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Decoding infrastructural terrain: the landscape fabric along the Sincan-Kayaş commuter line in Ankara

Funda Baş Bütüner[a], Selin Çavdar Sert[b] and Ela Alanyalı Aral[a]

[a]Department of Architecture, Middle East Technical University, Ankara, Turkey; [b]Department of City and Regional Planning, Gaziantep University, Gaziantep, Turkey

ABSTRACT

The rise of railways as urbanistic and landscape opportunities has generated new tracks in theory and practise. Apart from being decisive in the formation and development of the urban fabric, railways have also manipulated rural and urban landscape. With their surrounding land and integrated (sub)(infra)structure, they manifest infrastructural terrain where the interrupted relation amongst city, landscape and human can be rediscovered. Hence, this article intends to decode the infrastructural terrain along the Sincan-Kayaş commuter line in Ankara (Turkey) and reflect on the fragmentation of the landscape fabric in order to appreciate the currently existing landscape fragments: linearscapes, heritage lands and desolate lands. By means of these three types, the commuter line, currently forming an urban obstacle, might be revealed as a reference for integrative infrastructural terrain introducing a new urban landscape agenda for Ankara.

KEYWORDS

Infrastructural terrain; railway; landscape infrastructure; landscape fabric; Ankara

Introduction

Recent discussions and practises in the landscape field have returned the potentiality of hybrid spaces to the urban agenda. Post-industrial and infrastructural lands have arisen as sites where landscape introduces important strategies for restoring the interrupted relationship between nature and city, rather than exposing them as two opposing milieus (Bélanger, 2012; Corner, 1999; Meyer, 1997; Waldheim, 2002, 2016; Wall, 1999). This new alignment has contributed not only to numerous planning and design strategies, but has also introduced generative approaches that denote the productivity of such spaces.

Indisputably, transportation infrastructure, creating massive imprints on cities and landscapes, has emerged as a critical topic in the urban literature since the mid-20th century.[1] The relevant literature discusses not only the experiential and perceptual dimensions brought about by the accelerated means of transportation, but also the generative role of transportation infrastructure in the production of urban space. After the 1990s, the topic has become prevalent in landscape literature as well, and the potential of transportation infrastructure in the formation of an integrated urban landscape has been highly discussed (Allen, 1999; Bélanger, 2012; Berger, 2007; Mossop, 2006; Nijhuis & Jauslin, 2015; Shannon & Smets, 2010; Wall, 1999).

Accordingly, railways, with their complementary lands and integrated (sub)structure, appear as promising infrastructure by which the relation between city and landscape might be reformulated. Basically, the relational history of city and railway has gathered around the decisiveness of railways in the formation of urban fabric, the dissolution of material city borders, the transformation of rural

CONTACT Funda Baş Bütüner basfunda@yahoo.com

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lands, and the (re)formation of urban territories after the 19th century. Indeed, this process also ended up with the substantial loss or fragmentation of the surrounding landscape. This binary stance of railways—being both generator and eradicator—makes them notable for urban landscape studies. Therefore, besides understanding the impact of railways on the formation of built fabric, it is also vital to study the infrastructural terrain[2] along the railways.

Thus, focusing on the Sincan-Kayaş commuter line[3]—approximately 37 kilometres in length—in Ankara (Turkey), this article decodes the transformation of infrastructural terrain to reveal its potential for a new urban landscape. The commuter line, until the mid-20th century penetrating a rural landscape intertwined with creeks, orchards, truck gardens, agricultural lands and plantation areas, now pierces the densely built urban fabric of Ankara. This transformation brought about the fragmentation of the interwoven relationship between the railway line and its surrounding landscape, which currently appears in the forms of covered/canalised waterways, green patches, or desolate lands. Although today, these traces are mostly ruined or non-legible within the city, they are still potential sources for landscape strategies; and the commuter line, being the only track that discloses all these assets, might be exposed as a generator for the new urban landscape of Ankara.

The railway line as infrastructural terrain

The shifting relationship between infrastructure, landscape and human beings motivates this article to focus on infrastructural terrain, a milieu where recent discussions and approaches in the literature and design practises are grounded. To clarify the topic, first, it is necessary to dwell on the complementary nature of landscape and infrastructure. Considering the expanded meaning of the term 'landscape', as mainly stated by Jackson (1984), Meinig (1979), and Meyer (1997), it might be argued that infrastructure and landscape are two interwoven milieus. Landscape, operating based not only on natural laws, covers both topographical and cultural aspects; and infrastructure, which etymologically refers to 'the installations that form the basis for any operation or system',[4] is used not only in the engineering or military fields, but also in planning and design discourses on urban space and landscape.

The closeness of these two might find its origin in Jackson's argument, in which landscape itself is identified as infrastructure: 'a composition of man-made or man-modified spaces to serve as infrastructure or background for our collective existence' (Jackson, 1984, p. 8). In fact, as argued by Corner (2006), this idea is clearly grounded on the designed and planned urban landscapes since the 19th century, where 'infrastructural landscape', such as greenways, parks, esplanades and stormwater storage, has sustained urban health (Corner, 2006; Nijhuis & Jauslin, 2015). Weller (2006) also highlights the infrastructural characteristic of landscape and points to it as a medium where 'ecological transactions must pass' (Weller, 2006, p. 73). Likewise, Carlson (2013) identifies landscape an 'inherently infrastructural' milieu where topography, prior to the development of engineered infrastructure, intrinsically managed the flow of energy, resources, people and animals, and operated as an infrastructure.

On the other hand, considering Strang's (1996) argument stressing infrastructure's impact on the establishment of local identity, infrastructure might be also identified as landscape. As underlined by Nijhuis and Jauslin (2015), increasing interest in the reclamation of post-industrial lands in landscape practise and theory validates infrastructure as landscape. This idea became vibrant through Berger's (2007) 'drosscape', and was highlighted once again by Bélanger with an emphasis on the need for a redefinition of infrastructure as landscape 'of essential resources, processes and services' (Bélanger, 2010, p. 348).

The above-mentioned interwoven relationship between landscape and infrastructure motivated a fresh vocabulary—infrastructural urbanism, landscape infrastructure, logistic landscape, SCAPE©, cyborg landscape, and flowscapes—cooperatively with new approaches in urbanism and landscape (Allen, 1999; Angélil & Klingmann, 1999; Bélanger, 2012; Lokman, 2017; Nijhuis & Jauslin, 2015; Waldheim & Berger, 2008). Some of these terms originated from the urban literature, while others expose landscape-based arguments. However, they all share several common points which highlight

dissolving boundaries and oppositions for an intertwined landscape, architecture, urban space and infrastructure, and also, the potentialities of infrastructure as an instrument for mediating the interrupted relation between city, landscape and human.

Following this theoretical basis, to provide a robust framework for the case, this part proceeds through two interrelated focuses: discussions on the linearity of infrastructure, and those that dwell on the areal nature of infrastructure: namely, infrastructural terrain.

The origin: linearity

Challenging the above-discussed infrastructural nature of landscape and the landscape qualities of infrastructure, in many cities (as in the case of this article), transportation infrastructure with its strong linearity still appears as a monofunctional and rigid system that opposes its near environment. Therefore, it is generally accused of disintegrating spatial qualities, and its users, especially in places where the presence of infrastructure prevents the encounter between humans and landscape. This undoubtedly problematises the physical presence of infrastructure, and ends up with 'hiding or camouflaging' as part of prevalent spatial strategies and implementation (Shannon & Smets, 2010).

On the other hand, linearity accentuates the spatiality of infrastructure by assigning it roles both as generator and eradicator. When considered as a generator line, infrastructure can be seen through its accompanying structures and spaces. As seen in the case of railways, stations, station squares/parks, bridges, elevated tracks, underground passages, and warehouses, all appear as spaces that extend the thin line of the railway and designate it as a transportation corridor. Furthermore, transportation infrastructure also directs urban expansion and the development of new land uses that sometimes expose it as an eradicator. Its transformative nature engenders continuing spatial change in its neighbouring environment, where new land uses and landscapes have accumulated over time. This makes transportation infrastructure a hybrid corridor that pulls together the natural and cultural components of the surrounding environment through a new assemblage of places and meanings that cannot be experienced in any other part of the city (Bishop, 2002). Especially in the case of railroads, as argued by Stilgoe (1983), the physical presence and surrounding landscape of the railroad identifies it as a hybrid corridor: 'neither city, suburb, nor country' (Stilgoe, 1983, p. 3; Qviström, 2012).

Another noteworthy contribution of linearity is the network. As Motloch (2001) asserts, infrastructure is typically formed of lines connecting points, forming hierarchical networks. Such networks present infrastructure as a complex and multi-scale scheme where communication appears between different systems and scales (Allen, 1999; Bélanger, 2012). This becomes more promising when the entire infrastructure system—transportation, green, and water—is considered. As argued by Nijhuis and Jauslin (2015), the trilogy of transport, green and water infrastructure identifies 'spaces of flows' which offer an integrated system, mostly disregarded or interrupted, in cities. However, they have a critical role in the generation of landscape fabric and in the programming of socially, ecologically and spatially integrated and balanced built environments (Nijhuis & Jauslin, 2015).

Towards infrastructural terrain

Regarding the above-mentioned promises of linearity, it is possible to shift the discussion towards infrastructural terrain—the areal quality of infrastructure. The term terrain etymologically connotes to the French word *terrain*: 'a piece of earth, ground, or land,' and Latin *terrenum*: 'land, ground', and is related to *terra*: 'earth, land', literally 'dry land'. The contemporary definition of the word is '(a) stretch of land, especially with regard to its physical features'.[5] According to Solà-Morales, the connotations of the term 'terrain' are different in English and in French: 'The French term terrain connotes a more urban quality than the English land; thus, terrain is an extension of the precisely limited ground fit for construction, for the city. In English, the word terrain has acquired more agricultural or geological meanings' (Solà-Morales, 2014, p. 26).

In that context, terrain is (usually) seen as a landform rather than a process (Elden, 2010). However, as asserted by Doyle and Bennett (2002, p. 1), terrain 'encompasses both the physical aspects of the earth's surface, as well as human interaction with them', and is also used as such in contemporary theory. With an understanding of infrastructure as a physical entity operating in systems, infrastructural terrain evolves as the expanded ground where human interaction actively (re-)defines the encompassed and relevant natural and cultural context. This ground contains various 'morphologies and topologies',[6] mostly moulded by infrastructural activities, without reference to a specific scale, size or boundary condition.

Based on this assumption, even the core structure of infrastructure might be considered terrain, as seen in the case of a rail line. Being permeable, rail lines, either abandoned or still operating, provide an interwoven relation with the land. The tracks, platforms and spontaneous vegetation along abandoned rail tracks undoubtedly form terrain. However, still operational railway lines also appear as terrain, especially in reserve areas where multiple tracks identify the ground and form infrastructural terrain.

With a zoom-out lens, infrastructural terrain becomes more visible together with its accompanying desolate lands, industrial remains (derelict factories, abandoned brownfields or structures) or infrastructural ruins[7] that better reflect the potential of infrastructure in the (re)programming of urban space and landscape. Accordingly, spontaneous and wild landscape,[8] which grows up on unoccupied ground, highly characterises this terrain.

Considering these properties, infrastructural terrain, playing a critical role in providing 'open-space augmentation, habitat creation, and community revitalization' (Hung, 2013, p. 17), becomes promising in the integration of various realms (social, natural, cultural) in cities. Accordingly, the Ankara commuter line, the main focus of this study, currently appearing as an insignificant ground with unexplored potential in the programming of an integrated urban landscape in the city, offers a motivating discussion on infrastructural terrain.

Infrastructural terrain along the Sincan-Kayaş commuter line

Ankara has a distinctive topography formed by low mountains, hills, valleys, and waterlines that mould the form and development pattern of the city. The old walled city was founded on a hill and expanded to the lowlands, waxing and waning throughout history (Akçura, 1971). Since the lowlands were demarcated by valleys and streams, the city was laid over a characteristic landscape: Valleys, offering an advantageous microclimate for agriculture, and streams, demarcating fertile lands along their routes, formed the rural landscape of Ankara.

These natural assets guided landscape strategies during the establishment period of Ankara as a capital in the 1920s. The fertile lands enfolding the streams were reclaimed and cultivated, and modern farms—the Atatürk Forest Farm[9] (AFF) and the Etimesgut Numune Farm[10]—were established to satisfy the nutritional and recreational needs of the city. Unfortunately, the natural assets and landscape of Ankara were undervalued as the city started to expand in the mid-20th century. The inner-city valleys and the lands on the eastern side of the city were occupied by squatter belts in the late 1950s, and streams, causing sanitary problems and flooding, were covered or canalised (Tamur, 2012). These dramatic landscape losses in various contexts and scales, especially caused by large-scale construction (housing projects, inner-city expressways), have continued in the second half of the 20th century, and have even gained momentum in recent decades.

Here it is fair to say that both the urban and rural landscapes of Ankara suffer due to urbanisation, and an extensive urban landscape agenda is needed for the city. The commuter line, penetrating the city in an east-west direction between Kayaş and Sincan, has a promising yet undiscovered position in the development of a new urban landscape (see Figure 1). To give grounds for this argument, the subsequent part will reflect on the infrastructural terrain and its transformation over time.



Figure 1. Various encounters along the Sincan-Kayaş Commuter line, 2016.

The former landscape fabric

Following the extension of the Ankara-Baghdad railway infrastructure from the city centre to Kayaş, commuter transport started to operate in 1928 and eased access to the rural landscape in the eastern part of the city (see Figure 2). The first travel between the city centre and Kayaş was for recreational purposes with a restricted schedule (Emiroğlu & Uzmay, 2013). Subsequently, with the beginning of regularly scheduled passenger carriages, the commuter line became the first public urban transportation mode of Republican Period Ankara, linking the city centre—Yenişehir—to the suburban villages and recreation areas (Tekeli, 2010).



Figure 2. Sayme Kadın bridge in Mamak (unknown date): railway line, Hatip Creek, Samsun road and the rural landscape (Koç University VEKAM Library Archive).

In the early years, unlike the common idea of opposing railway and landscape (linear-surficial, bold-fluctuating, planned-spontaneous), the line was highly integrated with the topography and the rural landscape of the city, and together with the hills, streams and flat lands, it formed a landscape fabric frequently narrated in the visual and written documents of the time. In most places, the railway melded into the landscape and acted as an integral component of the milieu, either urban or rural, which it penetrated, without operating as an isolated transportation artery (see Figure 3).[11]

In the early 1950s, the eastern part of the commuter line in relation to the city centre, between Demirlibahçe and Kayaş, was aligned with Hatip Creek and intermingled with a rural landscape including vineyards, orchards, and truck gardens. This green strip, nearly eight kilometres in length, served as a mixed-field for recreation and cultivation in Ankara (Özaslan, 2014). The literature of the time narrated the recreational life in the area by specifically emphasising the rich habitat: bird species and fruit trees (Tamur, 2012). Offering a peculiar—spontaneous but also cultivated—landscape, the mixed-field along the commuter line still has a particular place in the memory of the city and its citizens.

Unlike the continuous greenery of the east, the landscape fabric along the western part of the commuter line was loose. In the early 1920s, the railway line was the only sign of civilisation touching the moorlands of western Ankara, and the marshlands extending along the Ankara Stream surrounded the line. In 1925, a quite large-sized farm, approximately 52,000,000 sq m, the Atatürk Forest Farm (AFF), was established to reclaim the marshlands and foster an agricultural and industrial revolution, as well as providing new and modern modes of recreation. The AFF, together with the Etimesgut Numune Farm, served as the productive, recreational and educational landscape of Ankara along that part of the commuter line.[12]

In view of this, the spontaneous and cultivated landscape of the east and the planned landscape of the AFF formed a considerable part of the infrastructural terrain where flowscapes—railway, green, and water infrastructure—coexisted until the 1950s. However, the landscape enfolding the commuter line changed drastically after the mid-20th century. Expansion of the city, changing land-use, planning strategies lacking in spatial and landscape-oriented concerns, and technical improvements along the rail line[13] all changed both the position of the commuter line within the city and its relation to the surrounding environment. The topography and rural landscape, once determining the route of the railway, were deformed and fragmented by the commuter line, and the commuter line, interwoven with urban and rural terrain, had turned into a transportation infrastructure wedged within the city (see Figure 4).

Consequently, both the isolation of the commuter line and the lost diversity in the aligned landscape fabric triggered the fragmentation of the infrastructural terrain. The multifarious landscape legend of the railway corridor represented in the 1957 map—covering cemeteries, forests, plantation areas, nurseries, truck gardens, vineyards, orchards, woodlands, deciduous trees and creeks—has disappeared over time (Bütüner et al., 2017). The lost cultural and natural values of



Figure 3. (a) Ankara railway station, 1913 (b) The railway, together with Hatip Creek, melded in Kayaş's rural landscape (unknown date) (Koç University VEKAM Library Archive).

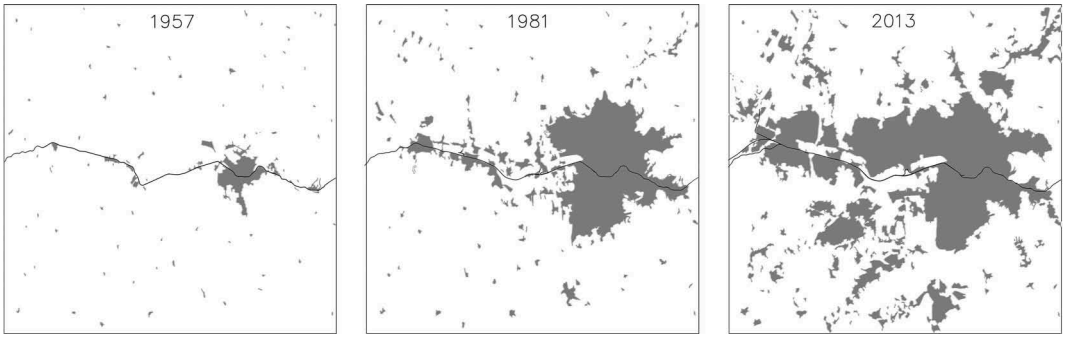


Figure 4. The commuter line and expanding urban fabric of Ankara: 1950s, 1980s, 2010s.

the landscape not only erased the infrastructural terrain, but also interrupted the city-nature relationship.

Traces of the landscape fabric

The background of the earlier landscape fabric along the commuter line encourages the search for the potential of infrastructural terrain. With a close-up focus, it is still possible to identify the traces of the former infrastructural terrain, where the commuter line operates as reference through which an integrated urban landscape might be assembled in Ankara. In this respect, this section particularly dwells on certain segments along the commuter line where infrastructural terrain characteristically existed in the past, and where some of its traces are still visible. By comparing the 1957 map and 2013 maps, which clearly show the loss of landscape fabric over time (see Figure 5), three types of land can be identified with regard to their existing landscape qualities, usage characteristics and possible contributions to grounding infrastructural terrain in the case of the Ankara commuter line:

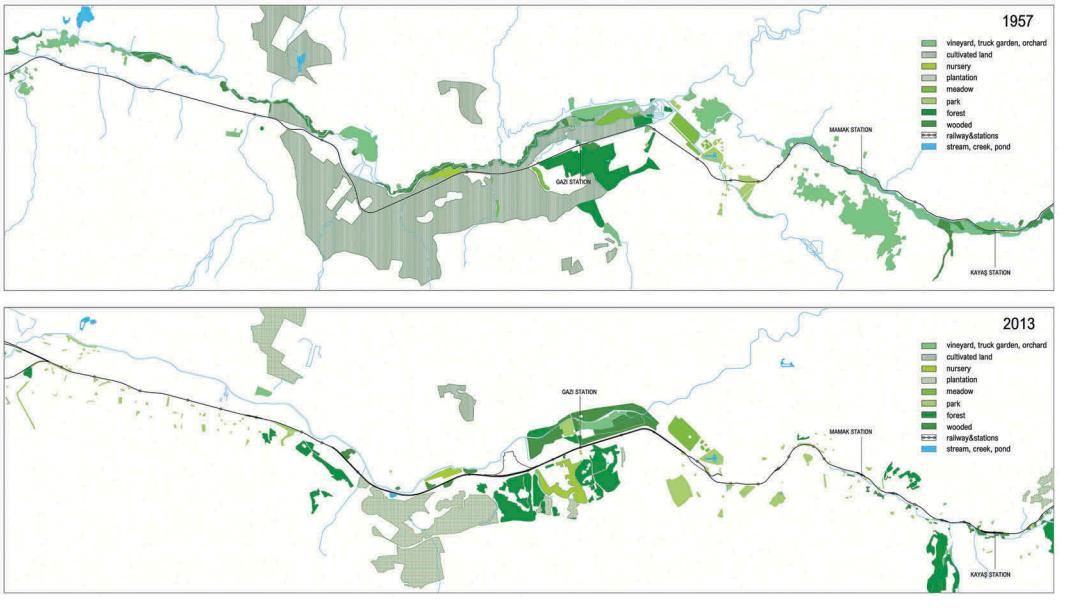


Figure 5. Changing landscape fabric in 1957 and 2013.

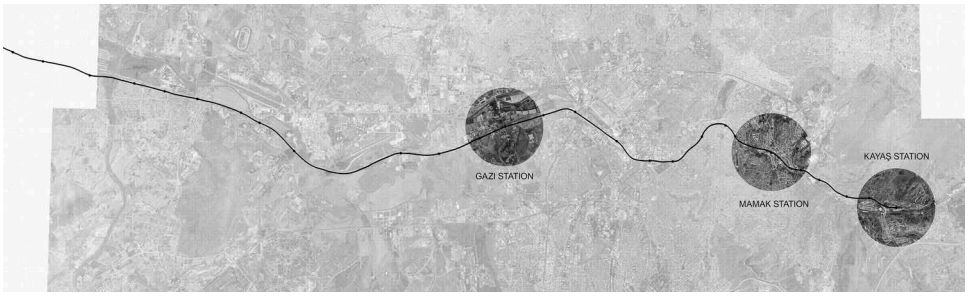


Figure 6. Selected lands: Mamak, Gazi and Kayaş Stations.

Linearscapes, Heritage Lands and Desolate Lands (see Figure 6). These three types as components of infrastructural terrain also signify different formal and relational qualities to the line.

Linearscapes

The term 'linearscape' refers both to spontaneous greens and to designed parks that are currently wedged between the commuter line and its surrounding context (see Figure 7). Linearscapes typically act as interstices. Although the former unity of the landscape fabric was mostly destroyed after the 1950s, there is still a continuity of landscape along the commuter line. Perpetuating continuity, linearscapes carry the potential for uninterrupted landscape fabric along the line, especially when the expanded meaning of the term 'scape' is considered. Unlike its common connotation, 'scape' implies not only a scene, but also indicates 'something like an organization or system' (Jackson, 1984, p. 7). Therefore, linearscapes, due to their characteristics still suggesting spatial and systematic continuity along the commuter line, have the potential to formulate a flowscape system in the urban landscape of Ankara.

Clearly, the bold linearity of the railway inherently generates linearscapes, which may be narrow or wide, stuck to or detached from the line. Compared to the past, today the Sincan-Kayaş commuter line is dissociated from its environment rather than melding with it. The line is in many areas approached on one or both sides by the built fabric, yet continuity prevails due to legal setback



Figure 7. Linearscapes—planned/designed or spontaneous—along the commuter line, 2016.

distances. The fenced rail track produces narrow strips which operate as intermediary milieus between the commuter line and its near environs. Such uncertain intermediary landscapes might be identified as the remains of infrastructural terrain. Since the expanded built fabric on infrastructural terrain has allocated an interstitial area between the commuter line and itself, unintentional/spontaneous greens have been formed along the railway.

In addition to spontaneous greens in the (leftover) areas between the built fabric and the commuter line, the linearscape also manifests itself in the form of neighbourhood parks. In certain areas along the rail line, intermediary landscapes have been reclaimed as (thin) linear neighbourhood parks. The vicinity of the Mamak station appears as a motivating case in the analysis of linearscapes (see Figure 8). As represented in the map, dated 1957 (see Figure 9), the Sincan-Kayaş commuter line previously melded into a vast landscape manifested by Hatip Creek, truck gardens, orchards, and vineyards. This landscape, which might be identified as infrastructural terrain, offered a milieu where citizens could interact with nature, and the commuter line operated as a medium that linked urban-rural boundaries. This characteristic rural landscape in the Mamak district changed after the 1960s, and was infiltrated first by squatter houses, which were then followed by squatter neighbourhoods (Öncü, 1979; Şenyapılı, 1970) and were later replaced by apartment blocks. Currently, the landscape is reduced into the canalised Hatip Creek and partial linear patches—either linear grounds with spontaneous vegetation or linear neighbourhood parks—that do not offer an integrated system.

Heritage lands

The Sincan-Kayaş commuter line identifies a vast territory of industrial and infrastructural ruins and landscapes which might be also named heritage lands. The heritage lands along the line are predominantly the properties of the Atatürk Forest Farm, which has drastically lost almost half of its lands over time and currently stands as a noteworthy, but endangered, cultural heritage of the Republican Period (see Figures 10 and 11).



Figure 8. The Mamak station vicinity: linearscapes stuck between the commuter line and built fabric, 2016.

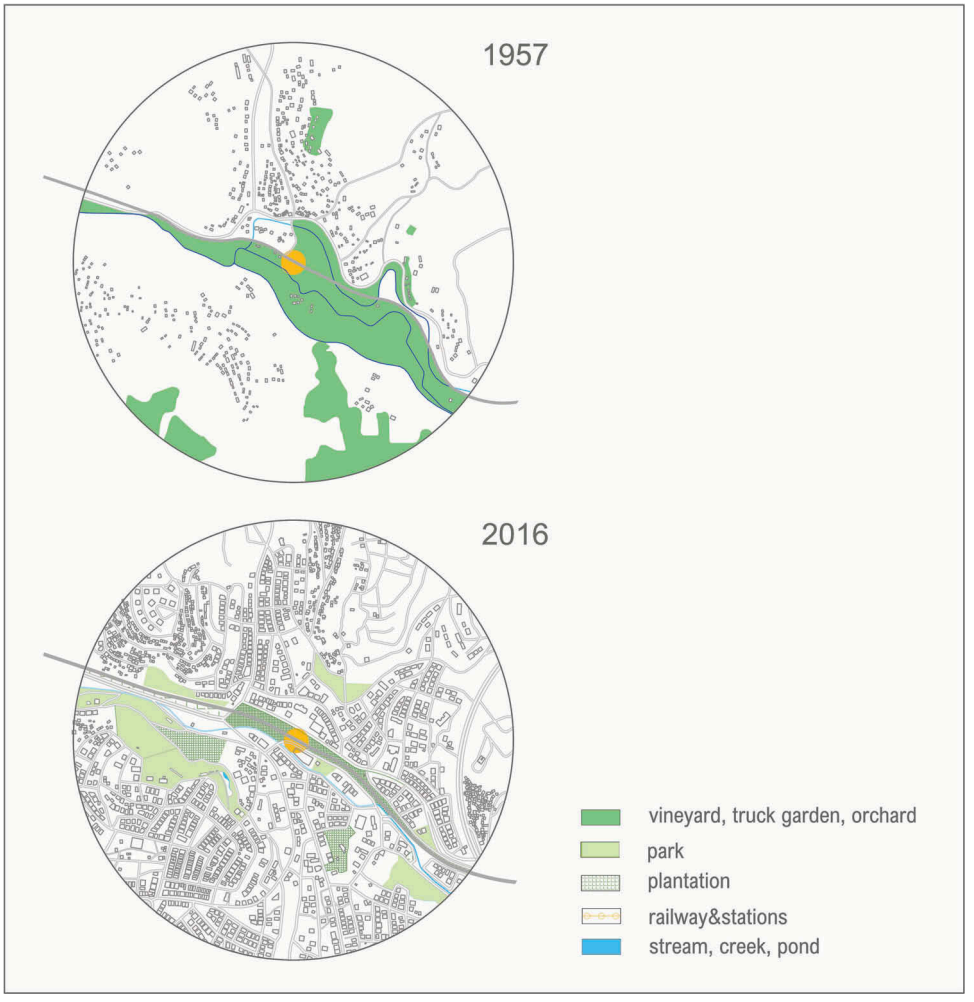


Figure 9. The Mamak station vicinity: fragmented infrastructural terrain.

During the 1920s, the commuter line, dividing the productive landscape of the AFF into two nearly equal parts, was the main mode of transportation to reach the core of the Farm at Gazi Station. The Farm was a unique place where urbanites could interact with nature, and the commuter line was the key mode of transport in the establishment of this interaction. Although the Farm remained the private property of Atatürk until its donation to the National Treasury, it has always been available to the city, and furthermore, became one of the significant cultural spaces of Ankara.

Together with the Ankara Stream, running parallel to the railway line, the Farm formed an infrastructural terrain which was moulded by these two flowscapes. The land on the north side of the railway between the commuter line and the stream was reserved for irrigated farming (orchards, vineyards, and truck gardens), whereas open spaces (parks, gardens, and sports areas), dry farming areas, plantation zones, residential areas, and factories were located on the south side.

Differing from the landscape of the city centre, the Farm offered a new and mixed-recreation experience to citizens by which urban and rural, production and recreation, occurred together in a planned/designed context. This complex programme was achieved by a multifarious spatiality: factories, a worker housing compound, social and cultural facilities (education, sports, health, and

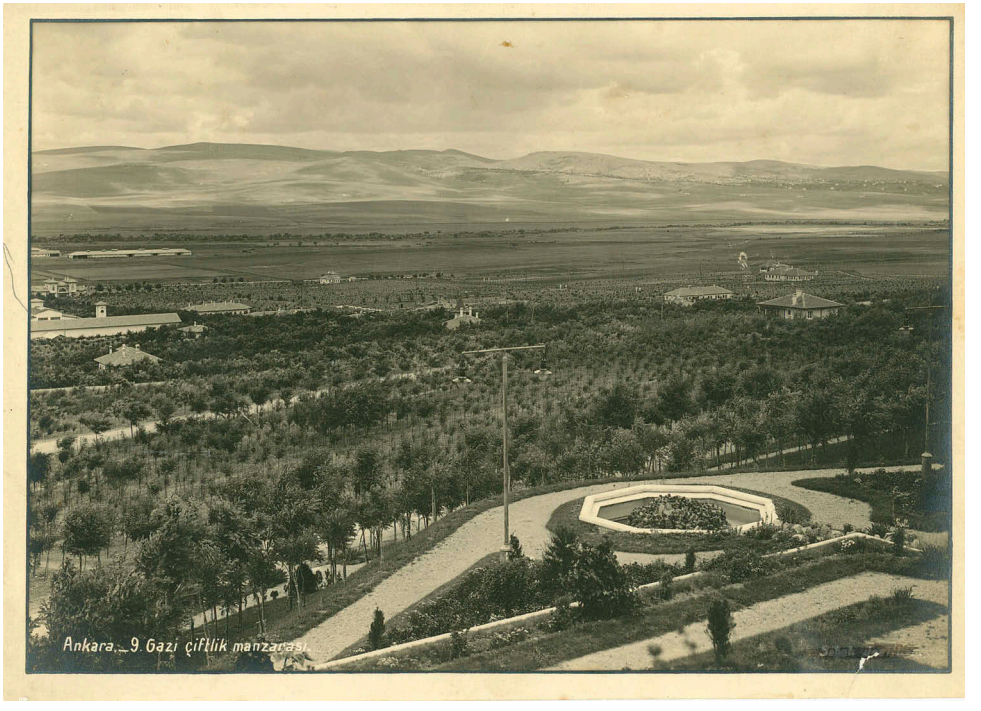


Figure 10. AFF landscape from south towards the Gazi Station, 1932. (Koç University VEKAM Library Archive).



Figure 11. The Gazi Station vicinity, 2016: fragmented heritage land.

recreation) in addition to truck gardens, nurseries, plantation areas, meadows, vineyards, orchards, and forests.

However, the hybrid landscape and spatiality of the farm, covering both landscape and built assets, was significantly destroyed during the period when the farm became a niche in the social, cultural and economic life of the city. Especially after the 1960s, with the expansion of the city towards the west, a considerable amount of AFF land was designated for military, industrial and public use, or rented by public institutions, and the farm lost more than half of its land in total.

The expansion of the city also changed the position of the railway in the city. The line, together with the Ankara Stream and the AFF, began to be recognised as a threshold, barrier or macroform generator in urban development decisions made after the 1950s (Çavdar Sert, 2017). This approach resulted in social and economic polarisation between the north and south of the city as well as the fragmentation of the landscape introduced by the Republican Period (Bütüner et al., 2017). The Farm was registered as a conservation area in 1993; nevertheless, even this legal status could not prevent the demolition of certain assets and a considerable amount of land loss, ranging from agricultural grounds to registered buildings and housing compounds.

Although today, the AFF has mainly lost its characteristic landscape fabric, the Farm still retains certain reminiscences of the Republican Period's cultural landscape. Gazi Station, still serving as the main public transportation node to reach the AFF, offers unrecognisable fragments of the once renowned landscape (see Figure 12). However, the remaining part of the AFF's heritage landscape keeps its potent roles in consolidating other industrial heritage as well as landscape and water structures along the commuter line, and in supporting the interaction between nature and the built environment.

Desolate lands

Today, despite the urbanised scenery of the railway zone, the Sincan-Kayaş commuter line is also partially accompanied by unoccupied fragmented grounds with spontaneous landscape. The extended built-fabric of the city after the 1950s infiltrated the rural landscape while leaving some large openings (such as lands owned by state institutions like the TCDD), which might currently be identified as 'desolate lands' along the commuter line. Located in various parts of the city along the commuter line, such lands are mainly visible and accessible through the rail line. Although their deserted appearance sets them apart from the everyday urban landscape, they carry a great potential that cannot be disregarded in the articulation of the landscape fabric.

As in the case of the Kayaş Station, the vacant lands located on the south part of the rail line appear as a remarkable example of this type (see Figure 13). The once renowned landscape of Kayaş as a recreational area of Ankara now appears as a spontaneous landscape housing canalised Hatip Creek. With its fertile land and orchards, the area was called the 'garden of the city' where the public met every Friday and enjoyed the landscape (Mamboury, 1933), and the commuter line was the primary means of transportation that provided access between the city and Kayaş. However, without exception, the once integrated flowscape of Kayaş—including the rail line, Hatip Creek, fertile lands, and wooded areas—turned into a ruined landscape, with the canalised creek, marble factories, infrastructural ruins (abandoned TCDD buildings), and wastelands (Tamur, 2012). Unfortunately, this disrupted relationship between green, water, and railway erased the spectacular landscape of Kayaş from the memory of the citizens and concealed its potential for creating urban nature. Nevertheless, with its spontaneous vegetation, loosely-built fabric, and (canalised) creek running through its surface, the desolate land around Kayaş Station might be viewed as a reserve area for recalling infrastructural terrain (see Figure 14).

The possible contributions of infrastructural terrain

Infrastructural terrain, elaborated through three types in the article, might contribute to Ankara's future landscape strategies on several points. First, the infrastructural terrain lying between Sincan and Kayaş

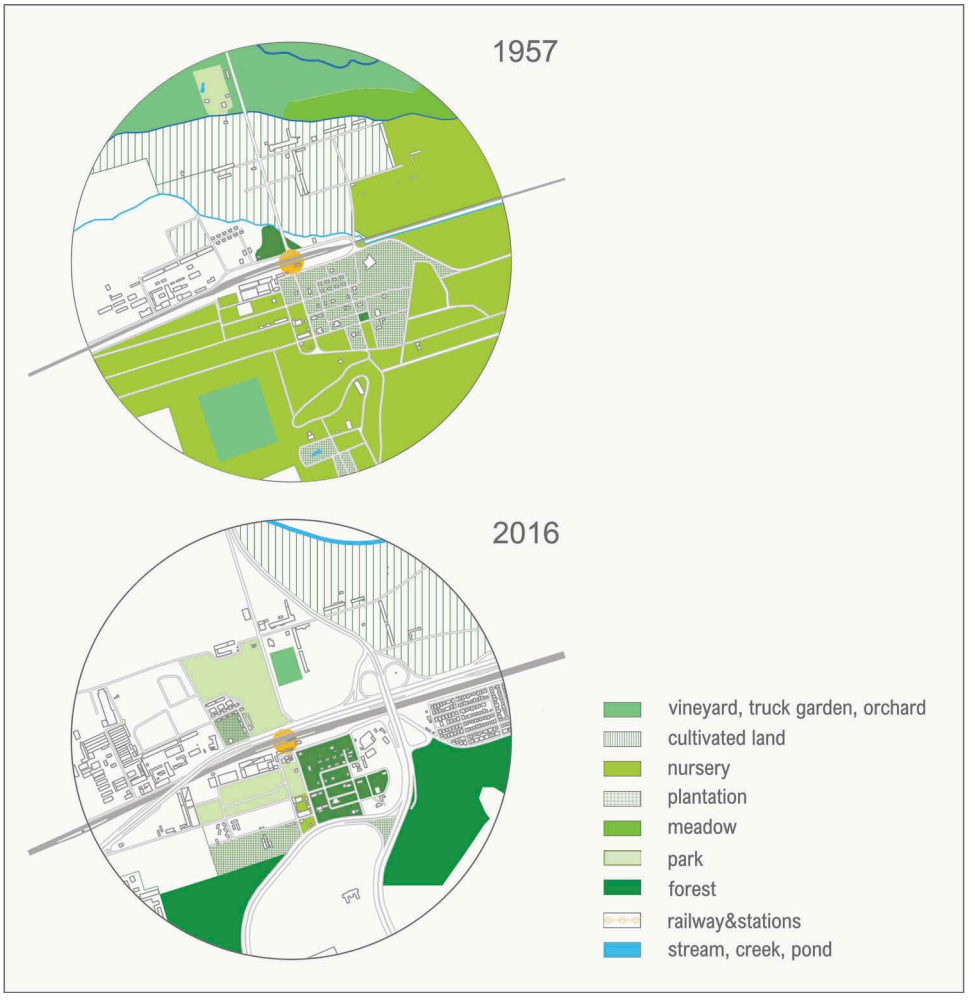


Figure 12. The changing landscape of the Gazi Station vicinity.

consists of various landscapes and urban morphologies that designate the terrain as promising for the reconstruction of a continuous surface where various uses can be integrated (industrial and infrastructural ruins, planned or spontaneous landscapes, and built fabric). The prospective continuity might be provided by preserving existing heritage landscapes, allowing new programmes through desolate lands and linearscapes, and by integrating them as a system—as much as possible. Accordingly, linearscapes might be reclaimed as mainstay of the infrastructural terrain where diverse built and landscape fabrics currently float along the commuter line. Secondly, apart from providing continuity along the commuter line, the infrastructural terrain forms an active ground by which several modes of transport, habitats, reserve open spaces, and living environments are stitched up and might work together through previously identified desolate and heritage lands where certain public activities—on various levels—might be introduced. Lastly, this active terrain, containing flowscapes, might connect to various other urban spaces and landscapes in Ankara in accordance with continuous—ecological/natural—systems integrating with the larger areas, and might generate an expanded landscape system by awakening undervalued/forgotten landscapes—valleys and waterways—in the city. With regard to how all these areas were appropriated (as city public green spaces—as Heritage Lands until very recently and even today—and Linearscapes—as fragments of orchards and gardens along streams



Figure 13. Desolate lands in the vicinity of Kaya? Station, 2016.

until the 1950s) and their significance in the collective memory, all projections need to integrate further deep research of its history with future strategies.

Conclusion

Decoding the transformation of the landscape fabric along the railway reveals the infrastructural terrain that transmits indisputable potential for the rediscovery of the city-landscape relationship. This lens expands the discussion on the relational history of the urban and railway developments, and gives value to the landscape fabric accompanying the railway lines. Although the topic has been highly elaborated both in literature and practise in recent decades, it still introduces a fresh framework for many cities, as in the case of the Ankara commuter line. This study on the Sincan-Kayaş commuter line clearly presents the relational history of the city, landscape, and railway, and the potential of the infrastructural terrain for future urban landscape.

The multifarious landscape agglomerated along the commuter line constituted the majority of the urban landscape during the early development period of Ankara, owing to the fact that the railway attracted both urban and landscape development simultaneously. However, the potential of this source was never recognised in the planning approaches adopted for Ankara as a city, especially after the 1950s, a period when the commuter line, with its adjacent environment, was designated as a planning threshold. After that time, the interplay among the railway, waterways, and green lands, which once formed a filigreed landscape fabric, were interrupted at an accelerated pace.

By recalling the macroform maps of Ankara, which represent the expansion of the city and the transformation of the railway corridor, the commuter line might be declared as the generator of urban expansion and new land uses. On the other hand, with a closer focus, it becomes evident that the line has also been the major reason for the fragmentation of the landscape. This binary impact makes the railway a basis for decoding the infrastructural terrain and for the classification of its

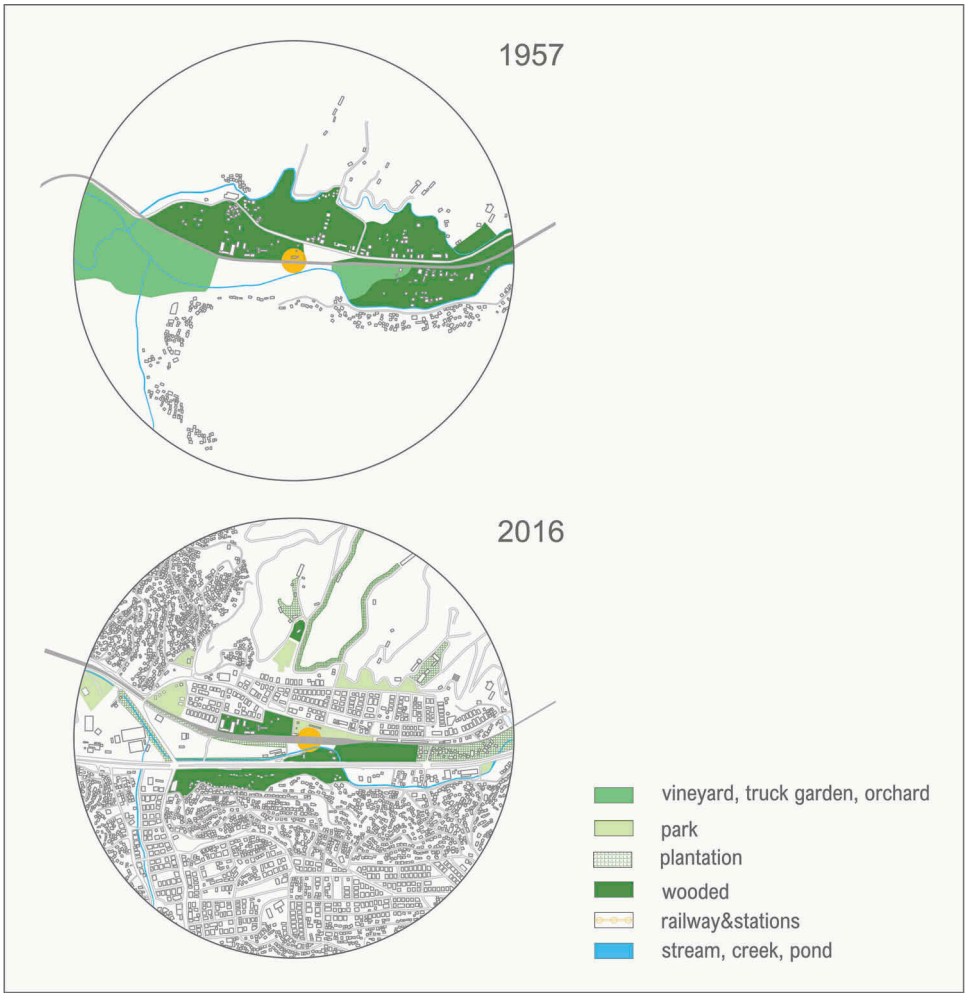


Figure 14. From mixed-field to desolate land.

components, by which the multi-layered spatiality of the commuter line—passing through natural thresholds, and rural, industrial, and urban spaces along its route—becomes visible. Since, in this article, the term 'terrain' is used to imply a hybrid milieu identified both in reference to its natural and cultural features, entire architectural and landscape assets become visible as components of infrastructural terrain. The three previously defined types in the article—Linearscapes, Desolate Lands and Heritage Lands—appear as existing traces of the former infrastructural terrain, and also indicate potential places where landscape-based planning and design approaches can be applied in Ankara. In this way, the Sincan-Kayaş commuter line and its accompanying flowscapes, currently forming obstacles within the city, might appear as an integrative infrastructural terrain, bringing together not only natural but also cultural assets and giving histories back to the city.

Notes

1. See: (Appleyard, 1966; Halprin, 1966; Mumford, 1961; Read, 2006; Virilio, 1997).
2. Recently developed projects for abandoned or operating rail lines in various cities, giving priority to establishing a green ground and habitat, present the validity of the term 'terrain' for the identification of railways. Berlin presents a noteworthy case, where certain rail lines, with their infrastructural ruins, have been reclaimed to form a continuous

park system from the south to the city centre: Natur-Park Südegelände, Park im Flaschenhals and Park am Gleisdreieck. Integrating the existing infrastructural and landscape assets with new programmes, these parks impressively manifest an infrastructural terrain that presents the hybrid and promising spatiality of railway corridors.

3. Between July 2016 and April 2018, the commuter line service was suspended for the construction of the Başkentray Project, which aimed to improve the technical infrastructure and transportation capacity of the commuter rail and construct a new high-speed rail infrastructure.
4. Online etymology dictionary (https://www.etymonline.com/word/infrastructure).
5. (https://www.lexico.com/en/definition/terrain).
6. For further discussion, see: Bélanger (2013).
7. For infrastructural ruin, see: Kullmann (2013).
8. Doron (2007) argues that derelict sites and industrial ruins encourage the generation of new habitats and biodiversity which might be called 'new nature', where a distinctive nature-culture interaction is played out (Doron, 2007, p. 13). See also: (Franck & Stevens, 2007; Jorgensen & Tylecote, 2007; Qviström, 2012; Van Bohemen, 2002).
9. AFF was established by the founder of the Turkish Republic, Mustafa Kemal Atatürk, shortly after the pronunciation of Ankara as the new capital city. Apart from being a landscape asset, the farm also has strong representational values related to the social, cultural and spatial goals of the republican revolution and the principles of a modern society (Çavdar Sert, 2017).
10. In 1928, the Etimesgut Numune Farm was established to the west of AFF as a model to introduce new standards of agricultural practise and rural life.
11. Also, following the construction of railways in the country, green strategies, both for aesthetic purposes and climate control, were announced by the State Railways of the Republic of Turkey (TCDD). To implement an afforestation programme along the railways, TCDD nurseries were founded in many cities during the early Republican Period, and also, station parks and gardens were planned as complementary components of the railway infrastructure (Emiroğlu & Uzmay, 2013).
12. In the years following, owing to the presence of the AFF and railway transportation, the flat lands of the west were mostly designated for public institutions, military use and industry, such as the Cement Factory (1926), the Cartridge Factory (1955) and the Sugar Factory (1962). These factories, together with their landscape, still illustrate a vast territory of industrial architecture and the landscape heritage typically enfolding the commuter line.
13. The addition of new rail tracks, elevated junctions, and elevated platforms, and the shift to an electrical system all caused a dramatic disruption between the commuter line and its surrounding environment.

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Notes on contributors

Funda Baş Bütüner is a landscape architect and urban designer. After receiving her M.Sc. in Urban Design (2003) and PhD degree in City and Regional Planning (2010) from Middle East Technical University; she worked on landscape

infrastructure in her post-doc studies (Bauhaus University, Weimar). Currently, she conducts landscape design studio and teaches landscape research courses in the Department of Architecture at Middle East Technical University. Her recent researches engage with urban nature/wilderness, post-industrial and post-infrastructural lands, and site reading.

Selin Çavdar Sert is a landscape architect. She received her M.Sc. in Urban Design (2010) and PhD degree in City and Regional Planning (2017) from Middle East Technical University. Currently, she works at Gaziantep University, Department of City and Regional Planning. Her research interests include urban heritage landscapes, landscape conservation and management, urban nature and urban wilderness, urban planning & landscape history and historiography, landscape design, landscape infrastructure.

Ela Alanyalı Aral is an Associate Professor of Architecture at Middle East Technical University, Ankara. After receiving her Ms.Science degree in Architecture on the Visual Structuring of Ankara, she studied the Potentialities of Leftover Spaces for Public Realm in her PhD (METU) and Creative Mapping in Architecture in her post-doc studies (TUDelft). Dr. Alanyalı Aral has been continuing her research on topics like sub-spaces along urban routes, creative mapping techniques, migration in the urban context and the Phrygian Ankara.

ORCID

Funda Baş Bütüner http://orcid.org/0000-0002-6203-9002
Selin Çavdar Sert http://orcid.org/0000-0003-2457-4300
Ela Alanyalı Aral http://orcid.org/0000-0002-6676-4404

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