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Comparison of lodging structures for white- and blue-collar workers in early republican industrial campuses in Türkiye (1923–1940)*

Türkiye'de Cumhuriyet'in ilk yıllarında (1923-1940) endüstri kampüslerinde beyaz yakalı ve mavi yakalı işçilerin konaklama yapılarının karşılaştırılması

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Abstract

This study examines spatial and typological differences between white- and blue-collar lodging structures in early Republican industrial campuses in Türkiye (1923–1940). Although these industrial settlements have been widely discussed in relation to modernization and state-led industrialization, systematic spatial comparisons of worker housing based on occupational hierarchy remain limited. The study aims to identify whether and how labor stratification was reflected in residential planning within these campuses. The analysis focuses on four state-led industrial complexes: Alpullu Sugar Factory, Kayseri Sümerbank Cloth Factory, Nazilli Sümerbank Calico Factory, and Karabük Iron and Steel Factory. A total of 33 lodging types were examined through descriptive spatial analysis. Architectural plans were coded according to measurable criteria such as number of floors, room count, presence of night halls, support spaces (pantries or built-in storage), garden access, and spatial transitions between rooms. Lodgings were classified as white- or blue-collar housing based on archival documentation and institutional hierarchy. Findings indicate that both groups were provided with housing consistent with modern standards of the period; however, clear spatial differentiation existed. White-collar lodgings were generally larger, more frequently multi-storey, and more likely to include night halls and support spaces than blue-collar units. Nevertheless, garden access and minimum functional standards were present in both categories, suggesting a balanced approach between hierarchical distinction and broader modern housing ideals.

Keywords: *Lodging structures, industrial campuses, white collar, blue collar, early republican period*

Öz

Bu çalışma, Türkiye'de erken Cumhuriyet döneminde (1923–1940) kurulan sanayi kampüslerinde beyaz yakalı ve mavi yakalı çalışanlara ait lojman yapıları arasındaki mekânsal ve tipolojik farklılıkları incelemektedir. Bu dönemin sanayi yerleşimleri modernleşme ve devlet öncülüğünde sanayileşme bağlamında sıklıkla ele alınmış olsa da, işçi konutlarının mesleki hiyerarşi temelinde mekânsal olarak karşılaştırıldığı sistematik çalışmalar sınırlıdır. Bu araştırma, söz konusu kampüslerde iş gücü hiyerarşisinin konut planlama kararlarına nasıl yansıdığını ortaya koymayı amaçlamaktadır. Çalışma dört devlet öncülüğündeki sanayi kompleksine odaklanmaktadır: Alpullu Şeker Fabrikası, Kayseri Sümerbank Bez Fabrikası, Nazilli Sümerbank Basma Fabrikası ve Karabük Demir Çelik Fabrikası. Toplam 33 lojman tipi betimleyici mekânsal analiz yöntemiyle incelenmiştir. Mimari planlar; kat sayısı, oda sayısı, gece holü varlığı, destek mekânları (kiler veya gömme depolama), bahçe erişimi, oda-oda geçişleri gibi ölçülebilir kriterlere göre kodlanmıştır. Lojmanlar arşiv kayıtları ve kurumsal hiyerarşi doğrultusunda beyaz yakalı ve mavi yakalı konutları olarak sınıflandırılmıştır. Bulgular, her iki çalışan grubuna da dönemin modern konut standartlarına uygun yaşam koşulları sağlandığını; ancak mekânsal farklılaşmanın belirgin olduğunu göstermektedir. Beyaz yakalı lojmanların genellikle daha büyük, daha sık çok katlı ve gece holü ile destek mekânlarını daha fazla içeren yapılar olduğu görülmektedir. Bununla birlikte her iki konut tipinde de bahçe erişimi ve temel işlevsel standartların bulunması, hiyerarşik farklılaşma ile modern konut ideallerinin birlikte kurgulandığını göstermektedir.

Anahtar Kelimeler: *Lojman yapıları, sanayi yerleşkeleri, beyaz yaka, mavi yaka, erken cumhuriyet dönemi*

* *This study originated from the master's thesis titled "Typology study of Republic Period modern industrial campuses and housing buildings" which was conducted by the first author under the guidance of the second author at the Department of Architecture, Institute of Natural Sciences, Trakya University.*

Introduction

The Industrial Revolution represents a fundamental transformation not only in production systems but also in spatial organization, social hierarchy, and housing patterns (Houston & Snell, 1984; Birol, 2006; Roberts, 2015). Beyond economic restructuring, industrialization reshaped urban form, labor relations, and everyday life (Massey, 2008). The rapid concentration of labor around factories generated new settlement models, including industrial towns and company-based residential environments. In 19th-century Europe and North America, industrial enterprises developed comprehensive settlements that integrated production facilities with housing and social infrastructure (Vance, 1966; Beresford & Dennis, 1986; Grabowski, 2019). These settlements were not merely functional solutions to labor accommodation; they embodied ideological, economic, and social control mechanisms.

Examples such as Saltaire in England and Pullman in the United States demonstrate how industrial housing functioned within broader systems of industrial paternalism. In these cases, employers provided housing, education, recreation, and social facilities, shaping not only working conditions but also domestic life. Such environments have been widely discussed in relation to company towns, industrial paternalism, worker housing typologies, and the spatial segregation of labor classes (Roberts, 1862; Garner, 1995; Gorr, 2013; Oevermann et al., 2016). These studies emphasize that housing layout, unit size, proximity to production areas, and architectural detailing often reflected occupational hierarchy and managerial control. Crawford (1995) further argues that company towns functioned as "total environments" in which employers exercised control not only over labor but also over domestic space, leisure, and consumption. Similarly, Porteous (1970) identifies the spatial layout of company towns as a deliberate instrument of social differentiation, where housing quality and location systematically corresponded to occupational rank. These perspectives underscore that worker housing in industrial settlements cannot be dissociated from broader power relations embedded in capitalist production.

Industrial housing has also been examined as part of modernist housing planning, particularly in the early 20th century, when architecture became an instrument for constructing new social orders. Spatial organization in worker settlements frequently encoded class distinctions through measurable architectural features such as floor area, number of rooms, access to gardens, and degree of privacy. Bullock and Read (1985) demonstrate that interwar European housing programs, particularly in Germany and the Netherlands, developed standardized typologies that balanced functional efficiency with social reform ideals. These typological experiments influenced housing design globally, including state-led settlements in newly industrializing countries. Furthermore, Swenarton (1981) highlights how British public housing between the wars embodied tensions between cost minimization and aspirations for improved working-class living standards, a dynamic also observable in Turkish industrial campuses. In this context, housing cannot be interpreted solely as a physical shelter; it must also be understood as a spatial representation of social status and institutional hierarchy.

Unlike 19th-century industrial settlements in Europe and North America, which emerged primarily through private entrepreneurial initiatives and capitalist production systems, early Republican industrial campuses in Türkiye were shaped within a fundamentally different historical and institutional context. These settlements were products of a state-led modernization project rather than market-driven industrialization. While European company towns often reflected employer-based paternalism and pronounced class segregation, the Turkish examples were embedded in a broader socio-political agenda that aimed to construct a modern, cohesive society through planned industrial development. Therefore, although certain spatial patterns—such as hierarchical differentiation in housing—may appear comparable, their underlying motivations, ideological frameworks, and socio-

economic conditions differ significantly. This distinction necessitates a cautious and context-sensitive comparative approach.

In Türkiye, the early Republican period (1923–1940) marked a state-led industrialization process shaped by the principle of statism. Due to the absence of inherited industrial capital from the Ottoman Empire (Bilgin, 2018), the newly established Republic assumed a central role in economic development. Through initiatives such as the First Five-Year Industrial Plan (1934–1938) and the establishment of state enterprises like Sümerbank, industrial complexes were constructed not only as production facilities but also as comprehensive settlements integrating housing, education, recreation, and social services (Durmuş & Aydemir, 2016; Somuncu 2020). These campuses functioned as modernization instruments and were frequently described as "schools of modernity" (Asiliskender, 2004). In comparative terms, Dinius and Vergara (2011) emphasize that company towns in Latin America and other developing regions served as laboratories for modernization, combining industrial production with social engineering through planned housing and communal services. This perspective aligns with the Turkish case, where state-led industrial campuses similarly aimed to transform not only economic structures but also everyday life and domestic culture.

Industrial campuses established in Türkiye between 1923 and 1940 share a similar paternalistic motivation with the 'model town' examples in Europe and America. However, while these Western examples, which emerged in the 1850s (Saltaire) and 1880s (Pullman), were 'privately initiated' (Sharma, 1971; Frasch & Wyke, 2015), the examples in Türkiye were shaped around the focus of 'state-led modernization' (Dönmez, 2019; Turgay, 2022; Şahin, 2024), and this 'statist/public sector' attitude was reflected differently in the hierarchical organization of the space in terms of architectural typology (Asiliskender, 2009). Borges and Torres (2012) note that in state-driven industrialization contexts, housing provision often carried ideological significance beyond mere labor reproduction, serving to legitimize state authority and foster worker loyalty. This observation resonates with the Turkish experience, where lodging hierarchies within industrial campuses spatially articulated both modernization ideals and institutional stratification (Altınöz, 2020).

Previous studies in the Turkish context have examined individual factories and their architectural heritage, including research on the Alpullu Sugar Factory (Kaprol & Minez, 2009), the Kayseri Sümerbank Cloth Factory (Asiliskender, 2004), the Nazilli Sümerbank Calico Factory (Doğan, 2009; Bigat, 2017), and the Karabük Iron and Steel Factory (Öktem, 2004). These works primarily focus on historical development, conservation issues, or architectural documentation. While they acknowledge the presence of hierarchical housing arrangements, systematic comparative analyses of white- and blue-collar lodging typologies remain limited.

Accordingly, an important research gap emerges. Although early Republican industrial campuses in Türkiye have been studied as modernization projects and industrial heritage sites, the spatial differentiation of housing according to occupational hierarchy has not been comprehensively and comparatively examined. In particular, there is limited research analyzing whether and how architectural planning decisions—such as room configuration, spatial transitions, privacy zoning (night halls), support spaces, and settlement location—materialized distinctions between white-collar and blue-collar workers. This gap is significant because, as Garner (1992) argues, typological analysis of worker housing offers critical insights into how industrial enterprises structured social relations spatially. Without systematic comparison of housing types across occupational categories, the full extent of spatial hierarchy within industrial settlements remains obscured.

This study addresses that gap by investigating lodging typologies within selected early Republican industrial campuses through a comparative spatial framework. By examining measurable architectural criteria and settlement-level organization, the research seeks to determine whether labor hierarchy was encoded in spatial form. In doing

so, the study situates Turkish examples within broader discussions on industrial paternalism, spatial hierarchy, and modernist housing production. It argues that lodging size, internal spatial articulation, and locational decisions functioned not merely as practical solutions but also as symbolic indicators of institutional status. Through this analytical perspective, early Republican industrial campuses are reconsidered not only as heritage sites but also as spatial manifestations of state-led modernization and social structuring. The findings contribute to international scholarship on company towns and worker housing by offering a systematically documented case from a non-Western modernization context.

Methodology

The methodological framework of this study comprises four interrelated components: research design, case selection, data collection procedures, and spatial coding protocols (Figure 1).

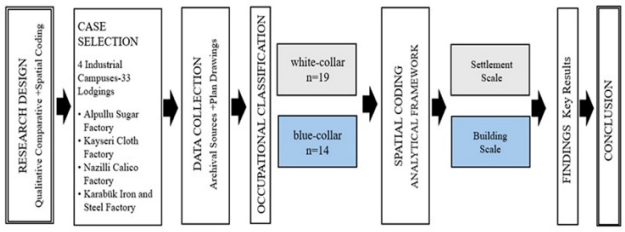


Figure 1. *Diagram of the Study*

Research Design

This study employs a qualitative comparative research design supported by systematic spatial coding. The aim is to identify whether occupational hierarchy (white-collar vs. blue-collar) was reflected in the architectural planning and spatial organization of lodging structures within early Republican industrial campuses in Türkiye (1923–1940).

The research combines settlement-scale analysis with building-scale typological examination. The methodological approach consists of three stages:

1. Case selection
2. Archival data collection and typological identification
3. Spatial coding and comparative analysis

Case Selection Criteria

Four industrial campuses were selected through purposive sampling based on the following criteria:

1. ***Representation of Early Republican State-Led Industrialization (1923–1940):*** Each campus was established during the formative years of state-led industrial policy.
2. ***Archival Accessibility:*** Original architectural plans, settlement layouts, and documented housing typologies are accessible through published theses, archival studies, and institutional records.
3. ***Sectoral Diversity:*** The selected campuses represent different industrial sectors:
    - Alpullu Sugar Factory – sugar industry
    - Kayseri Sümerbank Cloth Factory – textile industry
    - Nazilli Sümerbank Calico Factory – textile printing
    - Karabük Iron and Steel Factory – heavy industry
4. ***Geographical Distribution:*** The campuses are located in different regions of Türkiye, allowing for spatial comparison beyond a single local context.

These criteria ensure that the sample reflects the diversity and representational strength of early Republican industrial settlement production.

Sample Definition and Scope

Within the four campuses, a total of 33 distinct lodging types were identified and analyzed.

Inclusion criteria:

- Lodging types with accessible architectural plans or documented plan drawings.
- Housing units clearly identified as worker, civil servant, engineer, or executive residences in archival or academic sources.

- Structures constructed during the early Republican period.

Exclusion criteria:

- Lodging units that were demolished and lack plan documentation.
- Later additions outside the defined period (post-1940).
- Buildings whose occupational allocation could not be verified.

It is important to note that the study analyzes typologies, not every single housing unit within each campus. Where multiple units share identical plan configurations, they were treated as one typological case.

Data Sources

Data were obtained from:

- Published academic theses and archival studies (Kaprol & Minez, 2009; Asiliskender, 2004; Doğan, 2009; Öktem, 2004; Kopuz, 2018; Laçinkaya, 2021; Kırklareli Taşınmaz Kültür Varlıkları Envanteri, 2023)
- Archival settlement plans and documented plan drawings.

The study relies on documented plan drawings rather than on-site measurement surveys. All plan analyses were conducted using scaled drawings from archival sources.

Occupational Classification (White-Collar / Blue-Collar)

The classification of lodging types into white-collar and blue-collar categories was based on documented institutional hierarchy rather than assumption (Eriş et al, 2020).

The categorization relied on:

- Factory organizational charts
- Personnel classifications in archival studies
- Lodging allocation records identifying residences as director's house, engineer housing, civil servant housing, worker housing, or worker pavilions

White-collar housing includes:

- Director residences
- Engineer housing
- Civil servant housing

Blue-collar housing includes:

- Worker lodgings
- Worker pavilions or ward-type dormitories

Where occupational allocation was not explicitly documented in archival sources, the typology was excluded from comparative classification to prevent interpretive bias.

Spatial Coding Procedure

Each lodging typology was analyzed through a structured coding framework. Architectural plans were examined and coded according to measurable and observable criteria (Yürekli, 1983; Eruzun, 1989; Ürer,2013; Erman, 2017).

The coding variables are presented below:

Variable	**Coding Method**
Number of floors	1 / 2 / 3...
Entrance Axis (Middle/ Edge)	√ / -
Garden access	√ / -
Building configuration	Single / Semi Detached / Dormitory/ Four Unit/ Adjacent/ Multi Unit
Number of rooms	Numerical count
Room-to-room transition	√ / -
Night hall (privacy zoning)	√ / -
Support spaces (pantry, built-in storage, walk-in closet)	√ / -

Each lodging was coded individually, and frequencies were calculated separately for white-collar and blue-collar categories.

Analytical Framework

The analysis was conducted at two scales:

Settlement Scale

- Location of lodging zones relative to production facilities
- Hierarchical spatial ordering within the campus
- Proximity to city center
- Topographical positioning

Building Scale

- Spatial organization
- Privacy zoning (day/night separation)
- Flexibility indicators (room transitions)
- Storage and support infrastructure
- Unit size differentiation

Comparative evaluation was conducted through frequency analysis and proportional comparison between white-collar (n=19) and blue-collar (n=14) lodging types.

Methodological Limitations

The study has several limitations:

- Analysis is limited to documented typologies with accessible plans.
- Quantitative area measurements are based on archived plan scales rather than field surveys.
- Occupational classification relies on documented institutional categories; undocumented cases were excluded.

Despite these limitations, the structured coding protocol enhances replicability and reduces interpretive subjectivity.

2. Findings

When the settlements are compared and evaluated in terms of their site plans and the facilities they contain, the proximity of all settlements to raw materials, energy resources, and transportation networks is identified as a common point. In the research conducted at the urban scale, the social facilities within the factory settlements were first identified by simplifying and mapping the existing documents. (Figure 2).

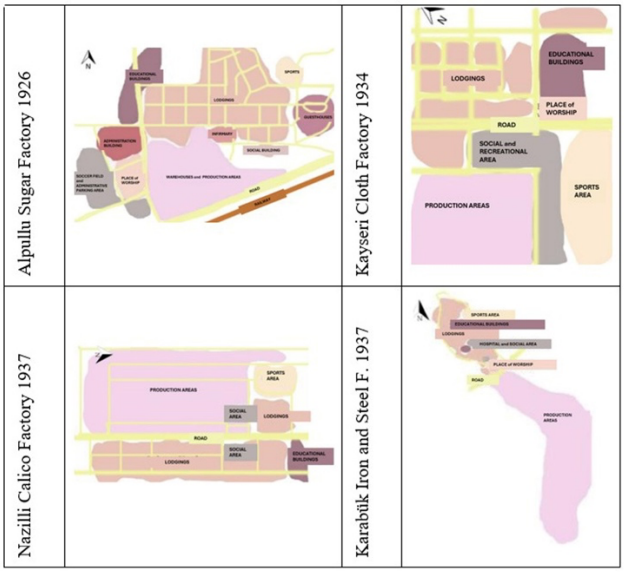


Figure 2. *Industrial Settlements*

In all campuses, there are production areas, lodging areas, recreation areas, sports areas, educational buildings, social buildings, and worship buildings (Table 1).

Table 1. *Examined Characteristics of Settlements: Area use, Conservation Status, Number of Lodging Units*

FACTORY	Lodging Area	Educational Area	Social and Sports Zone	Health Field	Conservation Status	Lodging Types Examined	Number of Lodgings
Alpullu Sugar Factory (1926-36)	√	√	√	√	Monumental	19	46
Kayseri Cloth Factory (1934-35)	√	√	√	√ (Infirmary)	Monumental	6	192
Nazilli Calico Factory (1935-37)	√	√	√	√	Monumental	3	124
Karabük Iron and Steel Factory (1937-39)	√	√	√	√	3rd Degree Natural Site	5	-

The idea is to design an institutionalized city that is self-sufficient and even capable of exporting resources/services to the surrounding city. The layout of the various types of housing units is in a grid plan and in a hierarchical order. The factories occupy an important place in the memory of the people of the city who benefit from their facilities. The factories served as a "school of modernity" for the entire population (Asiliskender, 2004). The cinemas, theaters, operas, balls, and sports clubs were

ahead of their time for those who attended and watched them.

Alpullu Sugar Factory is the first sugar factory in Türkiye, established in 1926 (Kopuz, 2018). In this factory campus, 19 housing types were examined. Kayseri Sümerbank Cloth Factory was opened in 1934 (Asiliskender, 2004) and 6 housing types were analyzed in the study. Nazilli Calico Factory was opened by Atatürk in 1937 (Bigat, 2017) (Figure 3). In the study, 3 housing types of the factory were analyzed. Karabük Iron and Steel Factory, the first iron and steel factory of Türkiye, was opened in 1937 (Öktem, 2004) and 5 housing types were analyzed in the study.

Figure 3. *Atatürk at the Factory Opening (a. Bigat,2017, b. Anonim,2020)*

A re-mapping was carried out in the lodging areas identified within the settlement, and the locations of blue-collar and white-collar housing units within the settlement were determined. Maintaining the function of these values or giving them a new function is very important to carry the traces of the period to the present day. (Figure 4).

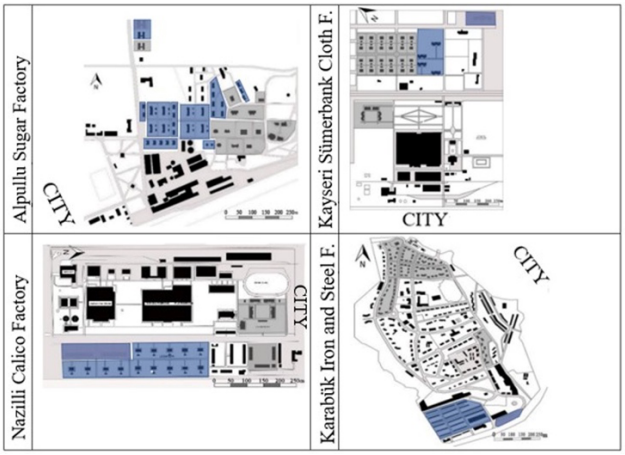


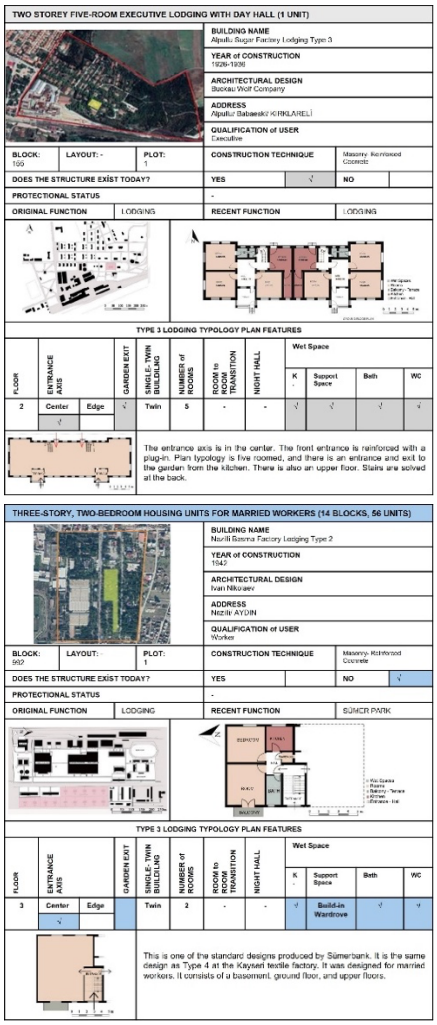
Figure 4. *Lodging Units in Settlements*

Alpullu Sugar Factory and Karabük Iron and Steel Factories continue to serve the same function. Kayseri Cloth Factory and Nazilli Calico Factory are used as university buildings (Adu.edu.tr, 2023; Baz & Semiz, 2023; Haberler 2023; Somuthaber, 2023; Sondakika.com, 2023). Unfortunately, some types of lodgings have not survived to the present day. The lodgings at the Kayseri Cloth Factory were given a new function and turned into a student village, and are a good example of period lodgings. Maintaining the function of these values or giving them a new function is very important to carry the traces of the period to the present day.

Type nomenclature was determined according to the type of hall and number of rooms. Building name, year of construction, designer and address information were given (Figure 5). The grouping criterion of the study was also specified by indicating the nature of the user. The conservation status and current function of the building are included.

Settlement-Level Spatial Hierarchy

Across all four campuses, lodging areas were spatially organized according to institutional hierarchy. Blue-collar housing was consistently positioned closer to production facilities, whereas white-collar residences occupied more dominant or elevated locations within the settlement. This pattern suggests that spatial proximity to production was associated with labor function rather than status. Blue-collar workers were located within walking distance of factories, reinforcing functional efficiency. In contrast, white-collar housing was often positioned in visually and topographically advantageous areas, indicating symbolic distinction. Thus, settlement-scale organization reflects dual logic: Functional rationality for workers and representational hierarchy for managerial staff. This spatial ordering aligns with patterns observed in industrial paternalist settlements, where built form encoded occupational hierarchy (Crawford 1995; Garner 1995).



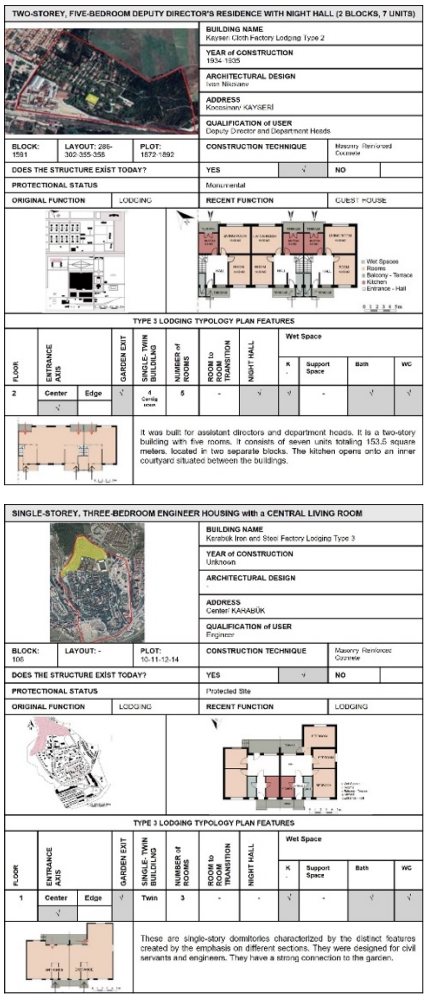


Figure 5. *Examples of Housing Survey Cards by Campus*

Floor Count and Building Scale

Of the 33 lodging types analyzed, 11 are two-storey structures. A closer look reveals that multi-storey configurations are more prevalent among white-collar units (Table 2).

White-collar housing types are predominantly two- or three-storey buildings, whereas blue-collar units are largely single-storey. This vertical differentiation indicates not only greater spatial capacity but also architectural emphasis. Height, in this context, functions as a marker of status. The distribution suggests that white-collar residences were designed as more prominent architectural objects within the settlement, while blue-collar housing prioritized compact efficiency.

Unit Size and Room Numbers

Among the 33 lodging types, 19 belong to white-collar employees and 14 to blue-collar workers. Most white-collar housing units contain three rooms, whereas most blue-collar units contain two rooms. This one-room difference, although seemingly modest, produces a meaningful increase in spatial flexibility. The additional room in white-collar units allows functional differentiation (e.g., dining room, study, guest room), reinforcing domestic privacy and representational capacity. Measured against contemporary minimum housing standards, both groups meet functional adequacy thresholds. However, white-collar units consistently exceed these minimums, indicating that spatial expansion was used to articulate institutional rank rather than basic habitability. Thus, housing size operates not merely as a quantitative variable but as a spatial indicator of hierarchical labor organization.

Table 2. Lodging Evaluation Chart

Worker Group	Type	Floors	Entrance Axis		Garden Access	Building Configuration	Rooms	Room Trans.	Night Hall	Kitchen	Support Space	Bath	WC
			Mid	Edge									
White-Collar	A1	3	✓	✓	✓	Semi Detached	7	✓	✓	✓	✓	✓	✓
White-Collar	A2	3	✓	✓	✓	Semi Detached	4	–	✓	✓	✓	✓	✓
White-Collar	A3	2	✓	✓	✓	Semi Detached	5	–	–	✓	✓	✓	✓
White-Collar	A4	3	✓	✓	✓	Semi Detached	8	✓	–	✓	✓	✓	✓
White-Collar	A5	2	✓	✓	✓	Semi Detached	5	–	–	✓	✓	✓	✓
White-Collar	A6	3	✓	✓	✓	Semi Detached	3	–	–	✓	✓	✓	✓
White-Collar	A7	3	✓	✓	✓	Semi Detached	3	✓	–	✓	–	✓	✓
White-Collar	A8	1	✓	✓	–	Dormitory	34	–	–	–	–	✓	✓
White-Collar	A9	2	✓	✓	✓	Single	7	✓	✓	✓	✓	✓	✓
White-Collar	A10	3	✓	✓	✓	Single	14	✓	✓	✓	✓	✓	✓
Blue-Collar	A11	1	✓	✓	✓	Semi Detached	2	–	–	✓	✓	✓	✓
Blue-Collar	A12	1	✓	✓	✓	Semi Detached	3	–	–	✓	✓	✓	✓
Blue-Collar	A13	2	✓	✓	✓	Semi Detached	2	–	–	✓	–	✓	✓
Blue-Collar	A14	1	✓	✓	✓	Single	3	–	–	✓	✓	✓	✓
Blue-Collar	A15	1	✓	✓	–	Single	4	✓	✓	✓	–	✓	✓
Blue-Collar	A16	1	✓	✓	✓	Four-unit	2	–	–	✓	–	✓	✓
Blue-Collar	A17	1	✓	✓	–	Semi Detached	3	–	–	✓	✓	✓	✓
Blue-Collar	A18	1	✓	✓	–	Dormitory	34	–	–	–	–	✓	✓
Blue-Collar	A19	1	✓	✓	–	Dormitory	–	–	–	–	–	✓	✓
White-Collar	K1	2	✓	✓	✓	Semi Detached	7	✓	✓	✓	–	✓	✓
White-Collar	K2	2	✓	✓	✓	Adjacent	4+5	–	✓	✓	–	✓	✓
White-Collar	K3	2	✓	✓	–	Adjacent	4+3	–	–	✓	–	✓	✓
White-Collar	K4	3	✓	✓	–	Semi Detached	2	–	–	✓	✓	✓	✓
Blue-Collar	K5	2	✓	✓	✓	Adjacent	8	✓	–	✓	–	✓	✓
Blue-Collar	K6	2	✓	✓	–	Multi-unit	64	–	–	✓	–	✓	✓
White-Collar	N1	2	✓	✓	–	8 Adjacent	2	✓	–	✓	–	✓	✓
Blue-Collar	N2	3	✓	✓	–	Semi Detached	2	–	–	✓	✓	✓	✓
Blue-Collar	N3	1	✓	✓	–	18 Adjacent	18	✓	–	✓	–	✓	✓
White-Collar	KA1	4	✓	✓	–	Semi Detached	3	–	✓	✓	✓	✓	✓
White-Collar	KA2	1	✓	✓	✓	Semi Detached	3	–	✓	✓	✓	✓	✓
White-Collar	KA3	1	✓	✓	✓	Semi Detached	3	–	–	✓	–	✓	✓
White-Collar	KA4	2	✓	✓	–	Semi Detached	4	✓	✓	✓	✓	✓	✓
Blue-Collar	KA5	3	✓	✓	–	6 Adjacent	6	–	✓	✓	–	✓	✓

Night Hall and Privacy Zoning

The presence of a night hall—a spatial device separating private sleeping areas from daytime living spaces—appears significantly differentiated between groups.

- 9 out of 19 white-collar lodgings include a night hall (47%)
- Only 2 out of 14 blue-collar lodgings include this feature (14%)

This disparity demonstrates that privacy zoning was more systematically incorporated into white-collar housing. The night hall increases spatial control and domestic privacy by segregating bedrooms and bathrooms from common areas. Its higher frequency in managerial residences suggests that privacy was institutionally stratified. In this sense, privacy becomes a socially distributed architectural resource rather than a universal standard.

Room-to-Room Transitions and Spatial Flexibility

Room-to-room transitions are present in:
8 of 19 white-collar lodgings (42%)
3 of 14 blue-collar lodgings (21%)

These transitions allow spatial expansion, service efficiency, and flexible use of rooms. In white-collar units, such configurations often connect kitchens to dining areas or living spaces, enabling both functional convenience and representational hosting capacity. The higher presence of transitional spaces in white-collar housing indicates a greater emphasis on adaptability and spatial fluidity—characteristics aligned with modernist housing ideals. Flexibility here operates as both a functional and symbolic feature, reflecting differentiated domestic lifestyles.

Support Spaces (Pantry, Built-in Storage, Walk-in Closets)

Support spaces appear in:
12 of 19 white-collar units (63%)

5 of 14 blue-collar units (36%)

Moreover, the scale and articulation of these spaces differ. White-collar lodgings often include dedicated pantries adjacent to kitchens or larger built-in storage areas within bedrooms. Storage capacity increases domestic organization and comfort. Its uneven distribution indicates that infrastructural convenience was hierarchically allocated. This suggests that white-collar housing incorporated a more advanced understanding of domestic functionality, consistent with the modernization narrative of the period.

Garden Access and Indoor–Outdoor Relationship

Garden exits are present in:

13 of 19 white-collar units (68%)

7 of 14 blue-collar units (50%)

While the difference is less pronounced than in other variables, the slightly higher proportion in white-collar housing indicates enhanced spatial extension toward the outdoors. Importantly, however, garden access is not exclusive to managerial housing. Its presence across both categories suggests that access to nature was considered a shared modern housing value rather than a purely elitist privilege.

This reflects the dual character of early Republican industrial settlements: hierarchical differentiation coexisting with a broader modernist housing agenda.

Building Configuration and Collective Living

Of the 33 lodging types:

18 are twin households

4 are single detached units

The remainder are row-type or pavilion configurations

White-collar housing more frequently appears in twin or detached formats, while blue-collar housing includes multi-unit row blocks and pavilion-type dormitories. Pavilion arrangements, especially for single workers, reflect collective accommodation models associated with industrial labor discipline. In contrast, detached or twin units provide greater domestic autonomy. Thus, building configuration further materializes labor differentiation within the built environment. When evaluated collectively, the data reveals a consistent pattern. White-collar housing demonstrates higher frequency across nearly all spatial indicators: Multi-storey construction, larger unit size, night halls, support spaces and room transitions. Blue-collar housing, while functionally adequate and aligned with modern housing principles, exhibits more compact, standardized, and efficiency-oriented planning.

The findings indicate that early Republican industrial campuses embodied a calibrated hierarchy: They avoided extreme deprivation yet systematically encoded occupational distinction through spatial differentiation. In this sense, lodging design functioned as a mediating instrument between egalitarian modernization ideals and institutional labor stratification.

Discussion

While the differences identified in this study may initially appear limited, their systematic distribution reveals a deliberate spatial logic tied to ideological objectives. The findings of this study invite a broader interpretative framework that goes beyond descriptive spatial comparison and situates early Republican industrial housing within the intersecting domains of modernization, ideology, and spatial governance. While the measurable differences between white-collar and blue-collar lodging types may appear limited at first glance, their consistency across multiple spatial parameters suggests a deliberate and systematic architectural logic. This section discusses these findings through four interrelated perspectives: a comparative evaluation between Turkish industrial campuses and their European and American counterparts, the relationship between architecture and state-led modernization ideology, the analytical significance of seemingly minor spatial differences, and the implications for contemporary conservation and heritage discourse.

Türkiye vs. Europe: State-Led Modernization vs. Private Paternalism

A key dimension for interpreting the findings lies in comparing early Republican industrial campuses in Türkiye with 19th-century industrial settlements in Europe and North America. Classical examples such as Saltaire and Pullman are widely understood within the framework of industrial paternalism, where private employers assumed control over workers' living conditions to regulate labor productivity, moral behavior, and social order. In these contexts, housing was not only a functional necessity but also a mechanism of control embedded within capitalist production systems.

By contrast, the industrial campuses examined in this study emerged under a fundamentally different governance model: state-led modernization. Unlike privately initiated company towns, these settlements were conceived as components of a national development strategy, shaped by the ideological framework of statism. Housing provision, therefore, cannot be reduced to employer-driven paternalism alone; rather, it must be understood as part of a broader socio-political project aimed at constructing a modern citizenry.

This distinction has important spatial implications. In European and American examples, spatial differentiation between social classes is often pronounced, with clear segregation and significant disparities in housing quality (Massey, 1990; Sassen, 2001; Harvey, 2005). In contrast, the Turkish case demonstrates a more moderated form of differentiation. Although hierarchical distinctions are clearly present—particularly in unit size, spatial articulation, and locational positioning—they do not produce extreme inequalities in basic living standards. Both white-collar and blue-collar housing types meet minimum functional requirements and incorporate elements of modern domesticity, such as access to gardens and rational spatial organization.

This suggests that early Republican industrial housing reflects a hybrid model: one that simultaneously acknowledges institutional hierarchy while maintaining a baseline commitment to social equity. In this sense, spatial organization becomes a tool not only for differentiation but also for controlled equalization, aligning with the ideological ambitions of the early Republic.

Architecture and Ideology: Modernization and Social Control

The spatial characteristics identified in this study can be interpreted through the lens of modernization theory and architectural ideology. Industrial campuses in early Republican Türkiye were not merely production sites; they were designed as "total environments" intended to reshape everyday life. Housing played a central role in this transformation, functioning as an interface between institutional authority and domestic practice.

The presence of features such as night halls, support spaces, and structured room transitions reflects the adoption of modernist planning principles that emphasize functionality, hygiene, and rational organization. However, the uneven distribution of these features between white-collar and blue-collar housing indicates that modernization was not uniformly applied. Instead, it was selectively differentiated according to occupational hierarchy.

This selective distribution reveals an important tension within the modernization project. On the one hand, the state sought to promote modern living standards across society, introducing new spatial norms and domestic practices. On the other hand, it maintained institutional hierarchies through controlled variations in housing quality. Architecture, therefore, operates as both an egalitarian instrument and a mechanism of social distinction.

Furthermore, the spatial arrangement of lodging units within the settlements reinforces this duality. The positioning of blue-collar housing closer to production facilities reflects functional rationality, while the more prominent placement of white-collar residences suggests symbolic representation of authority and status. This spatial logic aligns with broader patterns of social organization, where

proximity, visibility, and elevation serve as markers of institutional hierarchy (Pfeffer, 1981; Baldry, 1999). In this context, architecture can be understood as a medium of governance. Rather than relying solely on explicit forms of control, the state utilized spatial design to structure daily routines, social interactions, and domestic life. The built environment thus becomes an active agent in the production of modern subjectivities.

The Meaning of Differences

One of the central critiques addressed by this study concerns the perceived insignificance of the differences identified between housing types. However, this interpretation overlooks the analytical importance of consistency and intentionality in spatial design. The findings demonstrate that even modest differences—such as a single additional room, the presence of a night hall, or the inclusion of support spaces—are systematically aligned with occupational categories.

These differences, although quantitatively limited, produce qualitatively significant effects. For instance, the addition of a single room enables functional differentiation within the dwelling, allowing for the separation of living, dining, and sleeping activities. Similarly, the presence of a night hall introduces a clear distinction between public and private zones, enhancing privacy and spatial control. Such features are not merely architectural details; they shape patterns of domestic life, social interaction, and personal autonomy (Altman, 1975). The relative modesty of these differences may, in fact, be intentional. Rather than creating stark inequalities, the design strategy appears to aim for a calibrated hierarchy—one that differentiates without alienating. This approach aligns with the broader ideological framework of the early Republic, which sought to balance modernization with social cohesion. In this sense, the absence of extreme disparities should not be interpreted as a lack of hierarchy, but rather as evidence of a specific mode of spatial governance. The architectural language of these settlements encodes hierarchy in subtle but consistent ways, demonstrating that power relations can be expressed through minimal variations rather than overt contrasts.

Conservation and Contemporary Relevance

The discussion of industrial housing cannot be separated from questions of conservation and contemporary relevance. As noted in the findings, many of the examined campuses have undergone significant transformations, with some buildings being repurposed for new functions while others have been partially or entirely lost. This raises critical questions about the preservation of modern industrial heritage and the challenges associated with maintaining its spatial and social integrity.

The relative lack of comprehensive documentation—particularly photographic records and detailed surveys—represents a significant gap in current research and conservation practice. Without systematic recording, the architectural and spatial qualities of these settlements risk being obscured or misinterpreted. This is particularly problematic given the nuanced nature of the differences identified in this study, which require careful documentation to be fully understood. Moreover, the transformation of these sites into new institutional uses, such as university campuses, introduces additional layers of complexity (Baz & Semiz, 2023). While adaptive reuse can ensure the continued relevance of these structures, it may also alter or erase the spatial characteristics that reflect their original function and social organization. Conservation efforts must therefore balance functional adaptation with the preservation of key spatial features that embody historical meaning.

From a broader perspective, the study highlights the importance of industrial housing as a cultural heritage category. These settlements are not only remnants of past production systems but also material expressions of social, political, and ideological processes. Their preservation offers valuable insights into the ways in which architecture has been used to mediate relationships between state, labor, and society (Tekeli, 1998; Bozdoğan, 2001).

In contemporary housing debates, the principles observed in early Republican industrial housing—such as spatial efficiency, integration with landscape, and the provision of basic standards across social groups—remain highly relevant. At the same time, the study serves as a reminder that even well-intentioned design strategies can reproduce hierarchical structures, underscoring the need for critical reflection in current housing policies.

Conclusion

This study examined lodging typologies within four early Republican industrial campuses in Türkiye to determine whether occupational hierarchy was spatially articulated in housing design. The comparative analysis of 33 lodging types demonstrates that architectural planning decisions systematically reflected institutional stratification while maintaining modern minimum living standards.

Spatial hierarchy was clearly embedded at the settlement scale. White-collar residences were positioned in more dominant, elevated, or symbolically central areas, whereas blue-collar housing was consistently located closer to production facilities. This organization reflects a dual logic: functional efficiency for labor and representational distinction for management. Measurable architectural differentiation was evident at the building scale. White-collar housing more frequently included multi-storey construction, larger unit sizes, night halls, support spaces, and room-to-room transitions. These features enhanced privacy, flexibility, and domestic comfort. Blue-collar housing, while more compact and standardized, nonetheless met functional adequacy standards for the period.

Considering the number of rooms, it is seen that they are of adequate size and functional. In general, bedrooms are 12-13 m^2, rooms are 10-14 m^2, bathrooms are 5 m^2 and living rooms are between 19-25 m^2. The square meters increase slightly in the director's residences. According to 2017 zoning legislation, the minimum square meters are as follows: Living room 12 m^2, bedroom, rooms 9 m^2, bathroom 3 m^2 (Resmi Gazete, 2017). Considering these values, the spaces in the lodging houses comply with the minimum values of today's residences. Despite hierarchical differentiation, both housing categories incorporated modern spatial principles such as garden access, functional room dimensions, and infrastructural provisions. This indicates that early Republican industrial campuses did not produce extreme spatial inequality but rather calibrated differentiation within a shared modernization framework.

In summary, spatial distinction existed, yet minimum modern living standards were broadly preserved. This study contributes to the literature by providing a systematic and comparative spatial analysis of lodging typologies across multiple early Republican industrial campuses, moving beyond single-case narratives. It also reframes industrial housing as an architectural and ideological instrument of state-led modernization, rather than solely a product of paternalistic labor control. The findings contribute to international discussions on company towns and industrial paternalism by providing a systematically documented case from a state-led modernization context outside Western Europe and North America. Unlike classic paternalist examples such as Saltaire or Pullman, where employer control and moral regulation were central concerns, early Republican industrial campuses in Türkiye operated within a state-driven modernization ideology. Housing production functioned not only as labor accommodation but as an instrument of social transformation. The analysis demonstrates that lodging size, spatial articulation, and locational positioning acted as architectural representations of institutional hierarchy. Accordingly, the study proposes a conceptual reading of early Republican industrial housing as a hybrid model: hierarchically differentiated yet modernization-oriented.

The historical analysis also offers transferable spatial principles relevant to contemporary housing production:

- Day–night zoning (privacy articulation): The systematic use of night halls enhanced privacy and spatial control. Contemporary housing often lacks such clear internal zoning.
- Indoor–outdoor integration: Garden exits and meaningful balcony dimensions strengthened the relationship between dwelling and landscape. Re-establishing this connection may improve residential well-being.
- Spatial flexibility: Room-to-room transitions allowed adaptable domestic use. Flexible planning remains critical in contemporary compact housing environments.
- Integrated storage and support spaces: Pantries, built-in storage, and clearly defined service zones reduced spatial inefficiency. Their deliberate inclusion suggests that infrastructural planning is central to housing quality.

These principles indicate that historical industrial housing can inform contemporary design not nostalgically, but analytically.

When compared to European and American industrial settlements, early Republican campuses exhibit both parallels and distinctions. Similar to Western company towns, occupational hierarchy was spatially encoded through unit size and locational privilege. However, the Turkish examples display a stronger integration of modernization ideology and state planning objectives. The absence of extreme deprivation in worker housing suggests a state-centered welfare rationality rather than solely profit-driven paternalism. Nevertheless, spatial hierarchy remained visible and measurable.

A comparative framework (Türkiye vs. European industrial settlements) reveals three structural contrasts:

1. Governance Model: Private paternalism vs. state-led modernization
2. Degree of Stratification: Strong managerial dominance vs. moderated differentiation
3. Urban Integration: Semi-autonomous company towns vs. nationally coordinated industrial development

These distinctions position early Republican industrial campuses within a distinct typological category in global industrial housing history. The study is limited to lodging typologies documented through accessible archival plans, excluding undocumented or demolished cases. Furthermore, the reliance on plan-based analysis without field verification restricts the ability to fully capture lived spatial conditions. Future research may expand the dataset through field surveys and in-situ spatial measurements to enhance empirical accuracy. The incorporation of qualitative methods, such as oral histories and user experiences, would further deepen the understanding of how spatial hierarchy was perceived and lived. The study is limited to documented lodging typologies with accessible archival plans. Future research may expand the sample size, conduct field-based spatial measurements, or incorporate resident narratives to enrich social interpretation.

Additionally, quantitative spatial analysis tools could further refine measurable differentiation levels. Ultimately, early Republican industrial housing in Türkiye demonstrates that architecture can simultaneously structure hierarchy and promote social modernization, revealing the built environment as a subtle yet powerful medium through which institutional ideology materialized.

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