are available for social infrastructure. However, it might not be economically viable in developing countries where funds are sparse. Stakeholders make a call on implementing this tool based on the availability of funds.

Streamlined permitting: This program operates on the 'time is money' principle in developing housing. It entitles affordable housing projects to expedite reviews by the local government [57]. Austin, Texas, USA exemplifies this approach. The city expedited the permit reviews to affordable housing projects in TODs, under its SMART (Safe, Mixed-Income, Accessible, Reasonably priced, Transit-oriented) programme. The average completion time for SMART housing reviews was approximately half that of conventional reviews [34]. This tool can be implemented in developing countries as well, as it is economically viable and does not involve a cost to the authorities. It offers a win-win solution for the developers and the authorities.

Parking management measures: Parking space per dwelling unit is one of the key factors in determining the housing budget. Since affordable units require fewer parking spots—especially if they are located in TODs—relaxing parking standards, and unbundling the parking cost from dwelling cost, can effectively incentivise reducing the cost of affordable housing [58]. Portland, Oregon, USA exemplifies the introduction of maximum, rather than minimum parking, standards. The maximum parking allotment varies depending on the site distance from bus or light rail (the closer the transit, the lesser the parking allotment) [59]. This tool is financially self-sustainable. However, while implementing it, cities must conduct a detailed parking demand and supply analysis at each TOD. Parking demand differs among TODs, and parking norms suitable to one may be unsuitable to another

b. *Accessory dwelling unit (ADU)*: An ADU is a small unit added to an existing home either through a basement conversion, or in the backyard or above a garage—or included in a newly constructed home [60,61]. ADUs typically cover 50–60 square meters and are affordable for the urban poor. Most of the cities in the USA adopt ADUs, especially Washington, where more than 20,000 households are willing to provide ADUs to accommodate affordable housing [57]. As most TOD housing is multi-story high-rise housing, this tool is only useful in areas further out, but still influenced by TODs. It is an example of a tool with greater application to developed low-density cities than high-density emerging cities like Bengaluru.

2.3.2. Financing

This section includes the tools related to innovative financing methods to help fund affordable housing production in TODs.

a. *Tax increment financing (TIF)*: TIF funds are generated from the increase in the property-related taxes and/or sales taxes within a specific district. The additional tax money can be generated by both new development, and the enhanced assessed value of existing properties as a result of improvements around them [52]. The Beltline in Atlanta, Georgia, USA exemplifies the use of TIF for providing affordable housing. In 2005, a tax allocation district (TAD) was created around 22 miles of historic Beltline, for revitalizing the disinvested areas around new transit. The TAD project includes a wide range of urban redevelopment and accessibility projects. The city allocated 15% of TIF generated in TAD towards an affordable housing fund [62]. This tool can be implemented only in countries where the guided and actual land values are the same. It might not be applicable to countries like India where the guided and actual land values vary significantly as the vast difference might make assessing the TIF funds in TODs infeasible.

b. *TOD targeted housing funds*: The various departments, which are responsible for providing affordable housing can access various funds controlled by national, state, and local authorities. Each of these funds include corresponding funding qualifications that can be adjusted or targeted to assist affordable housing development in TODs. This tool is economically viable, as the authorities need not spend extra towards providing affordable housing in TODs. It offers a win-win solution for the authorities and the affordable housing beneficiaries.

c. *Land banking*: A land bank is a governmental entity created exclusively to acquire, hold, and facilitate development on vacant, abandoned brownfield properties. Land banks typically assert their own legislation, to enable transfer of land to private developers (for profit or not-for-profit) with certain conditions on how the property will be developed. Bogota, Colombia exemplifies this tool's implementation. The city acquires agricultural land close to the proposed bus rapid transit system at relatively cheap prices (before the bus proposals are made public), converts it to residential land, and provides public utilities. The property is sold to developers at higher prices to help cover infrastructure costs, along with the rider that average prices be kept under $8500 per unit and be affordable for families with income less than $200 per month [63]. This tool not only facilitates incorporating affordable housing in TODs, but also serves as an innovative financial tool to fund transit infrastructure, as in Hong Kong and Singapore. However, the tool might not be applicable in the strong real estate market, where land price is high, or no land is available for acquisition.

2.3.3. Joint Development Programs in TODs

Joint development programmes enable developments with the government, community, and private developers working in coordination. This section highlights the tools, which facilitate joint development programmes, along with their best practices.

a. *Public private partnership (PPP)*: PPPs enable the sharing of resources of public and private to produce public benefit projects. Shared resources may include land, financing, knowledge, or another valuable component of the development process. There is a range of ways that the public agencies can facilitate the building of rail and TODs through PPP; for example, public agencies can provide the land or assemble it, and private agencies can provide the financing for development on the land. This is how TODs are built in Japan and Hong Kong, which use PPPs to fund transit infrastructure and public housing. Transit agencies in Hong Kong sell the development rights of areas above (air rights) and adjacent to the station areas to the highest bidder, and negotiate a share of future property development or a co-ownership position. In 2009, these active real estate activities by the transit agency contributed to 62% of the transit revenue and

40% of housing stock in station areas [28]. This tool works primarily when the government owns the land near TODs. For instance, in Hong Kong, while implementing this tool, cities must ensure distribution of benefits towards financing transit infrastructure as well as towards social goals.

b. *Joint developments*: Joint development allows sharing of the property interests held by the transit agency with private entities or other government entities. Bay Area Rapid Transit (BART), California, USA exemplifies the adoption of joint development. The Unity Council, a local community development corporation (near Fruitvale BART station, located south of downtown Oakland) and BART agreed to a land swap. It enabled the Unity Council to develop TODs including affordable housing on BART's property. In exchange, the Unity Council provided a garage for BART at a location away from transit [34]. As with PPPs, this tool can be adopted only if the land near the transit stations is government-owned.

c. *Development agreements*: Development agreements are contracts between local governments and developers that assure long-term planning approvals for a project for a certain number of years (applicable even if zoning policies change later), in exchange for specific public benefits from the developer. Affordable housing may be one of these benefits. Portland, USA successfully exercised this during the development of the River District Urban Renewal Area, which includes the transit-rich Pearl District. In 1994, the Portland Development Commission (PDC) entered into a development agreement with the master developer to build nearly 7500 units with the following housing target goals: 33% upper income, 20% middle income, 20% moderate income, 13% low income, and 14% extremely low income [34]. The Pearl District redevelopment around the new tram has been seen as a graet success for Portland and a model for America [1]. This is another example of an innovative tool which does not impose any financial burden on government entities to develop affordable housing in TODs. However, its applicability in a TOD depends on the legislation governing the particular TOD.

d. *Community benefit agreements (CBAs)*: A CBA is a contract negotiated between community groups and a prospective developer, in which the developer agrees to provide particular community benefits—related to the project—in exchange for the community's support. This tool is useful in cases where community acceptance is critical to the project's success. The Staples Center CBA, created in Los Angeles, USA in 2001, is widely considered the ideal CBA. Initially, the project encountered significant opposition from community groups concerned about its impact on surrounding low-income communities. Ultimately, community members and the developer signed a contract in which the developer agreed to modify the project to include affordable housing and other amenities. In exchange, the community coalition extended union support for the expansion, which expedited the city council approval of the project [7]. This tool offers an economically viable solution to incorporate affordable housing and other social infrastructure in TODs. However, it works well only if community support plays a vital role in the success of a new project's implementation.

As is evident from the literature review above, there are various tools for inclusive TODs. Planners and stakeholders must identify the economically sustainable tools applicable to their region, either those existing or a new set of tools. Towards improving the odds of implementation of these tools, in contrast to conventional planning, the study intends to involve all of the stakeholders involved in TOD planning to identify affordable housing strategies in their regions. To enable this, the study proposes a three level stakeholder deliberation based on community engagement literature. The proposed stakeholder deliberation framework is described in detail in the next section.

3. Stakeholder Deliberation Process Framework to Identify Affordable Housing Strategies in TODs

The deliberation process facilitates engagement or interaction among the stakeholders. It provides them an opportunity to find out more about a topic, consider relevant evidence, and discuss it with other participants before presenting their views. This can happen over a few hours or months.

According to the International Association for Public Participation (IAP2), engaging the community or stakeholders in decision-making involves five levels, from planning to implementation: inform, consult, involve, collaborate, and empower [64]. Inform is a one-way communication—providing information to the participants. Consult is a two-way communication, designed to take feedback on proposals, alternatives for final decision-making. Involve is designed to identify issues and concerns. Collaborate is designed to develop solutions for the identified issues. Empower provides resources to the community to implement solutions. Engaging community and stakeholders, at various levels, is being adopted successfully by various countries, for sustainable and democratic decision-making.

The study intends to adopt this process towards identifying affordable housing strategies in collaboration with the stakeholders. To facilitate this the study proposes stakeholder deliberation at three levels, including inform, involve, and collaborate. The other two levels, consult and empower, are relevant during the implementation of the identified strategies. The tasks under the three levels—in the proposed stakeholder deliberation framework—are described in Figure 1.

The first level in the framework involves informing stakeholders about existing policies and their implementation, neighbourhood characteristics, existing inclusive housing strategies, and case cities, to guide them in identifying the potential local strategies. The second level constitutes involving the stakeholders in identifying the issues affecting the implementation of the affordable housing policies in TODs. The last level is collaborating with the stakeholders to identify strategies suited to the local context, to address the issues identified at the previous level.

Figure 1. Stakeholder deliberation process framework to develop affordable housing strategies in TODs.

3.1. Informing Stakeholders

The International Association for Public Participation (IAP2) defines 'inform' as a one-way communication providing balanced and objective information to assist the stakeholders in understanding problems, alternatives, and/or solutions [65]. At the first level of the proposed stakeholder deliberation framework, planners must provide the information about existing policies, case study area characteristics, and existing strategies. It provides a realistic picture to the stakeholders about the TOD characteristics and its performance, as well as an insight to the strategies adopted by developed countries. This information will guide the stakeholders in discussing, querying, and drawing conclusions in subsequent levels of the deliberation. This information helps mitigate the stakeholders' own perceptions and assumptions, and develops a common understanding towards better decision-making. The detailed description of the information which needs to be provide to the stakeholder is given below.

3.1.1. Existing TOD and Housing Policies Relevant to the Case Study Area

This involves reviewing all TOD and housing policies applicable to the case study area, summarizing the information and presenting it to the stakeholders.

3.1.2. Statistics on Housing Equity in TODs

To provide statistics on housing equity in TODs, the planners must collect extensive primary and secondary data—within the case study area—including socio-economic, housing, transportation, and land use characteristics. Based on this data, they must evaluate the following parameters:

- Housing affordability of TODs for various income groups—using a housing affordability index;
- Gentrification issues in TODs—by examining the change in the neighbourhood's socio-economic profile, or by comparing the socio-economic profile of new residents with that of old residents;
- The change in land use characteristics of the case study area (land use before implementation of the transit plans vs. current land use); and
- Impact of gentrification issues on transit ridership—this is an important economic consideration for transit authorities.

3.1.3. Briefing of Existing Tools to Mitigate Gentrification in TODs and Case Cities Adopting Them

The summary of all the existing tools and case cities adopting them, as highlighted in the literature review above, must be presented to the stakeholders at the start of the deliberation.

3.2. Involving Stakeholders in Identifying Challenges

According to IAP2, the term 'involve' is defined as a participatory process designed to help identify issues and views, to ensure that the stakeholders' concerns and aspirations are understood and considered before arriving at a decision [65]. As the study endeavours to identify the issues/concerns in incorporating affordable housing in TODs, it proposes the following question for initiating the stakeholder deliberation:

What are the challenges in implementing affordable housing in TODs?

3.3. Collaborating with Stakeholders toward Identifying Solutions

According to the IAP2, the term "collaborate" is defined as working together towards exploring alternatives and identifying preferred solutions to the challenges identified in the previous level of deliberation [65]. Stakeholders must consider all of the information provided before proposing strategies, as each neighbourhood is unique and merits specific solutions to deal with affordable housing challenges. After the deliberation, the facilitators must map the challenges with the respective strategies and tools—in order of priority—and share the deliberations' results with the stakeholders for their feedback.

The stakeholder deliberation process presented above bring out co-intelligence and wisdom in governance [35]. They effect a sense of ownership and responsibility to take the recommendation forward. The proposed stakeholder deliberation framework can be applied to any TOD context towards identifying affordable housing strategies. However, prior to illustrating this framework, planner needs to do extensive background work to provide the necessary information highlighted above to the stakeholders. The developed countries are likely to maintain data on the housing, socio-economic, land use, and transportation characteristics, thus making the data readily available to provide information to the stakeholders. However, developing countries, like India, lack proper data management systems. Often, the researchers must gather the data from various primary and secondary sources.

To illustrate the value of the deliberation process towards identifying the affordable housing strategies and the methodology to facilitate the deliberation framework, it is administered, in this case, to the Yeshwanthpur industrial area.

4. Applying the Stakeholder Deliberation Framework in the Case Study Area: Yeshwanthpur Industrial Area, Bengaluru

This section describes the case study area, the methodology to facilitate the proposed stakeholder deliberation, and the administration of the stakeholder deliberation framework within the case study area.

4.1. Case Study Area

Bengaluru is the fourth most populous city in India, with a population of around 8.5 million. The city is on its way to providing its citizens a metro transit system, with a total estimated budget of INR 400 billion. Currently, a 32 km stretch is operational and an 83 km stretch is under construction [66]. To increase transit ridership and generate revenue, the city administration is not only investing in transit infrastructure but also facilitating TODs. In the interest of TOD implementation, the areas within 500 m of the metro stations are allowed a floor area ratio (FAR) of four—for all permissible uses—irrespective of the applicable limit (generally varies from 1.7 to 2.4 depending on the land use) [67]. The generous public transit infrastructure investments along with the zoning incentives are attracting large-scale capital investments towards TODs. Thus, it is not unexpected that the station areas are witnessing dense new high-rise structures [8].

In Bengaluru, the Yeshwanthpur industrial area was selected as a case study area to apply the proposed stakeholder deliberation framework. The metro has been operational here since 2013. This area exhibits the features of a working class, industrial, suburban neighbourhood, with a traditional housing area on one side of the metro station, and a vacant brownfield site and industries on the other (Figure 2). The brownfield side has seen the construction of a large number of high-rise luxury condominiums on the vacant and abandoned industrial areas adjoining the metro station. As of 2015, these condominiums accounted for 1000 new households in the area. Additionally, two high-rise structures were under construction, and many others were under planning or potentially to be built due to the availability of land. On the other side, in the traditional housing area, there were few signs of redevelopment, but this could gain momentum once the easily-available brownfield sites are developed. The Yeshwanthpur industrial area is ideal for applying the proposed stakeholder deliberation framework, given that the scope of further developments provides the stakeholders an opportunity to implement the identified affordable housing strategies in TODs.
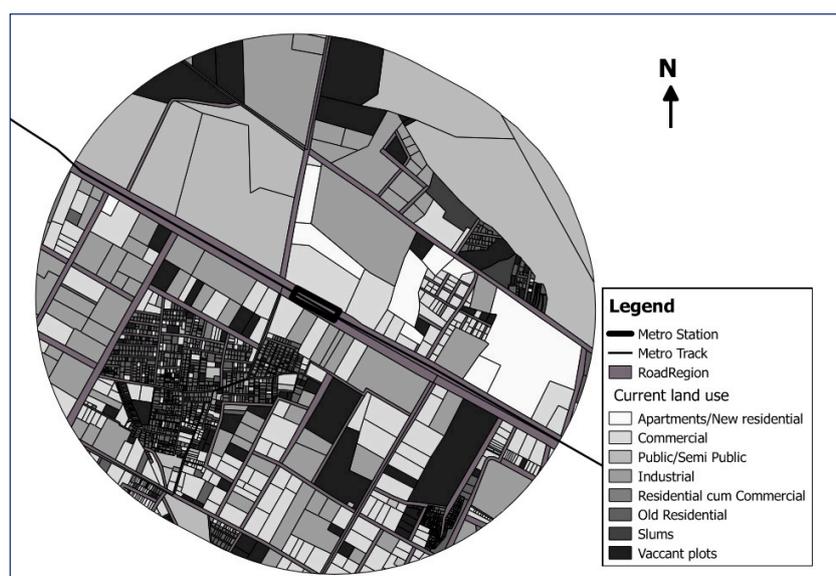
Figure 2. Boundaries and land use characteristics of the Yeshwanthpur industrial area, Bengaluru. Source: Indigo Consultancy, Bengaluru.

4.2. Methodology to Facilitate Stakeholder Deliberation

This sub-section discusses the selection of participants for deliberation and the deliberation technique adopted to facilitates stakeholder dialogue and the analysis of stakeholder's inputs.

4.2.1. Selecting the Participants

To select the participants, firstly, we prepared a list of all the organizations involved in TOD planning and decision-making. The organization list includes public and private entities, consultants, NGOs, academics, practitioners, politicians, and other think tanks. Invitations were sent to these organizations. They are proactively appointed representatives to be a part of the deliberation. In some cases, the organization chairperson personally attended the deliberation and provided their valuable input. In addition, to involve the community in the deliberation, pamphlets were distributed—door to door—in the case study area. Community members also actively participated in the deliberation. The deliberation involved about 80 participants from a wide range of organizations, including community participants. No random 'citizens for the day' were selected, though, in future deliberations, such a technique could be used, as the role of neutral citizens is undoubtedly valuable if the issues are gravely contentious [68,69].

4.2.2. Deliberation Technique Adopted to Facilitate Stakeholder Deliberation

The practice of deliberative democracy is facilitated through various techniques that assist people with disparate viewpoints in seeking common ground and aligning priorities [64,69]. Planners can select any deliberation technique to implement the proposed deliberation process, depending on the availability of resources, and the time frame. Few such examples are:

(1) *World Café*: This technique brings people together to engage in dialogue on complex issues that are important to a large community. The technique facilitates progressive rounds of conversation. In this process 4–5 participants sit at a small table to begin the conversation. After the initial round one person remains at the table as the host and others move around to other tables to continue the conversation with other hosts. Hosts share the previous group ideas and encourage them to link and connect their ideas with the previous group's ideas.

(2) *Open Space Technology*: This technique provides people with a setting and time to engage in dialogue on any issue that is both clear and compelling to the participants. A facilitator provides the context and a few participants take a lead, setting the dialogue's agenda by stating topics relevant to the context. The rest of the participants decide which topic they want to discuss, and join the group with that topic and start the discussion.

(3) *21st Century Town Meeting/Dialogue*: In this process, small groups of stakeholders and deliberation-facilitation teams are connected through networked computer software, which helps facilitators quickly summarize participants' inputs, find common ground, and prioritize on-board and complex issues.

(4) *Consensus Forum*: This method enables deliberation among a large group—comprising stakeholders from the community, industry, and government—towards finding common ground on technically complex, and often combative, issues, and eliciting ownership of an agreed way forward. The forum organizes small group deliberations followed by an extensive plenary session.

All of the techniques emphasized above are well established and tested on the ground. Planners can choose any of these to implement the proposed framework, depending on the availability of various resources (space, time, manpower, computers, and software), and the stakeholders' willingness.

The current study adopted 21st century dialogue. This technique was preferred because, unlike other methods, it has the ability to reflect the collective view of all the stakeholders in a short span of time [70]. This advanced technique uses networked computers to collect and analyse

the stakeholders' inputs [69]. Further, it enables a display of results in real-time for cross-verification, and minimizes any possible manual errors in data collection and analysis.

In the 21st century dialogue, deliberation is facilitated through small-group dialogue between diverse participants. Hence, all the 80 participants are divided into eight small groups. To ensure diversity in each group, the stakeholders were purposely seated at a table with dissimilar others, that is, a mixture of random sample participants from different organizations. Each group was supported by a trained facilitator, with the task of providing a chance for everyone to speak and to ensure that deliberation remained focused on the topic, with minimal digressions. A trained scribe at each group submitted ideas to a computer that the group considered to be a fair representation of their discussion. The ideas fed into the computer were not only commonly-held views, they included minority views, and in many instances, each person's views [70].

The computers on each table were networked, transmitting the data to a 'theme team' who analysed the data in real-time and broadcast the common themes back to the entire room via large screens. To analyse the qualitative data from small groups, the theme team adopted the content analysis. It involves reading the input data from small groups, making a list of different types of information, categorizing the information and identifying the categorizations that are somehow linked to each other (common theme). Once the common themes were identified, the themes were prioritized, with each participant nominating their individual preferences.

There were over 25 volunteers supporting this deliberation—facilitating, acting as scribes, and theme team members. This team was acquired from the Curtin University Sustainability Policy Institute (CUSP), Directorate of Urban Land Transport (DULT) and Centre for Infrastructure, Sustainable Transportation and Urban Planning (CiSTUP). The scribes and facilitators were trained for half a day by community engagement expert professor Janette Hartz-Karp to ensure that they were capable of carrying out their tasks without any interference with the stakeholder input. The theme team was also trained in content analysis to find common themes based on small group inputs.

The morning session in the deliberation focused on the first two levels of engagement viz. inform and involve. The afternoon session focused on stakeholder collaboration to develop solutions.

4.3. Administrating the Stakeholder Framework in the Case Study Area

4.3.1. Step 1: Informing Stakeholders

Informed dialogue is the first level of the deliberation. The necessary background information comprised of two well-researched working papers on gentrification issues and their implications on transit ridership in the case study area [8,22]; the housing and TOD policies applicable to the case study area; and the existing tools along with the case studies that adopted them. This information was shared with the stakeholders via presentations. Further, Professor Janette Hartz-Karp briefed the stakeholders regarding the deliberation methodology. The summary of the information shared is presented below.

a.　Existing TOD and Housing Policies Relevant to the Case Study Area:

The existing TOD policy applicable in the case study area is that of increasing density to four for all permissible uses within 500 m of a transit station. In exchange of high FAR, the government is imposing a tax of 10% guided value for residential building and 20% guided value for commercial building. The collected funds are shared among Bangalore Metropolitan Rail Corporation Limited (BMRCL), Bruhat Bengaluru Mahanagara Palike (BBMP), Bangalore Water Supply and Sewage Board (BWSSB), and Bangalore Development Authority (BDA) in the ratio of 60%, 20%, 10%, and 10%. Unfortunately, the revenue generated is not shared with any housing organization to incorporate affordable housing in TODs [56].

Amongst the existing housing policies, two are relevant to the case study area, viz. the National Urban Housing and Habitat Policy (NUHHP) and the Karnataka Housing and Habitat Policy

(KHHP) at the national and state levels, respectively. The core focus of these two housing policies is "Affordable Housing For All". The NUHHP recommends provision of 10%–15% of land in every new public/private housing project or 20%–25% of FAR or Floor Space Index (FSI) (whichever is greater), for Economically Weaker Section (EWS)/Low-Income Group (LIG) housing through appropriate legal stipulations and spatial incentives [71].

To realize the NUHHP's goals, the state government developed the KHHP. The KHHP promotes PPPs and recommends retaining the government as a facilitator. Their most common beneficiaries include members of the EWS (less than INR 3300 per month income) and LIG (INR 3300–INR 7300 per month income) categories. The policy recommended various land, finance, legal, regulatory, and rent reforms towards increasing the supply of affordable housing in Karnataka as envisaged in the NUHHP [72].

b.   Providing Statistics on Housing Equity in TODs:

During the deliberation, the two working papers (mentioned above) provided the necessary background information on the case study area's housing characteristics. This information is summarized below.

I.   *Housing affordability of TODs for various income groups*: To assess the affordability of TOD housing, secondary data on new developments was initiated after the TOD policy (2009–2015) was collected from LJ Hooker, a private real estate farm. The housing price of these new developments and the income groups who can own them (derived from the housing affordability index) were mapped. The data analysis indicates that the price of new TOD housing starts at INR 2.5 million, and that the majority of the TOD units are priced in the range of INR 5–INR 7.5 million. The affordability mapping (mentioned above) indicates that a house close to the transit cannot be owned at an annual income less than INR 0.6 million (assuming an affordability index of 4), which is significantly higher than Bengaluru's average annual income, INR 0.15 million [73]. Additionally, the analysis indicates that the price of the developments close to transit nodes is 68% higher than that of the housing located in peripheral areas [8].

II.   *Gentrification issues in the case study area*: To provide the implications of new TOD policy on gentrification in the Yeshwanthpur industrial area a detailed household (HH) survey was conducted. Based on these data, the socio-economic profile of new TOD residents and old TOD residents were compared. The analysis demonstrates that the new developments in TODs attracted only the professional and high-income groups, while completely excluding the poor. However, the old-built traditional areas are not being gentrified yet, due to difficulty in the amalgamation of small plots [8].

III. *The change in land use characteristics of the case study area*: To illustrate the opportunities for further developments/susceptibility to future gentrification, secondary data on land use characteristics before and after new TOD developments was collected and the change in land use characteristics was analysed. The results demonstrate that there is a lot of scope for further developments due availability of large vacant and abandoned brownfield sites. In a do-nothing scenario, they will yield high-end structures—excluding the poor—and that the price shadowing resulting from gentrification might displace the residents of the old residential area once development on the easy brownfields sites is completed [8].

IV.   *Impact of gentrification issues on transit ridership*: Gentrification not only triggers equity issues, but can also influence transit ridership. To analyse this, the data on HH survey was adopted. In addition to this a metro user survey was conducted. Using this data, the influence of gentrification indicators on transit ridership and the metro influence on TOD residents travel behaviour was analysed. The analysis results indicate that, though the gentrifiers contribute significantly towards transit ridership, the probability of their using transit and non-motorized transport is lower than that of the non-gentrifiers, who lack access to privately-owned motorized

vehicles; however, in terms of overall transport, it is more complex, as the roads will have fewer cars and motorbikes if the wealthy use the transit [22].

Overall, the data analysis of these two working papers illustrates the housing inequities in TODs at the city level and in the case study area. It indicates that the housing policies have not been implemented, and there are, effectively, no housing options for EWS and LIG categories among the new developments, especially in TODs. To identify the issues and concerns with respect to implementing the housing policy specifically in the case study area, a stakeholder deliberation was conducted. The next section presents the deliberation's results.

c.   Briefing of Existing Tools to Mitigate Gentrification in TODs and Cities Adopting Them:

The summary of the existing tools and case cities adopting them are presented to the stakeholders.

4.3.2. Step 2: Involving Stakeholders in Identifying Challenges

The 21st century dialogue—during the stakeholder deliberation—aimed at identifying the major issues/challenges in incorporating affordable housing in the case study area. The stakeholders—organized into small groups—identified various challenges. Scribes working with each of the small groups entered the data into computers. The theme team analysed the small groups' input data and identified five common themes as challenges. These five major challenges and the small groups' inputs regarding each challenge are summarized in the results section.

4.3.3. Step 3: Collaborating with Stakeholders toward Identifying Solutions

Once the stakeholders had identified the challenges, in the afternoon session they deliberated upon each of them to determine their individual solution(s), based on the information presented at the beginning of the deliberation. The solutions and challenges are mapped. The major solutions and discussion around each identified solution are presented in the results section.

5. Results

The results—the challenges and solutions identified—from the stakeholder deliberation for the case study area were mapped as shown in Figure 3. The discussion around each identified challenge and the solution are described below.

Challenges	Strategies
1. Lack of government owned land	a. Inclusionary zoning
2. Lack of collaboration and coordination	b. Special purpose vehicle (SPV)
3. Poor community engagement	c. Community benefit agreements d. Station area level planning
4. Lack of political willingness	e. Innovative finance mechanism f. Mandating inclusionary zoning
5. Inadequate regulations, policies and legislations	g. Strategies related to inclusionary zoning; SPVs; land banking entity; policies to define the role of each agency

Figure 3. Mapping affordable housing challenges with suitable solutions/strategies.

5.1. Challenges in Implementing Affordable Housing in TODs

During the second level of the deliberation, the stakeholders identified various challenges in incorporating affordable housing in TODs in the case study area. These challenges, in order of priority, along with the stakeholder discussions around each identified challenge, are summarized below.

5.1.1. Lack of Collaboration, Coordination, and Capacity between and within Agencies, and Conflicting Interests

Inclusive and equitable TOD planning involves various public and private organizations and the local community. The government organizations often pursue different goals, not working in tandem with the others. For instance, in Bengaluru, various government organizations cater to affordable housing needs, with varied unintegrated goals (Bengaluru Housing Department, 2009). Moreover, as the authorities involved in the construction of affordable housing are not involved in the implementation of transit (domain of the transportation authorities), they often do not know about the transit plans until they are made public. By then, the land for construction becomes dearer and can no longer be acquired using any authority's individual funds. In case a government agency owns the land in the station premises, it is reluctant to transfer such a valuable asset (land), to the authority that is looking to acquire it for constructing affordable housing. Such agencies prefer to develop the property for their own organization's profits. The stakeholders expressed concern that the lack of collaboration and cooperation between agencies is a potential obstacle in implementing affordable housing policies in TODs.

5.1.2. Poor Community Engagement

According to stakeholders, the community has little or no say regarding development plans in the neighbourhood, and even less in new developments. By requesting that the community's views be heard before the development plans' approval, the policies and regulations can empower the community to negotiate with the developers and the government regarding the allocation of affordable housing—and other social infrastructure—to improve the quality of life in the neighbourhood.

5.1.3. Lack of Government Ownership of Land

The stakeholders identified the lack of ownership of land close to transit as one of the major constraints in developing affordable housing in the case study area. The majority of the vacant land holdings in this area are owned by private developers and all new TOD housing has been developed by them. The government and the community have less control over these developments. To realise the potential of yielding good revenue, the private developers actively negotiate with the landowners to acquire the land near the station area and, thus, governments lose power if they do not share some land. However, private owners must still get approval and, thus, all of the mechanisms that involve PPPs and regulations for affordable housing (outlined above) can still be applied. Yet, the participants preferred to use some government land ownership as a major way to control housing markets.

5.1.4. Lack of Political Support and Commitment, and Conflicting Political Interest

The stakeholders felt that lack of funding is one of the main reasons why politicians do not actively pursue affordable housing in TODs. Additionally, aggressive lobbying by the developers is a hindrance in politicians' encouraging of inclusionary zoning.

5.1.5. Inadequate Policies and Regulations

The existing legislations—merely a couple of policies—for affordable housing were found inadequate by the stakeholders. Participants suggested various essential instruments for providing affordable housing were lacking: no regulations for mandatory imposition of the provision for affordable housing; no policy for defining the role of each agency in implementing and monitoring the provision of affordable housing in TODs; no land banking entity to facilitate land banking in TODs;

and no legislation for promoting a smooth transfer of land rights to appropriate housing authorities or private developers.

5.2. Strategies to Implement Affordabile Housing in TODs

During the third level of the deliberation, the stakeholders identified strategies towards combating each of the identified challenges. These strategies are summarized below.

5.2.1. Inclusionary Zoning

In the case study area, the government owns neither any vacant land for developing affordable housing, nor the funds to acquire highly-priced land. To overcome this hurdle in incorporating affordable housing in new TODs, the stakeholders suggested that inclusionary zoning be mandated through regulations. A majority of them recommended high FAR/density bonuses as incentives to the developers, in exchange for affordable housing. Rather, these are being used as innovative financial tools to raise funds to invest in transit and other necessary social infrastructure, and these funds are distributed among the government agencies BMRCL, BWSSB, BDA, and BBMP. However, the stakeholders felt that a certain amount of money needs to be allocated to fund affordable housing. Additionally, a minority amongst the stakeholders suggested relaxing parking norms as an incentive. However, the others felt that parking norms in Indian cities are already lenient and that further relaxation may amount to illegal street parking.

The rest of the tools under inclusionary zoning did not receive significant attention.

5.2.2. Special-Purpose Vehicle (SPV)

The deliberations established that setting up an SPV for station area-level plans can address the lack of collaboration and coordination between and within agencies. SPVs have been set up in other areas of government, but not for TODs. It can bring all of the stakeholders under one umbrella and protect each organisation's goals, without compromising the community's wellbeing. It can facilitate engagement between government entities, developers, and communities with the objective of equitable and sustainable TODs. These engagements can establish development agreements, community benefit agreements, PPP models, and other joint development plans. The SPV can also act as a real estate agency to negotiate with private developers and community coalitions on future developments in exchange for government incentives.

5.2.3. Community Benefit Agreement (CBA)

The stakeholders felt that CBAs can facilitate community involvement at the planning stage. For the CBAs to be effective, the stakeholders suggested that the community's approval be mandated for the approval of any new development in the TOD neighbourhood. CBAs can help maintain the essence of the community, foster the community's sense of ownership of their neighbourhood, and mitigate any resistance from them during the implementation of the projects.

5.2.4. Station Area-Level Planning

According to stakeholders, developing station area-level or local area-level plans in collaboration with the community is the best way for cities to ensure equity and sustainability in TODs. It helps in identifying the opportunities and challenges at a local level and generating solutions that are applicable in the local context rather than adopting blanket recommendations throughout the city. Hence, the stakeholders recommended preparing station area-level plans along with the transit corridor-level plans, to incorporate affordable housing in TODs.

5.2.5. Innovative Financing Mechanism

The cities' paucity of funds to invest in public facilities has fuelled innovative thinking about financing mechanisms. Identifying innovative ways to finance transit and TOD projects helps

eliminate reliance on government funds and leverages the politicians' willingness. The stakeholders recommended that the various housing programmes that are already in place must be implemented in TODs. The prominent housing programmes in Bengaluru include: Urban Ashraya Housing Scheme (housing financial assistance and loans for EWS), Urban Ashraya Sites Scheme (free sites for EWS), Dr. Ambedkar Housing Scheme (free housing—without a loan component—for the socially and economically weaker scheduled castes and scheduled tribes), and Hundred Housing Projects (providing 15,000 sites and 13,500 houses, at an approximate cost of INR 8.5 billion). The funds dedicated to these housing programmes can be directed towards affordable housing in TODs.

The stakeholders did not favour TIF as an innovative financing tool in India. They felt that it may not be possible to estimate the increase—induced by transit infrastructure—in tax revenue, given the lack of transparency in India's taxation system and the wide gap between guided and actual land values. Instead, the stakeholders favoured land banking as a financial tool for the proposed commuter rail, which is currently under planning. Most of the land around the commuter rail in the suburbs is under agricultural use. The stakeholders suggested that the government should act now to acquire some of the agricultural land—through a land banking government entity—for the production of housing and other infrastructure in the future. The sale of land or the use of joint development mechanisms can all include affordable housing goals. Acquiring the land sooner—rather than later—will help avoid the anticipated price rise.

5.2.6. Mandated Inclusionary Zoning

Developers work with the aim of optimising profits, for which they often lobby politicians for exemption from any regulation, can lower the profit margin. To check such lobbying by developers, the stakeholders recommended mandatory imposition of the inclusionary zoning ordinance in all new developments, without the scope for exemptions.

5.2.7. Inadequate Regulations, Policies, and Legislation

The various strategies proposed to address this gap include mandatory inclusionary zoning in exchange for density bonus and parking relaxations, SPVs, and a land banking entity with special legislative power to transfer land to private developers and government organisations for developing affordable housing, and policies to define the responsibility of each agency in incorporating affordable housing in TODs.

6. Discussion

In the process of deliberation, the stakeholders shared their concerns and views—with one another—for the inclusion of affordable housing in TODs. Many new and existing sets of tools were identified during this deliberation, to make affordable housing a reality in the case study area.

In the category of tools related to zoning regulations, local codes, fees, and procedures, inclusionary zoning was identified as an important financially-viable tool to implement in the case study area. Under inclusionary zoning, density bonus and relaxing parking norms were preferred as incentives for the developers. The stakeholders did not favour an impact fee waiver, as Bengaluru is already faced with paucity in funds to invest on public infrastructure. Surprisingly, the stakeholders did not suggest streamlined permitting, although it does not incur any costs to them. ADUs did not find any favour, as in Bengaluru, especially in the case study area, the plots are small and might not lend themselves to accommodating an additional small unit.

In the category of tools related to financing, the stakeholders did not support the idea of TIF, due to the lack of a transparent property tax assessment system in Indian cities. TOD-targeted housing funds were identified as a preferred solution in the strong real estate market in the case study area. Land banking was identified as a tool to be adopted in emerging and weak real estate market areas, and in future transit and TOD plans.

Under the category of joint development programs in TODs, only CBAs were preferred as an economically sustainable solution. The stakeholders did not favour PPPs, joint developments, and development agreements, as they can be implemented only if the government owns land in the station premises. Unfortunately, in the case study area, the government does not own any large vacant plots. However, the stakeholders felt that they could use these tools in future transit and TOD plans to finance transit and social infrastructure, including affordable housing.

In addition to the existing tools for inclusive TOD planning, the stakeholders proposed a set of strategies. Firstly, they proposed setting up an SPV to bring all stakeholders together, to monitor the development of inclusive TODs through the planning to implementation stages. Secondly, they proposed mandating that the station area-level planning during the planning of a transit corridor must involve collaboration with the stakeholders, for more sustainable and equitable TOD planning.

7. Conclusions

A framework for stakeholder deliberation has been outlined which can be applied to any TOD, where inequities are emerging, to ensure there are inclusionary housing processes to enable the TOD to be inclusive and, thus, more fully sustainable. The application to a case study in Bengaluru has shown that the framework can work and provide the kind of options to stakeholders that can create more inclusionary outcomes. This is the first attempt in Bengaluru to bring all the stakeholders (who are involved in TOD planning) on a common platform to dialogue on the equity issues faced by TODs. The response was very positive to the process. The framework was effective in disseminating the implication of a new transit system and its associated developments on equity objectives in the case study area in the form of information to the stakeholders, in identifying issues, and finding innovative solutions towards inclusive TODs. The conclusions in the Bengaluru process opened the way for: inclusive housing regulations, setting up SPVs and land banking entities, developing local area plans in collaboration with the community and, finally, implementing them. There is a continuing commitment within the political and administrative system to achieving these policy outcomes, but they do amount to a long-term process. In this whole process, many more deliberations among all of the stakeholders need to be conducted. The proposed deliberation framework can be modified according to the deliberation objectives and extended to other future deliberations as well. With this deliberation, the stakeholders realized the strength of the deliberation technique in shaping inclusive and sustainable TODs, and are committed to implementation.

The proposed deliberation framework creates awareness among policymakers, planners, and city authorities, on equity implications in TOD planning. Further, it guides them in developing more equitable and sustainable TODs, especially in the developing world, which is witnessing new transit infrastructure and TODs on a large scale.

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