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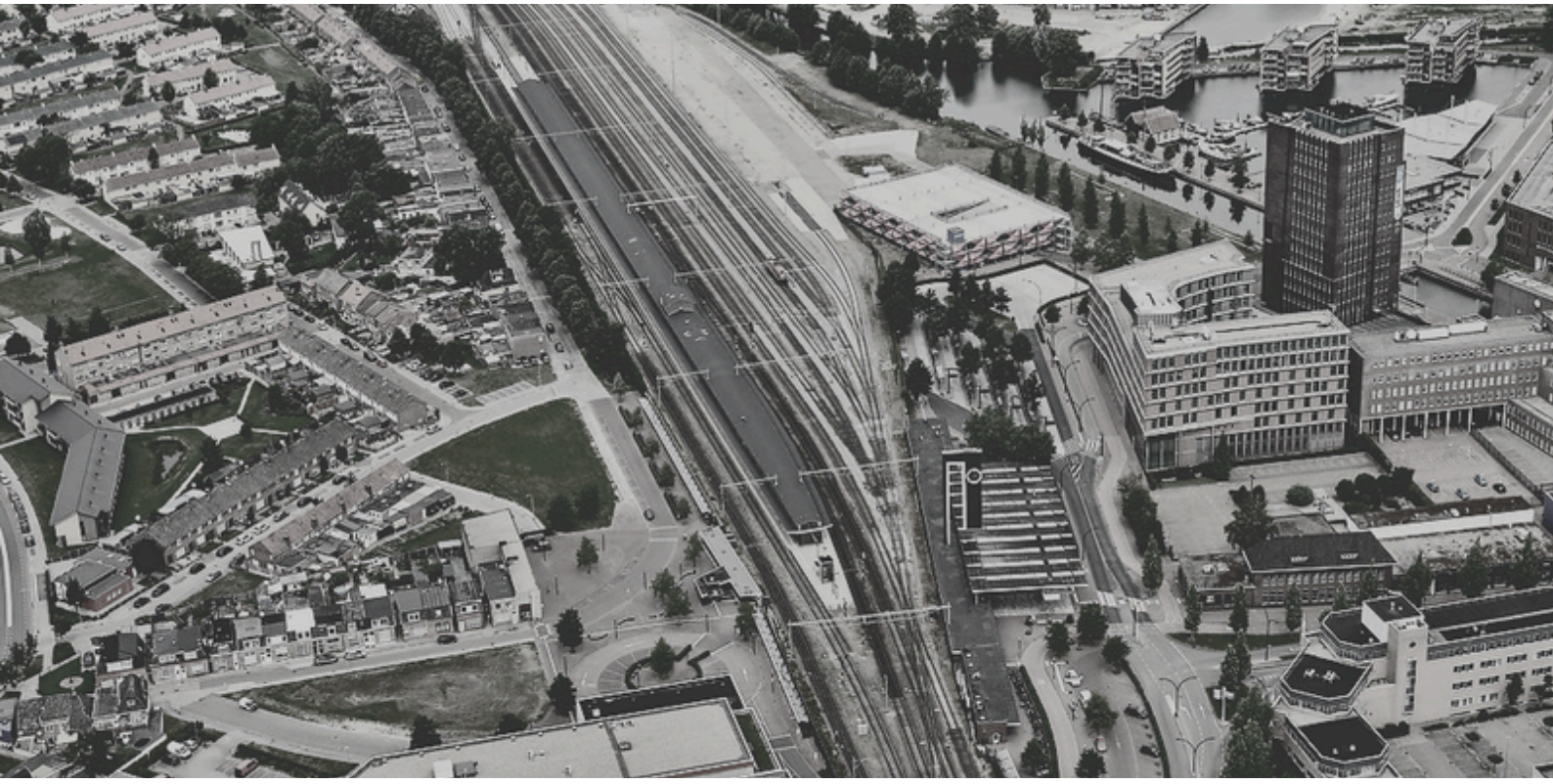
REDESIGNING ALMELO'S TRAIN STATION AREA TO BRIDGE PHYSICAL AND SOCIAL GAPS



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INTRODUCTION

In many cities, the train station acts as both an important node in the transport network and a physical and psychological barrier dividing communities (Cavallo, 2008). Stations often have a well-developed “front” side facing the city center and a neglected “back” side that residents avoid or perceive negatively (Peters, 2023). Almelo Central Station exemplifies this dual role. On one hand, it links Almelo to broader regional and national rail networks; on the other, the railway tracks and station infrastructure split the city through its tracks. It is the policy of the Spoorbouwmeester, the Dutch railway design supervisor, to reverse this trend, as reflected in its adopted policy called 'Spoorbeeld'.

The train station of the future is more than just a transportation hub it acts as a catalyst for urban development and social cohesion. Public transport usage is expected to significantly increase towards 2040, driven by urban densification, population growth, and sustainability goals (Ministerie van Infrastructuur en Waterstaat, 2021). Consequently, railway stations will become central elements in shaping cities, enhancing urban quality, and improving the daily lives of their inhabitants.

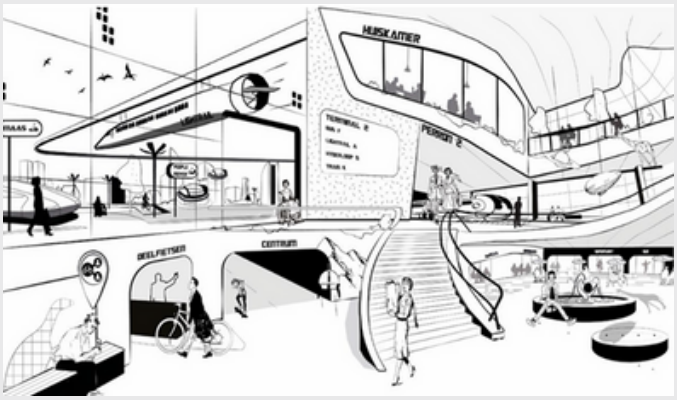


Image 1: created by Prorail

ABSTRACT

In many mid-sized cities, train stations function not only as nodes in transport infrastructure but also as urban barriers that reinforce socio-spatial divisions. Almelo Central Station exemplifies this duality. While it connects the city to national rail networks, it simultaneously severs spatial and social ties between surrounding neighborhoods particularly Kerkelanden, Indiëterrein, and the city center. These divisions go beyond mere physical separation; they shape how residents experience and navigate their environment.

For instance, residents from Kerkelanden report feelings of exclusion, unease, and limited access to the central city, especially when using the underpass, which is often perceived as unsafe or inhospitable. Such perceptions reduce the frequency of cross-neighborhood interaction and contribute to cycles of spatial neglect, disinvestment, and social alienation.

These effects are not incidental they reproduce broader inequalities in visibility, access to amenities, and participation in public life. The division undermines the station's potential as a connective civic space. This research starts from the assumption that thoughtful urban design can help to counteract these divisions. The design proposal therefore aims not just to improve physical connectivity but to foster psychological and social reconnection, creating a station environment that feels shared, inclusive, and meaningful to all users.

Using a Sequential Exploratory Strategy, the study first employs qualitative methods: site analysis, semi-structured interviews with residents, municipal officials, entrepreneurs, and community leaders, and case study research of successful station transformations in cities such as Delft and Rotterdam. The findings reveal that Almelo's station area lacks the spatial integration, safety, and identity needed to serve as a genuine connector between neighborhoods. Particularly on the Kerkelanden side, weak public realm design and a lack of visibility and amenities reinforce a sense of marginalization and social distance.

The research is guided by an integrated theoretical framework that includes Jane Jacobs' theory of social capital, Kevin Lynch's concept of urban legibility, Transit-Oriented Development (TOD), and the Spoorbeeld design vision. These frameworks highlight the importance of spatial permeability, functional diversity, and identity in fostering inclusive public spaces. Analysis shows that Almelo's station underperforms as both a transport node and an urban place, with current design elements failing to encourage informal social interaction or a sense of shared belonging.

ABSTRACT

The study concludes that Almelo's future station design must go beyond mobility infrastructure and address deeper social and spatial fragmentation. This requires a human-centered design strategy that improves sightlines, spatial logic, and programmatic diversity, while also embedding Almelo's industrial heritage into the spatial experience. Lessons from comparable cities show that even modest interventions when rooted in local identity and community needs can transform transit zones into vibrant, inclusive urban environments.

This research contributes to broader debates on how station areas can act as catalysts for urban cohesion rather than division. It provides both analytical insights and practical guidance for Almelo's Spoorzone development, aiming to reconnect neighborhoods and strengthen the city's collective identity through design.

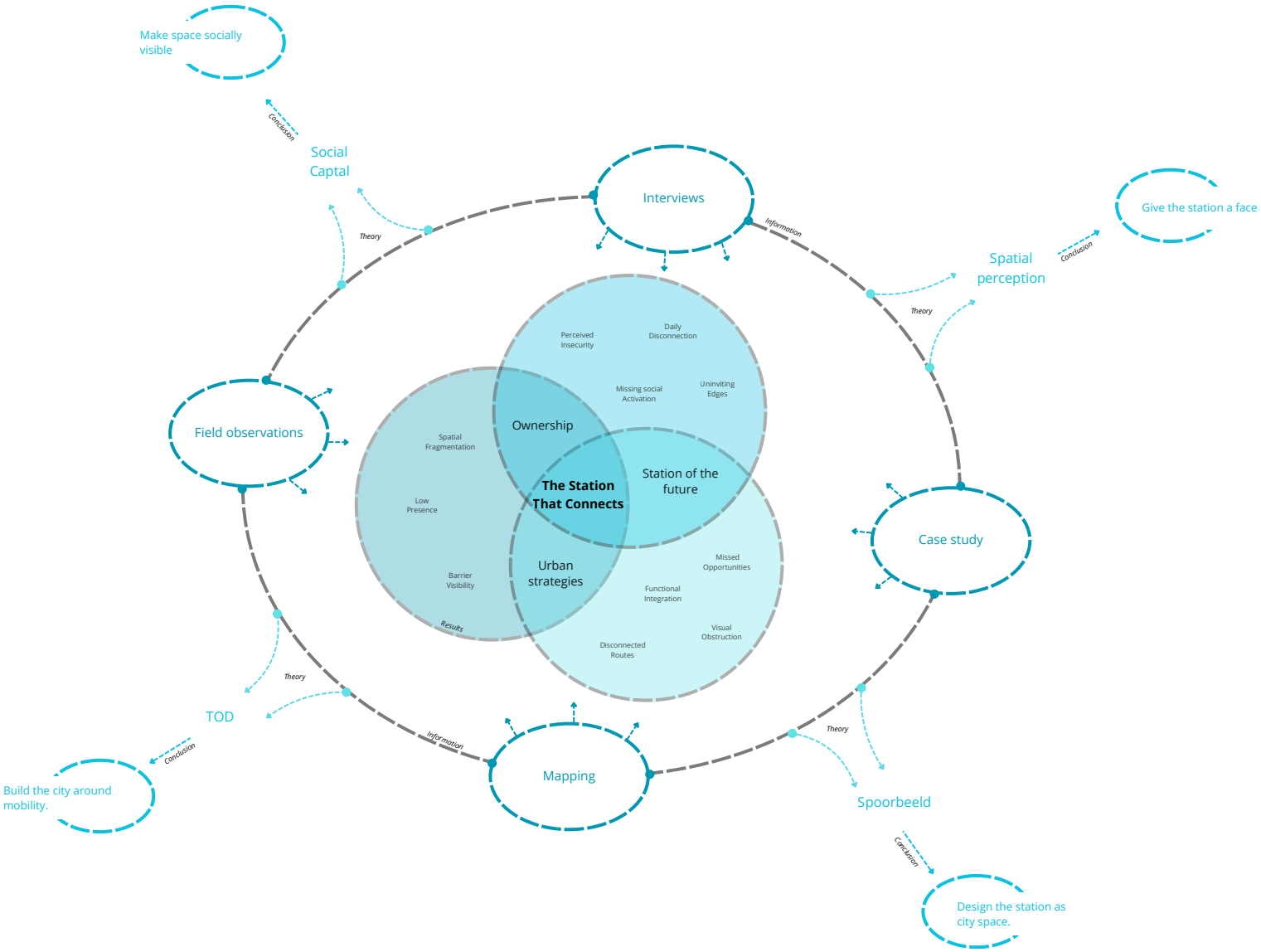
Image 2: Station entrance Kerkelanden side created by author

Keywords

Almelo railway station - Urban design - Inclusive urban hub - Social Capital Theory - Neighborhood integration - Connectivity - Stationof the future

RESEARCH DIAGRAM

This diagram visualizes the structure of the research, connecting methods, themes, and theories. Central themes—Ownership, Urban Strategies, and The Station of the Future—reflect the aim of transforming Almelo's station into a connective, inclusive urban space. Methods such as observations, interviews, mapping, and case studies generated findings placed within these themes. Overlapping areas show shared issues like social detachment. Each method is linked to a theory—Social Capital, Spatial Perception, TOD, and Spoorbeeld—which guided interpretation. These theories are translated into conclusions (e.g., "Design the station as city space"), informing a strategic vision.



Research diagram created by author

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RESEARCH QUESTION

The central research question guiding this study is: To what levels can architectural and urban design interventions in the Almelo train station area reduce the physical and social disconnection between neighborhoods, and thereby enhance opportunities for local development and community integration on both sides of the railway tracks?

In addressing this question, the research examines four aspects: (1) the extent to which Almelo's railway infrastructure and planning decisions have contributed to the divide, (2) how the unique identity of Almelo can be reflected in the station's design to strengthen a shared sense of belonging, and (3) what urban design strategies from other cities can inform the bridging of physical barriers around station areas.(4) what emerging trends and requirements characterize the 'station of the future', and how can Almelo proactively anticipate these developments through architectural and urban design interventions in its station area? By investigating these points, the study aims to generate a design approach that aligns with best practices in station area planning (Loukaitou-Sideris & Peters, 2020) and the specific needs of Almelo.

THEORITICAL FRAMEWORK

This research draws on an integrated theoretical framework that brings together insights from social capital theory, spatial perception, transit-oriented development, and contemporary design principles for station environments. Together, these perspectives offer tools for understanding how architectural and urban interventions can transform Almelo's train station area from a dividing infrastructure into a socially inclusive and spatially integrated part of the city.

Jane Jacobs' (1961) theory of social capital highlights the role of vibrant, mixed-use public spaces in building trust, informal networks, and a sense of belonging. Her ideas about "eyes on the street" and the importance of everyday encounters in public space continue to influence urban design strategies aimed at fostering safety and interaction. Jacobs argues that trust within city streets develops through repeated casual contacts what she describes as the "sidewalk ballet" in which familiar faces and passive surveillance reinforce a shared sense of comfort and accountability (Jacobs, 1961, pp. 42, 168). In Almelo (station area), however, such patterns are largely absent. The pedestrian underpass while intended to connect neighborhoods fails to cultivate the kind of social familiarity and visual presence Jacobs deems essential. Instead, the space remains underused, visually opaque, and socially detached, contributing to perceptions of insecurity and disconnection.

Kevin Lynch (1960) emphasizes in The Image of the City that urban elements such as paths, edges, districts, nodes, and landmarks together shape the mental image of a city, fostering a sense of safety and orientation (pp. 50–59, 74–78). His concept of nodes places where people converge, make decisions, or pause temporarily (pp. 98, 106) offers valuable insights for station environments. Nodes function as urban anchors: they are recognizable, multidirectional, and promote social interaction. In the case of Almelo, this potential is only partially realized. While the monumental station hall acts as a landmark, the surrounding area lacks the qualities of a true node: there are no clear access routes, inviting gathering spaces, or spatial cues that stimulate encounters.

THEORITICAL FRAMEWORK

The node-place model developed by Bertolini and Chorus (2011), building upon Lynch's ideas, stresses that stations create value only when they function both as mobility hubs (nodes) and as places of urban life (places). In Almelo, this balance is lacking: the station performs adequately as a transport node but fails to support social interaction or generate meaning in the public realm, thereby reinforcing socio-spatial segregation.

Transit-Oriented Development (TOD) serves as another foundational concept. TOD promotes compact, walkable, and mixed-use development organized around public transportation (Loukaitou-Sideris & Peters, 2020). In the Dutch context, Peek, Bertolini, and de Jonge (2006) have explored how TOD principles can be adapted to create integrated and livable station areas, emphasizing the importance of multi-functionality, accessibility, and spatial quality. The Spoorzone Almelo project reflects several of these principles, particularly its aim to densify and diversify the urban fabric around the station. However, TOD research warns that without deliberate spatial interventions, rail infrastructure can exacerbate physical and social divides rather than mitigate them.

To complement these frameworks, this research also adopts the Spoorbeeld design vision, developed by Bureau Spoorbouwmeester (2020) for NS and ProRail. Spoorbeeld prioritizes spatial quality, accessibility, identity, sustainability, and social value in the design of stations and their surroundings. It considers station areas as part of the urban and social fabric spaces of daily life rather than purely infrastructural zones. Given Almelo's fragmented urban structure and industrial character, the Spoorbeeld principles offer valuable guidance for reimagining the station area as a place of continuity, belonging, and integration.

Together, these theoretical frameworks Jacobs' focus on social life, Lynch's and Bertolini's contributions to spatial structure and perception, TOD's integration of mobility and urban development, and Spoorbeeld's emphasis on human-centered station design support a design-driven investigation into Almelo's current challenges. They form a coherent foundation for developing spatial interventions that transform the Almelo station area into a safe, inclusive, and meaningful urban space that actively connects rather than separates.

METHODOLOGY

This research follows a Sequential Exploratory Strategy (Sandelowski et al., 2011), beginning with qualitative data collection to explore the complexities of Almelo's station area, followed by potential quantitative application in future stages. By combining multiple qualitative methods, the study aims to develop a deep understanding of spatial, social, and infrastructural issues to inform practical design solutions.

A comprehensive site analysis and observational study was carried out to assess the station and its surrounding urban fabric. Observations focused on pedestrian, cyclist, and vehicular flows to identify areas where connectivity is weak or unsafe. Specific attention was given to underpasses, station entrances, and bike routes, assessing them for accessibility and spatial performance. This method drew on established techniques for studying public space usage (Rosenbaum, 2005), and was supported by photo documentation and spatial mapping to reveal physical barriers and latent opportunities for transformation.

Stakeholder interviews formed the second key method, aimed at integrating local knowledge and lived experience. Interviews were conducted with residents from Kerkelanden, Indiëterrein, and the city center, alongside urban planners, community leaders, and local business owners. A semi-structured, open-ended approach encouraged inclusive dialogue, with a focus on capturing challenges, aspirations, and everyday experiences related to the station.

In line with Alsaawi (2014), attention was given to ensuring the representation of marginalized voices.

To explore transferable strategies, a comparative case study analysis was performed. Best-practice examples such as Rotterdam Centraal, Delft Station, King's Cross (London), and Gare du Nord (Paris) were reviewed. These projects were selected due to their similar struggles in integrating large transit hubs within their urban contexts. Insights were drawn from planning documents, academic sources, and design evaluations. This approach followed Mohd Noor's (2008) replication logic to identify adaptable strategies suited to Almelo's scale and needs.

Together, these three methods form an integrated framework that grounds the research in real-world observations, lived experience, and tested design precedents. This multi-method, qualitative-first strategy ensures that recommendations for Almelo's station redevelopment are locally grounded, inclusive, and strategically informed.

RESULTS

To what extent have Almelo's railway infrastructure and urban planning decisions around the station contributed to the physical and social disconnection between neighborhoods?

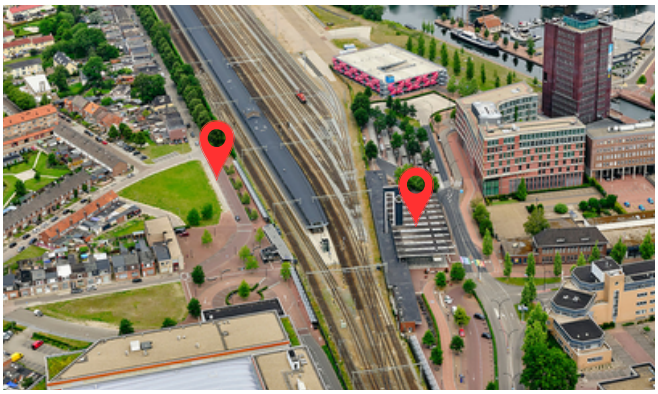


Image 3: Drone shot of the station created by the muninicipality

The underground pedestrian passage at Almelo Central Station is currently the only direct connection in the area that links the city center with southern neighborhoods like Kerkelanden. Its strategic importance in the urban network is therefore significant yet the design fails to fulfill its potential as a unifying element. As shown in the spatial analyses, the tunnel is enclosed, lacks transparency and daylight, and is purely functional in nature, offering no spatial cues that invite orientation, comfort, or interaction. Its disconnected and sterile character, combined with limited visibility and narrow access points, reinforces the perception of the railway as a barrier rather than a threshold. Despite its critical position in the urban fabric, the design neglects its role as public space, and as confirmed in the physical observations, it does not actively support the social or spatial integration of this area.

Almelo Central Station is located just south of the city center and serves as a key regional transport hub along the east-west railway corridor.
It connects diverse surrounding areas, including the commercial city center to the north and residential neighborhoods like Kerkelanden and the redeveloping Indiëterrein to the south.

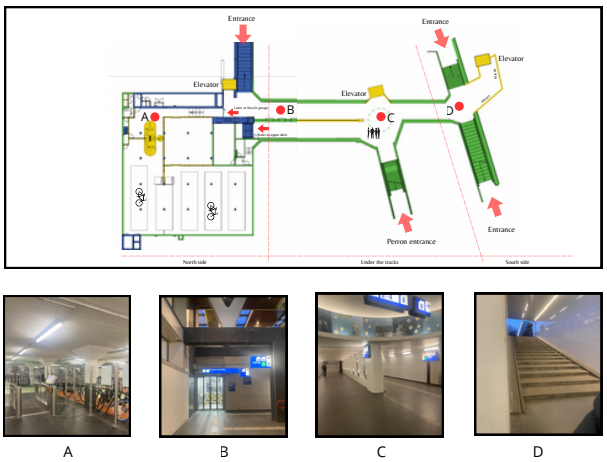


Image 4: Analyse of the underpass created by author

On the Kerkelanden side, the absence of a clearly defined station entrance results in a spatially weak and unarticulated edge. The area serves merely as a functional access point to the tunnel, lacking the architectural presence or public realm quality that would signal arrival or civic importance. While the presence of bicycle and car parking indicates practical use, the space does not invite lingering, social interaction, or a sense of belonging.

RESULTS

To what extent have Almelo's railway infrastructure and urban planning decisions around the station contributed to the physical and social disconnection between neighborhoods?

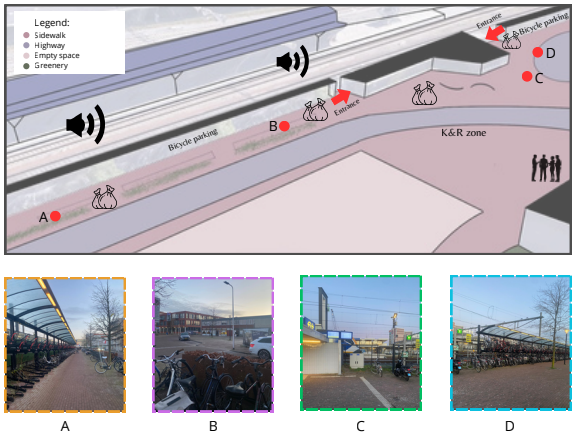


Image 5: Analyse of the south entrance created by author

From the perspective of Jane Jacobs' theory of social capital, this side of the station fails to generate the kind of informal surveillance, spontaneous encounters, or community-building potential that emerge from active and engaging public spaces. As a result, the station remains invisible in the daily rhythms of the neighborhood, fostering a sense of detachment among residents and reinforcing the barrier effect of the tracks.

On the city center side, the entrance is visually more prominent and spatially integrated into the urban grid. However, the surrounding public space remains underdefined and lacks clear programmatic purpose. Rather than serving as a lively urban node, it often attracts passersby or individuals seeking temporary shelter, with limited potential for positive social use.

The lack of functional diversity an essential element in Jacobs' thinking prevents this space from developing the vibrancy and safety that emerge when different users interact throughout the day. The station area therefore remains a zone of movement rather than a place of encounter, missing the opportunity to act as a bridge between the city's divided halves.

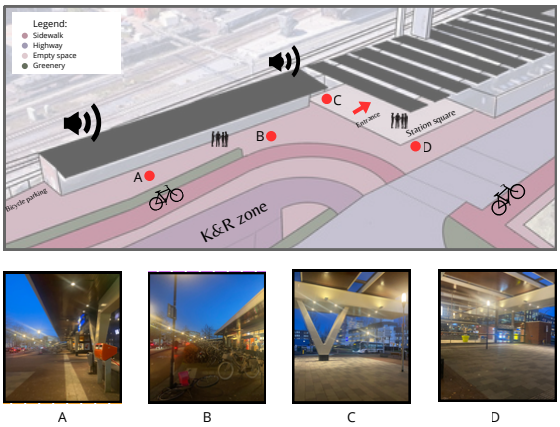


Image 6: Analyse of the main entrance created by author

Image 7: Analyse of histoircal station building created by author

RESULTS

To what extent have Almelo's railway infrastructure and urban planning decisions around the station contributed to the physical and social disconnection between neighborhoods?

The socio-demographic analysis of Almelo's surrounding neighborhoods Binnenstad, Indië, and Kerkelanden reveals significant differences in population composition, socio-economic status, and urban dynamics. While Indië and the city center display signs of densification, economic potential, and cultural diversity, Kerkelanden presents a more stable, homogeneous, and inward-oriented residential profile. These distinctions, combined with the physical barrier of the railway, contribute to an urban structure where the risk of functional and social segregation is high.

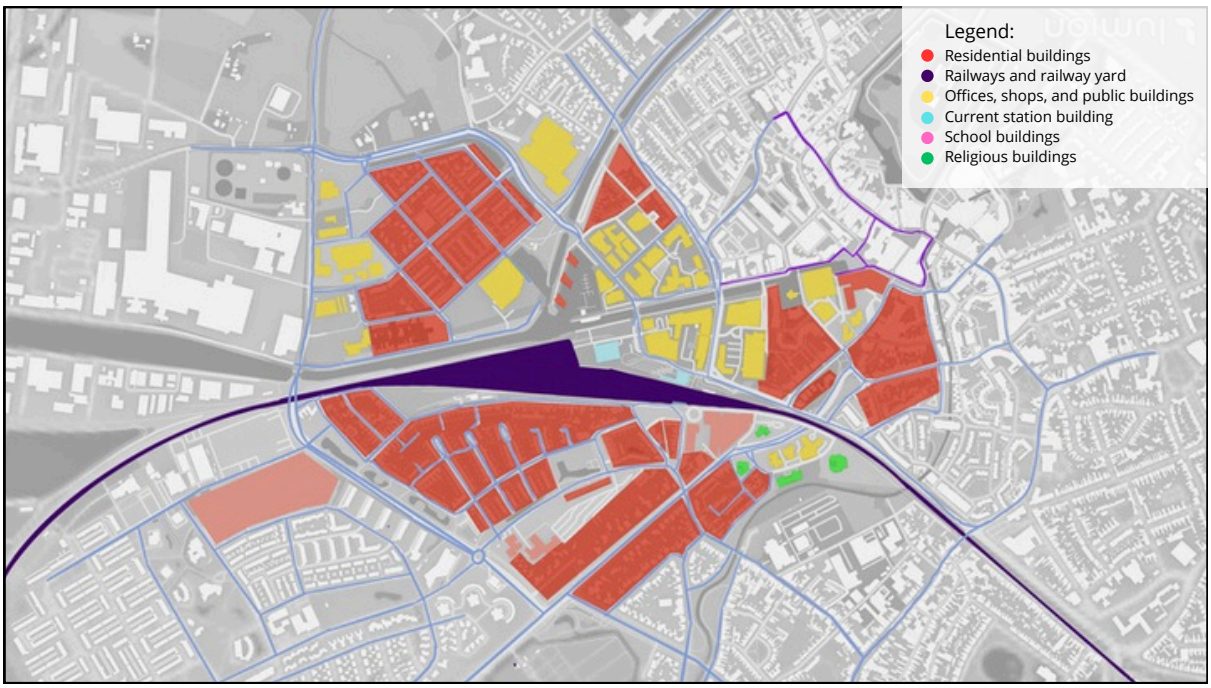


Image 8: Analyse of the functions in the research area created by author

According to Jane Jacobs (1961), social cohesion in urban environments emerges through active, diverse, and well-used public spaces that allow for spontaneous interactions across social groups. In Almelo's station area, such spaces are currently lacking; the existing tunnel and entrances primarily serve circulation, rather than fostering a sense of place or shared urban life. Furthermore, Bertolini's node-place model (Bertolini & Chorus, 2011) emphasizes that when a station functions predominantly as a transit node and lacks qualities as an urban place, it risks becoming a space of detachment, especially in areas marked by social disparity.

RESULTS

To what extent have Almelo's railway infrastructure and urban planning decisions around the station contributed to the physical and social disconnection between neighborhoods?

In its current condition, Almelo's station area acts less as a connector and more as a boundary between contrasting neighborhoods. To address this, spatial design must go beyond improving physical infrastructure it must create inclusive, accessible, and socially meaningful public spaces that actively reduce fragmentation. Integrating these principles into the station's redevelopment is essential to support urban integration and prevent deepening segregation.

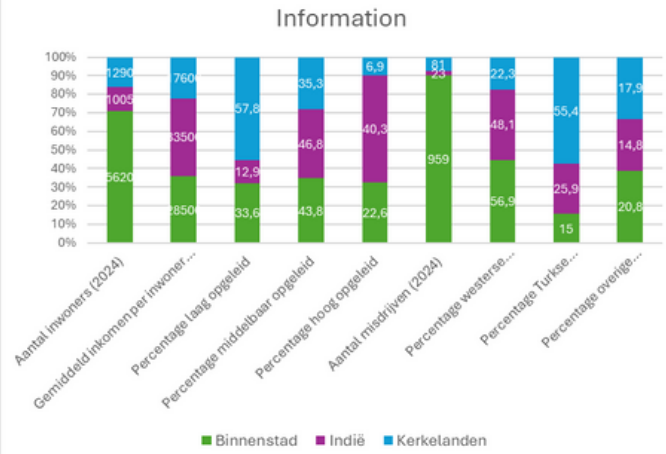


Image 9: Diagram of the geoinformation of this area created by author

Image 10: Image of the news and media perception about this area created by author

The spatial disconnection between neighborhoods around Almelo's train station is not only physical it is actively reinforced through contrasting representations in local media. Kerkelanden is repeatedly portrayed in relation to social issues such as crime, disorder, and decay, shaping a public image of the area as problematic and in decline.

In contrast, the Indië area is framed as an emerging, creative district, associated with culture, innovation, and positive transformation. These polarized narratives contribute to a symbolic divide that mirrors and strengthens the existing physical and social separation created by the railway infrastructure. This reinforces the urgency for design interventions that do more than bridge space they must also challenge perception, support inclusion, and contribute to a shared, cohesive urban identity.

RESULTS

How can the unique identity of Almelo be integrated into the train station's design to foster a shared sense of belonging and strengthen connections between surrounding neighborhoods?

Almelo's urban identity is deeply shaped by its history as a textile city. During the 19th and early 20th centuries, the city grew rapidly as part of the broader industrialization of the Twente region, becoming a key hub for textile production in the Netherlands. Factories such as Ten Cate Indië, Ten Cate Java, Palthe, and Scholten & Co. dominated the urban landscape and played a central role not only in Almelo's economy but also in its spatial and social development (Gemeente Almelo, n.d.; Tubantia, 2023).

What made this industrial period especially formative for Almelo's identity was the close spatial connection between work and home. Many textile workers lived in adjacent neighborhoods such as the Binnenstad and Kerkelanden, often within walking distance of their factories. For example, the Indische Buurt was developed in the early 20th century specifically to house workers from nearby factories such as Ten Cate and Stoomspinnerij Twenthe. In 1914, the housing association Volksbelang built 124 affordable homes in the Westeres area _currently the neigbouhoods Indië and Binnenstad) to accommodate the influx of laborers (Pape, 2024). This proximity fostered a strong sense of community and reinforced the integration of working life into the city's urban fabric.

While many of the original textile factories were later closed or partially demolished due to deindustrialization in the late 20th century, their legacy remains present. Several factory buildings have been preserved and repurposed, most notably on the Indiëterrein, which now functions as a creative and cultural hub. This transformation represents a deliberate effort by the city to honor and reinterpret its industrial heritage, using it as a foundation to strengthen local identity and bridge past and future (Urhahn, 2021).

Image 11: Diagram former textile industry in this area created by author

RESULTS

How can the unique identity of Almelo be integrated into the train station's design to foster a shared sense of belonging and strengthen connections between surrounding neighborhoods?

By embedding Almelo's textile narrative into current urban redevelopment such as the redesign of the station area the city has the opportunity to reconnect with its historical roots. Recognizing the historical link between labor and living spaces, especially in areas like Kerkelanden and the city center, supports a more inclusive, identity-driven design strategy one that is rooted in place, memory, and community continuity.

Image 12: Image former textile industry in this area created by crimson (waarsdestelling rapport)

To explore how Almelo's unique identity might be reflected in the future station design, a series of semi-structured interviews were conducted between October 2024 and February 2025. The goal was to understand how residents and local stakeholders experience the station area today, and how it relates to their sense of connection, safety, and belonging.

Interviewees included residents from Kerkelanden and Indiëterrein, local entrepreneurs, a municipal planner, a social worker, and a religious leader. Across these diverse perspectives, several recurring themes emerged. Most notably, the station was described as unwelcoming, disconnected, and lacking identity particularly by residents of Kerkelanden, who feel spatially and socially separated from the rest of the city.

The underpass was frequently cited as a space of discomfort, associated with insecurity and avoidance, especially after dark. Several respondents described the station area as anonymous and impersonal"just a place to pass through" rather than a destination or shared environment. Many expressed a lack of connection to the space, stating that it felt lifeless or forgotten. There was also a common concern that the southern side of the station receives little attention in urban planning and development efforts, reinforcing the feeling that this part of the city is being left behind.

Theme	Insight
Spatial Segregation	The railway and underpass act as psychological and social dividers.
Lack of identity	The station is perceived as placeless—detached from Almelo's character.
Social exclusion	Particularly felt by marginalized residents in Kerkelanden.
Desire for co-creation	Many suggested including locals in the design process.
Missed opportunities	Especially on the Kerkelanden side: vacant spaces, underused land.
Need for cultural reflection	Calls for integrating Almelo's textile past and cultural diversity.

Tabel about interview results created by author

RESULTS

How can the unique identity of Almelo be integrated into the train station's design to foster a shared sense of belonging and strengthen connections between surrounding neighborhoods?

These interviews highlight a strong desire for the station to become more than infrastructure: a place that reflects Almelo's character, acknowledges its diversity, and reconnects neighborhoods that have long felt divided.

Recognizing these lived experiences of spatial inequality and the fragmentation of identity around the station area invites a more structural perspective on how urban form and infrastructure shape daily life. To better understand the underlying dynamics at play and to frame opportunities for more inclusive development this research draws on insights from Transit-Oriented Development (TOD) and the Spoorbeeld design vision.

TOD theory emphasizes that station areas should not function solely as transport nodes but as integrated parts of the urban and social fabric. However, in Almelo, the current imbalance between the northern and southern sides of the railway especially the underdeveloped Kerkelanden access demonstrates what TOD literature warns against: when spatial planning around transit hubs lacks deliberate social integration, infrastructure can deepen existing divisions rather than bridge them (Peek, Bertolini & de Jonge, 2006).

The Spoorbeeld framework, developed by Bureau Spoorbouwmeester for NS and ProRail, strengthens this perspective. It highlights key design principles such as identity, accessibility, spatial quality, and social safety as essential to creating meaningful and inclusive station environments. These priorities resonate strongly with the concerns voiced by Almelo's residents who ask not only for better connections, but for a place that reflects who they are and supports a sense of shared belonging.

Almelo, 1962

Image 13: Image of the monumental station building created by crimson (waarsdestelling rapport)

RESULTS

Which urban design strategies from other cities have proven effective in bridging physical barriers around station areas?

The redevelopment of Rotterdam Centraal is often seen as a model for integrating a train station into the urban fabric. Key interventions included improved pedestrian routes, clear sightlines, and high-quality public space contributing to enhanced safety, accessibility, and wayfinding (Van Buuren & Tjallingii, 2019). These spatial principles are relevant for Almelo, where the current station area suffers from disconnection and a lack of identity, especially on the Kerkelanden side.

However, Rotterdam's context differs significantly from Almelo's. The project received large-scale national investment and served a high-capacity international transport function. While the spatial strategies are compelling, their scale and ambition may not directly translate to a smaller, regionally oriented city like Almelo.

Moreover, Rotterdam's redevelopment has been criticized for prioritizing aesthetics and commercial appeal over social inclusion (Karssenberg et al., 2016). Community participation in shaping public space was limited, and nearby residents had little influence over the outcome.

For Almelo, the key lesson is not to replicate Rotterdam's form, but to adapt its logic: prioritize spatial openness, visibility, and multifunctionality, but do so in a context-specific, community-led manner. Only then can the station become a true connector physically and socially between historically divided neighborhoods.

Image 13: Image of Rotterdam central station (skyview) created by Benthem and Crouwel

Image 14: Image of Rotterdam central station (main antrance) created by Benthem and Crouwel

Image 15: Diagram of Rotterdam central station (functions) created by Benthem and Crouwel

RESULTS

Which urban design strategies from other cities have proven effective in bridging physical barriers around station areas?

The redevelopment of Delft Station presents a strong example of how infrastructure can be reintegrated into the urban fabric while enhancing public space. By relocating the railway underground, a long-standing physical and visual barrier in the city was removed. This intervention not only improved urban continuity, but also created space for new plazas, bike routes, and public buildings transforming the station area into a multifunctional civic zone (Van Ruijven & Tijm, 2019).

Key spatial strategies such as placing bike parking underground and ensuring open sightlines contribute to a clear, safe, and welcoming environment. The interior design, including the historic map on the ceiling, strengthens local identity and gives the station a distinctive sense of place. These features show how infrastructure can simultaneously serve movement and meaning.

However, Delft's transformation was part of a broader urban development effort, supported by major investments and a strong architectural vision. For Almelo, the lesson is not to imitate the scale or design language of Delft, but to adopt its principles: remove spatial barriers, prioritize openness, and embed local identity into public infrastructure. Only then can the station become a space of connection functionally, socially, and symbolically.

Image 16: Image of Delft station (main entrance) created by Mecanoo

Image 17: Image of Delft station (view from perron) created by Mecanoo

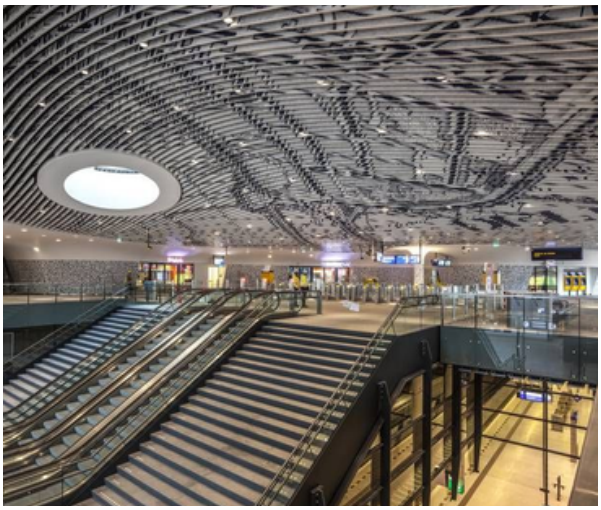


Image 18: Image of Delft station (ceiling detail) created by Mecanoo

RESULTS

How can Almelo's station contribute to better future connectivity between surrounding neighborhoods while supporting sustainable housing developments?

Almelo’s train station currently acts more as a dividing line than a connector. The railway cuts through the city, and the underpass often described as dark, unsafe, and uninviting reinforces the physical and symbolic separation between the city center and Kerkelanden. Residents report avoiding the area, especially at night, and see the station as a space to pass through, not to use or identify with.

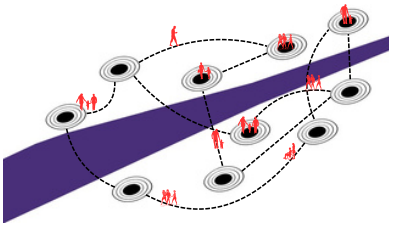
To address this, the station must be reimagined as more than infrastructure. It should function as a civic space that encourages movement, interaction, and belonging. A key step is improving spatial connectivity by for instance making a elevated landscape walkway that creates visual and experiential continuity between both sides of the tracks. Sightlines and access points must be clear and intuitive to promote safety and ease of use.

Almelo’s textile heritage offers a strong narrative to build on. The city’s industrial past, especially in areas like the Indiëterrein and Kerkelanden, can inform materials, textures, and design choices creating a sense of place that reflects local history and identity.

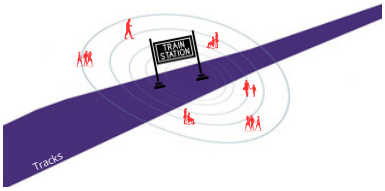
The station’s surroundings should also support everyday life. Spaces for informal encounters, events, and small businesses can activate the area and make it feel part of the city’s social fabric. Residents interviewed during the research expressed a clear need for the station to feel accessible and meaningful not just efficient.

Lessons from cities like Delft and Rotterdam show that even modest interventions such as greenery, active edges, and community programming can significantly improve public perception and usage. What matters is not scale, but relevance: design must respond to local needs and character.

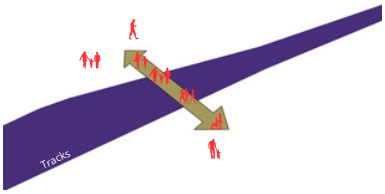
Almelo has a unique chance to reconnect its urban fabric. With thoughtful design rooted in place and community, the station can become a shared anchor bringing neighborhoods back together and strengthening a collective sense of belonging.



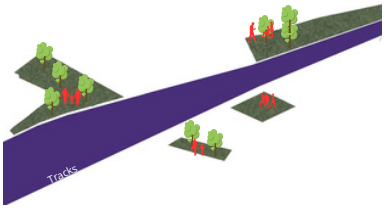
Connection zone



Accesisble station area



Easy and save
interneigborhood connection



Sustainable public spaces

Local identity

Image 19: Images created by author and Twente journaal

DISCUSSION

This research has shown that Almelo's station area currently functions more as a divider than a connector between neighborhoods particularly between the city center and Kerkelanden. Field observations and interviews indicate that the spatial configuration of the station, especially the underpass, contributes to feelings of social distance and perceived insecurity. Case studies from Delft and Rotterdam illustrate that targeted design interventions can help repair such divisions, provided they are carefully adapted to local conditions. In Almelo's case, this means prioritizing small-scale, context-sensitive solutions over replicating large metropolitan models.

At the same time, the research process itself warrants critical reflection. Although multiple methods were used field observation, interviews, and case study analysis there are limitations that may affect the study's reliability and generalizability. The group of interviewees was relatively small and partly selected through convenience sampling, which means certain voices such as youth or those without stable housing may be underrepresented. Additionally, some interviews were informal, offering rich qualitative insight but lacking full methodological consistency.

Moreover, some local policy documents were either outdated or not easily accessible during the research phase, limiting the extent to which current municipal strategies could be fully integrated. The study also focused primarily on spatial and social perceptions; integrating quantitative data (e.g., usage statistics or crime reports) could have further strengthened the analysis.

Despite these limitations, the research provides meaningful insights into how station design can contribute to urban cohesion. The combination of local narratives, spatial analysis, and design theory makes it clear that Almelo's station holds potential as more than a point of transit. If designed with care and in collaboration with the community, it can become a place of belonging, identity, and connection bridging not only physical space, but also the social and symbolic divides that shape urban life.

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Appendix: Interview Summaries – Redevelopment of Almelo Station Area

Interview period:

- October 2024
- January 2025
- First week of February 2025
-

A total of eight semi-structured interviews were conducted with different stakeholders to understand perceptions of the Almelo station area, with a focus on inclusivity, identity, and spatial connectivity. The interviews aimed to explore what is currently missing in the area, how people experience the underpass, and to what extent they perceive segregation in the city.

1. Residents of the Indiëterrein (2 interviews)
Date: October 2024
Format: Semi-structured, in-person
Demographic: Long-term residents (aged 30–60)
These residents expressed a sense of attachment to the renewed Indiëterrein, which they described as one of the few areas in Almelo where historical identity has been preserved and transformed positively. They noted that the site, formerly home to textile factories, now hosts creative industries, events, and cafes making it feel lively and culturally relevant. However, they viewed the station as disconnected from this identity. The underpass was described as uninviting, with poor lighting and little visual connection to the Indië area. One participant noted that the station “feels like a leftover space,” disconnected from both everyday routes and the narrative of Almelo’s industrial past. They advocated for visual and material continuity between the Indië area and the station e.g., brick textures, storytelling elements, and better pedestrian flow.

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2. Municipal Policy Maker – Municipality of Almelo
Date: January 2025
Format: Semi-structured, online
Role: Urban planner involved in station area policy
The policy maker acknowledged that the station area currently acts more as a barrier than a connector. They highlighted that while the Indiëterrein has seen spatial and cultural investment, the southern side (Kerkelanden) is often left out of major urban redevelopment agendas.
The planner emphasized the ambition to create a “station as place,” not just as infrastructure. However, they pointed to practical limitations, including fragmented ownership (e.g., NS, ProRail, private landholders), budget constraints, and a lack of community engagement in early design stages.
They expressed interest in incorporating Almelo’s textile heritage into the design, as a way of strengthening place identity and cohesion.

3. Entrepreneurs in Kerkelanden (2 interviews)
Date: First week of February 2025
Format: In-person, on-site
Business types: Local grocer and cafe owner
Both entrepreneurs expressed concern about the lack of visibility and economic flow from the station to Kerkelanden. They noted that the area near the underpass sees little foot traffic and that customers rarely come from the other side of the tracks.
They described the environment as spatially poor, with little to encourage people to stay or cross through. The underpass, they said, "feels like a back alley instead of a gateway." Both emphasized the need for more commercial opportunities, public seating, and inviting street design that could support small businesses and increase local activity.
One suggested a weekly market or seasonal event at the station plaza to increase visibility and attract both locals and visitors.

4. Social Worker – Kerkelanden
Date: January 2024
Format: In-person
Affiliation: Local non-profit supporting vulnerable residents
The social worker described how many residents, especially those from migrant backgrounds and low-income households, avoid the underpass entirely especially at night. They described it as dark, cold, and echoing, and emphasized that these physical conditions amplify feelings of exclusion.
The worker stressed that social safety is about more than surveillance; it’s about familiarity, presence, and representation. They advocated for co-creation processes, where residents actively help design public spaces, ensuring they reflect the community’s identity and needs. The station area, they argued, should feel like a shared space, not a corridor between two unequal parts of the city.

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5. Religious Leader – Kerkelanden
Date: January 2024
Format: In-person, semi-structured
Affiliation: Local mosque
The imam emphasized the station's lack of symbolic or cultural connection to the broader Almelo community. He noted that many residents in Kerkelanden, particularly from Turkish or Moroccan backgrounds, feel invisible in the design and atmosphere of public spaces.
He stressed the need for inclusion through design, such as public art reflecting cultural diversity, multilingual signage, and spaces for informal gatherings. He also advocated for intergenerational and intercultural dialogue, which the station area could support through mixed programming e.g., weekend events, exhibitions, and shared markets.

6. Residents of Kerkelanden (3 individuals interviewed informally)
Date: First week of February 2024

Format: Informal, conversational interviews during field visit
Demographic: Mixed ages and backgrounds
These residents universally expressed discomfort with the underpass. Common descriptors included: "cold," "dark," "empty," "unsafe," and "ugly." One person remarked, "It feels like you're walking into another world—one where you don't belong."
They also described a sense of segregation, not necessarily enforced by policy but reinforced by spatial design. The station "belongs to the other side," one said, referring to the Indië area and the city center. Residents suggested more greenery, community murals, lighting, and seating areas to make the space more welcoming and inclusive.

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BD.

Research plan

RESEARCH PLAN

THE CATALYST OF ALMELO CENTRAL

REDESIGNING ALMELO'S TRAIN STATION AREA TO BRIDGE PHYSICAL AND SOCIAL GAPS

BY BUNYAMIN DURDABAK
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AMOUNT OF WORDS: 2300

08 NOVEMBER 2024

Problem statement

In many cities, the train station acts as a physical and psychological barrier, dividing communities (Cavallo, 2008). Stations often have a front and a back, with the back frequently being an area that people avoid or view negatively. This division is reinforced by the physical presence of the tracks and station infrastructure, creating a lack of connection both physically and mentally between people living on either side. As a result, communities tend to group themselves on one side of the station, with the station itself serving as a catalyst for this segregation. With ongoing developments like the new railway zone of Almelo, more residents will be placed on both sides of the tracks, potentially worsening the disconnection and amplifying the social and spatial separation between the two sides of the station.

Research question and sub questions

Research-question:
How can architectural and urban design interventions in the Almelo train station area reduce the physical and social disconnection, enhancing opportunities for local development and community integration on both sides of the railway tracks?

Sub-questions:

- To what extent have Almelo's railway infrastructure and urban planning decisions around the station contributed to the physical and social disconnection between neighborhoods?
- How can the unique identity of Almelo be integrated into the train station's design to foster a shared sense of belonging and strengthen connections between surrounding neighborhoods?
- What psychological or perceptual barriers, such as safety concerns or stigmas, contribute to the separation of communities in the Almelo station area?
- Which urban design strategies from other cities have proven effective in bridging physical barriers around station areas?
- How does enhanced connectivity both locally and through potential international rail connections, such as the Zwolle-Münster line affect local development on both sides of Almelo’s station?

Theoretical Framework:

Addressing urban spatial segregation and social division in the Almelo train station area

The research question guiding this study ''*How can architectural and urban design interventions in the Almelo train station area reduce the physical and social disconnection, enhancing opportunities for local development and community integration on both sides of the railway tracks?''* requires a nuanced understanding of the factors contributing to spatial segregation and social division. To address these issues comprehensively, three theoretical frameworks are employed: the Theory of Spatial Segregation by Massey and Denton (1988), Kevin Lynch's concepts from The Image of the City (2010), and Jane Jacobs' insights on social capital in public spaces. Together, these theories provide a lens through which to analyze the dynamics in the Almelo train station area and enhance the impact of potential design interventions.

Spatial segregation theory

Massey and Denton's Theory of Spatial Segregation sheds light on how physical barriers, such as railway infrastructure, contribute to social and economic divides in urban settings (Massey & Denton, 1988). This framework explains that infrastructure-induced physical separation often reinforces social and psychological boundaries, creating long-term social inequalities. In Almelo, the railway tracks significantly divides communities, influencing how residents perceive and interact with different neighborhoods. By exploring the historical development of this infrastructure and its role in perpetuating divisions, this research can address the extent to which railway infrastructure and urban planning decisions contribute to physical and social divides, directly responding to one of the sub-questions. This theoretical perspective will also help identify psychological or perceptual barriers, such as safety concerns or stigmas, contributing to separation between communities.

Urban connectivity and place-making

Building on Massey and Denton’s theory, Kevin Lynch's work on urban connectivity provides a crucial lens for examining how the spatial layout of the Almelo train station could alleviate social division (Ellis, 2010). Lynch identifies elements such as paths, edges, districts, nodes, and landmarks, which shape mental maps and influence social interactions within urban environments. In Almelo, the railway tracks function as a dominant "edge" that can act as either a barrier or a connector, depending on urban design interventions. Applying Lynch’s ideas, the research will explore how the unique identity of Almelo can be integrated into the station’s design to create a shared sense of belonging, as well as how design strategies from other cities can bridge physical divides around station areas. By reimagining the station's surrounding areas as a cohesive urban environment, Lynch’s concepts will guide the development of design strategies that promote social interaction, place-making, and connectivity.

Social capital and public spaces

Jane Jacobs’ theories on social capital emphasize the critical role of public spaces in fostering social interaction and building community ties (Wellbeing And The Environment: Wellbeing: A Complete Reference Guide, 2014). According to Jacobs, vibrant public spaces encourage social engagement and foster connections among diverse groups. The Almelo train station and its surroundings can be analyzed as public spaces that either promote or inhibit social interactions. By applying Jacobs’ principles, this research advocates for urban interventions that enhance social capital through inclusive public spaces connecting the "front" and "back" of the station. This aligns with the sub-question regarding how enhanced connectivity, both locally and through international rail links, may influence property values, business development, and economic activity. Jacobs’ framework also supports initiatives aimed at overcoming psychological barriers and creating spaces that foster a shared identity, thereby addressing the physical disconnect and cultivating a sense of belonging.

Application of the theories

The combined application of Spatial Segregation Theory, Lynch’s urban connectivity framework, and Jacobs’ emphasis on social capital provides a multidimensional approach to addressing the challenges in the Almelo train station area. Spatial Segregation Theory offers insight into the socio-spatial impact of railway infrastructure; Lynch’s concepts provide guidance on transforming barriers into pathways for connectivity; and Jacobs highlights the importance of public spaces in strengthening community bonds. Together, these theories enable a comprehensive exploration of the potential for architectural and urban design interventions to reduce both physical and social divides, as outlined in the sub-questions.

Methodological Positioning and Description of Research Methods

To comprehensively address the physical and social division in Almelo's Spoorzone area, this study will employ a combination of qualitative interviews, field observations, mapping, and case studies. Integrating these methods enables the study to gather both detailed and practical insights, which will inform urban design interventions aimed at strengthening connections between the communities on either side of the railway tracks.

Qualitative interviews with key stakeholders such as municipal representatives, urban planners, and local residents will capture diverse, in-depth perspectives on the experiences and aspirations associated with Almelo's Spoorzone (Alsaawi, 2014). Using a semi-structured format, these interviews will allow flexibility in exploring individual experiences of the Spoorzone, revealing the ways in which the physical and social disconnection impacts daily life and community cohesion. Stakeholders' visions for the area, as well as their concerns about future development, will be documented to understand the expectations surrounding efforts to bridge these barriers.

The interviews will also delve into the historical and policy-related context that has shaped the Spoorzone, providing insights into the extent to which previous urban planning decisions have contributed to physical and social separation. By uncovering the intertwined social and spatial issues within the station area, these conversations will lay a strong foundation for proposing interventions that align with community needs and aspirations.

Field observations will provide direct insights into how the Spoorzone's physical environment influences social interactions and movement patterns (Rosenbaum, 2005). By observing the use of public spaces, pedestrian flows, and cycling patterns across the station zone, this research aims to identify specific spatial elements that either facilitate or hinder connectivity.

Through detailed observation of interactions within key public spaces such as parks and crossings near the station the study will pinpoint areas where design interventions could better support social cohesion and accessibility. This method directly addresses the sub-question on how the physical environment can foster a shared sense of belonging and enhance accessibility for residents on both sides of the station.

Mapping will be used as an analytical tool to visualize the physical structure and social dynamics within the Spoorzone (Sandelowski et al., 2011). By creating spatial layers that represent demographic distribution, mobility flows, and usage of public spaces, mapping will help identify critical points of connectivity and barriers within the area. This visual analysis will reveal specific locations in need of design changes, supporting the sub-question on how different physical elements affect community interaction and accessibility.

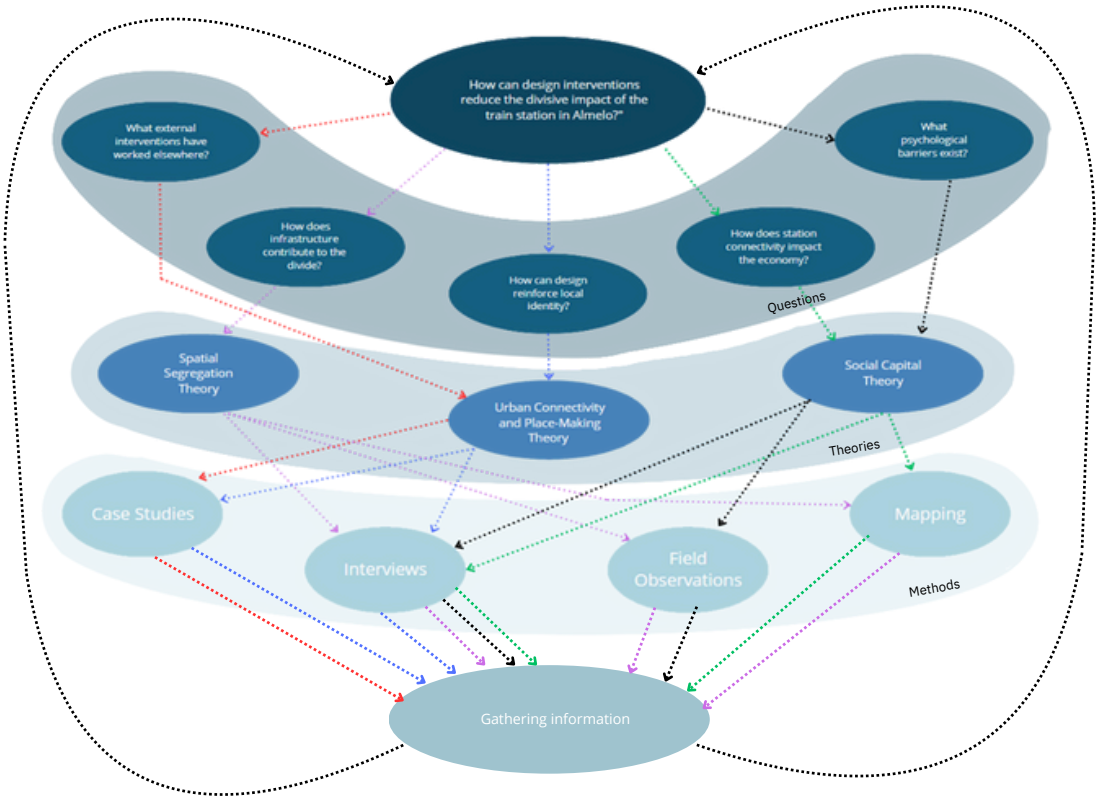
The resulting spatial maps will offer a comprehensive visual representation of how the station area's infrastructure impacts daily life. Mapping the potential for connectivity improvements through pedestrian routes, public spaces, and transport links will provide a foundation for identifying target areas for architectural and urban design interventions.

Examining **case studies** of other cities with similar challenges will offer valuable strategic insights into effective urban design strategies that mitigate physical and social disconnection in station areas (Mohd Noor & Universiti Industri Selangor, 2008). By analyzing successful interventions in comparable urban contexts, the research can identify best practices such as new pedestrian and cycling connections, shared public spaces, and reconfigured station layouts that could be adapted to Almelo's unique context.

These case studies will provide evidence of successful strategies to answer the sub-question on which urban design approaches from other cities have been effective in bridging physical disconnection around stations. Learning from these cases will also help avoid common pitfalls and guide the development of practical, evidence-based solutions for Almelo.

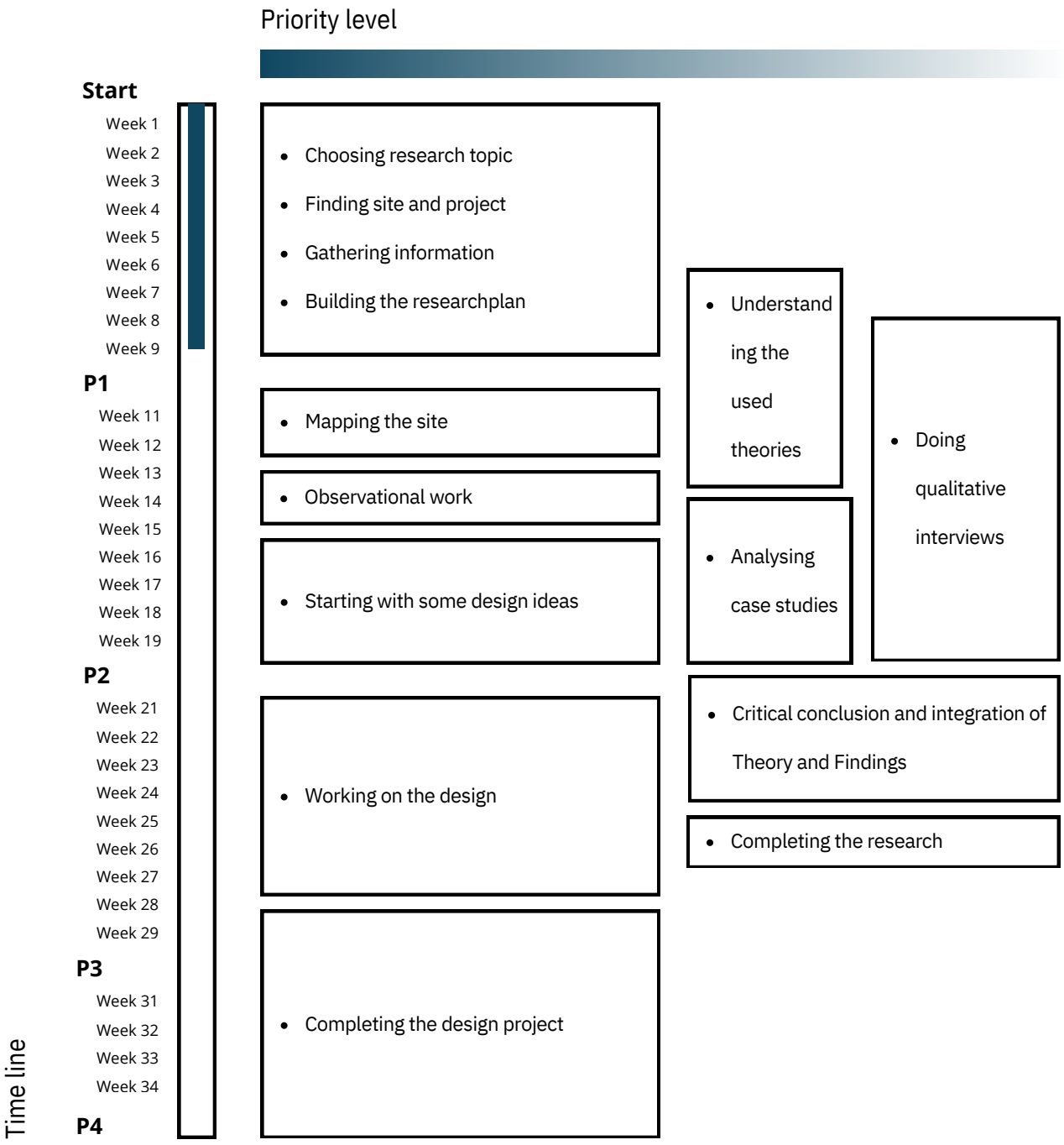
Together, these methods offer a robust approach to understanding and addressing the socio-spatial challenges in Almelo's Spoorzone. Qualitative interviews and field observations provide nuanced insights into the lived experiences and needs of the community, while mapping and case studies contribute critical spatial and strategic perspectives. This combination of methods supports a comprehensive data analysis process, resulting in integrated, actionable interventions that enhance both physical connectivity and social cohesion within the Spoorzone area.

Researchdiagram



Research schedule

The research schedule is divided into four phases, each with specific tasks to guide the study from start to completion. The weeks before the P1 Phase focuses on foundational work, such as selecting research topics and defining objectives, establishing a strong basis for the project. Between P1 and P2, data collection is prioritized, including mapping the site and conducting interviews to gather essential information. In the weeks before P3 the research shifts to data analysis and integration of theories, synthesizing insights to build meaningful conclusions. Finally, the last weeks are dedicated to completing the design project and finalizing the research.



Relevance of this Research for the Design Assignment: The New Station Building as catalyst for this area

This research directly supports the design objectives for the new Almelo station, envisioned as a catalyst for cohesion and growth in the Spoorzone. By analyzing the social and spatial disconnection created by the current station infrastructure, this study provides critical insights into crafting a new station that can bridge this seperation and foster a more unified urban environment.

The current station presents both psychological and physical barriers, which contribute to the separation of communities on either side of the railway tracks. By gathering data on community needs, preferences, and urban behaviors, the research outlines design strategies that specifically address these issues. Key themes emerge around creating public spaces that encourage social interaction, enhancing pedestrian and cycling access, and ensuring equitable connectivity across the station area. These elements are central to designing a station that can foster a cohesive and accessible environment, strengthening ties between residents and supporting a vibrant local community.

Interviews with municipal representatives, urban planners, and community members provide valuable perspectives, helping align the station's design with the broader vision for Spoorzone's development. By capturing the aspirations and concerns of various stakeholders, the research ensures that the new station will serve not only as a transportation hub but also as a symbol of social interaction, support for local businesses, and urban revitalization. In this way, the station design reflects the community's needs and aspirations, ensuring it becomes a meaningful and functional addition to the area.

Field observations further inform practical design choices by examining how public spaces around the current station are used and how people interact within these areas. These observations offer insights into developing vibrant, inclusive spaces that encourage social engagement and foster a strong, cohesive sense of place for Spoorzone residents. By designing areas that actively support community interaction, the new station has the potential to transform its surroundings, reducing social divides and promoting connectivity.

Ultimately, the findings of this research provide a solid foundation for designing a station that transcends its traditional role as a transit hub to become a dynamic urban landmark. By focusing on social cohesion, economic vitality, and sustainable development, the new station can stimulate growth and connectivity throughout the Spoorzone. This transformative potential positions the station as a cornerstone of Almelo's urban landscape, creating a thriving, unified area that not only meets the community's immediate needs but also aligns with broader urban goals.

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