

# The development of the industrial areas of Pārlielupe in Jelgava

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**Abstract.** An intense development of the industrial areas of Jelgava on the right bank of the river Lielupe dates back to the 50s-60s of the 20th century, when large areas are constructed next to the railway for the production site of building materials, oil production base, agricultural machinery repair base, RAF automobile plant and the warehouse zones. The successful production building in the 1970s also applies to the expansion of the former sugar factory and locomotive repair base. The intensive construction of the areas has left behind both a high-rise residential zone and separating green plantation belts. Looking back at 150 years since the construction of the railway switching junction in Pārlielupe, it appears that four political powers have been replaced, which have accompanied not only their understanding of the opportunity of the city's economic development, but also the specific level of the technological development inherent for each stage of the century. From steam locomotives and coal emissions up to modern digital control options and CHP in Pārlielupe, installing pipelines under the bed of the river Lielupe.

**Keywords:** industrial zone, urban space, transport corridor, transformation processes, industrial heritage.

## Introduction

The current rapid arrangement of the green recreational space of the urban space along both banks of the river Lielupe calls for a study of the existing urban space, which would contribute to the assessment of the city's territorial planning. The assessment of the landscape space of Pārlielupe is associated with changes of the cultural and historical environment.

The research demonstrates that a successful development of separate industrial zones is currently based on a successful entrepreneurship and a balanced logistics. This is attributable not only to the increase of the production rates and the financial attraction for projects, but also to a visually harmonious arrangement of the surrounding outdoor space. The discussed examples of the production areas of Pārlielupe highlight the fact that the “elbow policy” management methods of the post-socialist time are unable today to compete in the conditions of the European free market. The moral replacement of the postwar generations, understanding of the material values and production strategy in the perspective development is currently the main cornerstones for the formation of an attractive industrial zone of the urban space.

The examined area of Pārlielupe includes a small belt along the upstream of the river Lielupe from the railway bridge in the city of Jelgava and in Ozolnieki municipality.

**The aim of the research** is associated with the industrial area of Pārlielupe and the progress of development of the adjacent cultural and historical zones. This, in turn, includes several **research assignments:**

- the landscape spaces of the production zones, stretching from the eastern part of the forest of Langervalde up to the corner of the type of

Mežaparks in the west at the floodplain meadows of the river Lielupe, are separately discussed;

- the mosaic type character of the area contained in the research has given the opportunity to compare different scenarios of the perspective development under the influence of the growing industrial load;
- with the changes in the criteria of the economic growth of Europe, the number of transport by road has increased in Latvia, increasing the load of the transport corridor.

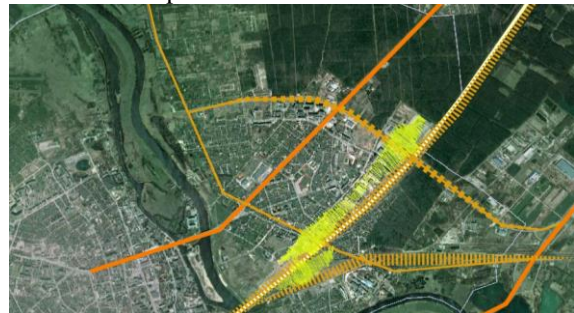


Fig. 1. Motorways and industrial sites of Pārlielupe  
[Source: construction by Anna Katlapa, 2015]



Fig. 2. A scheme of the existing functional load - the production site, railway track network and road transport in the landscape space on the right bank of the river Lielupe  
[Source: construction by Anna Katlapa, 2015]

Under the influence of the current international political situation, the volume of transport by railway, especially for oil products through Jelgava from the Russian side, has decreased. Consequently, the municipality of Jelgava has decided on a rapid construction of North Bridge by transferring it from the residential area of Pārlielupe to the bypass. This condition will bring adjustment of the business development to the existing seamless industrial area along the railroad, creating new business areas in Pārlielupe along the perspective motorway. The new high-speed railway *Rail Baltica* will also sign up for its workload development, which will be conveniently connected to the transit routes in Scandinavia and the Western Europe. Undoubtedly, the opportunities of the existing landscape space and transformation are projected in the research [4, 5, 6].

### Materials and Methods

The change of the country's political and economic situation in the 20th century can be brightly read in the urban construction space, in which the construction intensity, scale and structure are overlaid. This is true for any of the areas of a functional interest - production, residential or natural area zones. Looking back to the period of 150 years, the transformation processes of the historical landscape space have changed the proportion of the cultural space, the silhouette and the functional importance, creating a mosaic multi-angularity of the environment, its harmony, or on the contrary – chaos [7, 8, 9].

The research methods are based on a thorough historical and existing forest area and a production zone processes of transformation within the century. Using both the historical research of archival materials and the descriptive method, a detailed research of the industrial zones was carried out, gathering information, and on the basis of the literature review, thus describing both the current situation and the change of the political economic power in the 20th century.

Until the 20s of the 20th century, the building rapidly developed in Jelgava on the left bank of the river Lielupe, so creating the city's historic center, but by the time of the free country and the economic boom in the 30s, the right bank of the river Lielupe or Pārlielupe is open up to the building of the areas of the former Paulsgnāde, Straumes and Āne Manors. A study of the spatial structure of Pārlielupe looks at the changes over the green areas from the late 19th century to the beginning of the 21st century.

The development of the industrial areas in Pārlielupe starts with the construction of the railway junction in the 60s-70s of the 19th century, intensively developing traffic between St. Petersburg and the Western Europe during the times of the



Fig. 3. The new coach factory  
in place of the former sugar factory  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 4. The recovered meadow on the bank  
of the river Lielupe after dismantling  
of the sugar factory  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 5. The green residential area after  
the elimination of sugar beet stacks  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 6. The rail track network.  
In the distance, the spires of Jelgava Church  
[Source: photo by A. Ziemeļniece, 2015]

Russian imperial government. Approximately 500 m away from the bank of the river Lielupe, constructing a rail track switching junction, the rail tracks Lithuania, Krustpils and Riga crossed. The buildings of the railway signalmen are built beside, where the constructive solution is based on wooden structural ridge beams with ornamental wooden planking, using standard projects of the time of the governorate. A road or a street with a tree alley is constructed close to the buildings. In the southwestern part of the building, there are small gardens with cattle-sheds and wooden fences. With the changes in the structure of the city's building in the 60s of the 20th century, the historic street loses its meaning, and a new drive path leads along the southern part of the old building.

The strategically important rail track junction and the switching areas are the starting points of the industrial area in Pārlielupe. It has attracted sugar beet growers, producers of building materials, lumber and shingle stacking, oil tank pumping base construction, automotive, and, finally, the coach builders today (Fig. 3, 4). The railway as a powerful transit artery for a century has focused around hectares of big production areas, where each of them bring in the urban environment its scale, outline and structure [1].

Like in Old Riga, where the 11th November embankment road transport load breaks the linking of the promenade of the river Daugava with the old town, so the above production zone in Pārlielupe, the railway network and the highway to Iecava break the linking of the residential blocks of houses with the picturesque embankment of the river Lielupe. The track cutting in the construction of railway lines in the second half of the 19th century through the forest of Langervalde arrays launched a gradual withdrawal of the green areas from the right bank of the river Lielupe [2, 3].

As the first production zone in the northern part of the railway junction, 200 m from the river Lielupe, the sugar factory was built (1925), in which beets from the fertile fields of Zemgale were brought by drafters from the side of Eleja with railway wagons and barges down the river Lielupe. During the postwar years in the 70s-80s of the 20th century, the factory building was enlarged, and high-power agricultural machinery accounted for a huge, up to 10 m high stacks of beet, which ran up to the high-rise residential building's backyards. The technological processes of the production site took place close to the windows of the building, so creating the living area beneath the aesthetic quality. The smell of beet chips, heavy transport waste gases, growl and mud all day long in autumns psychologically affected quality of the residential neighborhood. In turn, on the opposite side of the residential block, the war prisoner camp in the post-war years was rebuilt as a giant



Fig. 7. The western part of the pine forest of Langervalde  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 8. The silhouette of the former production site of building materials near the river  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 9. The former production site of building materials on Neretas street  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 10. In summer, with the embankment all green the production site is not visible  
[Source: photo by A. Ziemeļniece, 2015]

prison area. This again highlights the political and economic trends of that time that degraded both the values of the cultural and historical heritage of Pārlielupe and the character of the identity of the place and recognition in the landscape space (Fig. 5, 6).

Chronologically, as the next point of the industrial area near the historic railway line in the southeastern part, in the 50s of the 20th century the production site of the building materials was built, which supplied the construction sites with wood concrete, fibrolite slabs for insulation and concrete structures - trusses, beam lintels, foundation blocks, covering panels, monolithic concrete reinforcement bar preforms, etc., the delivery of hundreds of tanks with cement to the production site, stacks, warehouses, workshops, fencing areas necessary to ensure the technological processes and the industrial development (Fig. 8, 9, 10). In order to get the area, the forest plots of Langervalde had to gradually recede up to the road of Garoza. The motorway and the railroad of Krustpils beside created a double difficulty that prevented the industrial zone to gnaw deeper into the forest landscape, thus giving the opportunity for the mansion building to evolve along the eastern edge of the forest of Langervalde - Park street from the 50s of the 20th century. In turn, the other mansion building area is located on a narrow piece of land along the picturesque right coast of the river Lielupe, the production site and the rail tracks [10]. At present, the factory has finished its operation and its abandoned construction volumes visually degrade the landscape space of the bank of the river Lielupe. In the 80s-90s of the 19th century, popular walking and summer recreational spots were located along the river. The picturesque pine forest of Langervalde as an opposite to the location of the production areas is currently readable in the eastern side of the road of Garoza (Fig. 7).

The cluster-type production building along the railway in the northern direction is rapidly booming in the 60s of the 20th century. The next production area is the agricultural machinery repair base, which conveniently links with the rural regions by railway. The huge hangars of the heavy-duty machinery, linkages and spare parts were successfully hidden by the construction volumes of office buildings and the sports complex from the side of Aviācijas street, so visually masking the production technology and the warehouse zones. The production area was additionally hidden by fast-growing poplars on both sides of the street, sawed away in the 90s. Currently, the agricultural machinery repair base is eliminated, and the hangars are adapted to the needs of warehouses (Fig. 11, 12).

In a sequential order, in the easterly direction along the edge of the railway behind the agricultural machinery area, an oil base was built with giant



Fig. 11. The green area along Aviācijas street separates the 2 km long belt of production from the mansion building [Source: photo by A. Ziemeļniece, 2015]



Fig. 12. The degraded production zones along Aviācijas street [Source: photo by A. Ziemeļniece, 2015]



Fig. 13. The oil base production site at Aviācijas street [Source: photo by A. Ziemeļniece, 2015]



Fig. 14. The railway in the direction of Riga along the production areas [Source: photo by A. Ziemeļniece, 2015]



Fig. 15. A compositionally successful landscape space for the production site of Amoplant  
[Source: photo by A. Ziemeļniece, 2015]



Fig. 16. The reconstructed housings of the RAF production site  
[Source: photo by A. Ziemeļniece, 2015]



Fig.17. The pine array around the production site of the road of Rubeņi  
[Source: photo by A. Ziemeļniece, 2015]



Fig.18. The architectural expression of the building and the forest landscape create an attractive production area  
[Source: photo by A. Ziemeļniece, 2015]

tanks and oil pumping squares, taking up about 500 m long belt along the railway (Fig. 13).

In turn, behind the oil base in the northerly direction near the place of the railway, concrete workshops of road construction are located that have currently begun a very intensive production, bringing the region a good contribution to the economic development. Beside the concrete workshops, the construction volumes of the former RAF factory are located, which after the reconstruction have got a visually appealing architectural spatial solution (Fig. 14). They house the production site of cardboard packaging, construction machinery base, metalworking workshop, etc. Behind the air overpass of the motorway that leads towards North Bridge to be designed, a 25 ha extensive clear cutting was formed in the 70s for wastewater treatment plants. At the beginning of the 21st century, this area is adapted to the deployment of a modern production technology for bus building and road transport. The new technologies have come up with an aesthetically appealing solution of the composition elements of the outdoor space - form creation of roads and squares and the structure, color of the paving material, a tolerant positioning of the dendrologic properties of the planting materials, taking into account the main viewpoints from the transit motorway (Fig. 15, 16).

## Results and discussion

The form of the industrial areas in a 4 km long belt along the northern side of the railway clearly highlights steps of the technological development in the time frame of 150 years. Even today the production areas along Aviācījas street are separated by a concrete fence and a 20 m wide lawn area. On the opposite side of the street, there is a dense mansion area with gardens. The broad green street area makes it possible to create tree planting groups or lines at Aviācījas street in the perspective, so impairing noise and dust. Currently, the areas abandoned once, keep a potential contribution to the local government, successfully reconstructing the areas in industrial parks, modern offices, business incubators, educational institutions and scientific centers. It is applicable to the modern technology and attraction of funding. In the second half of the 19th century, this place was rated as geographically important for the urban economic development. Today, it is attracted by the nearby Riga Airport, the prospective Rail Baltica route, Via Baltija motorway, etc. Besides, the proximity of the river Lielupe incontestably brings a contribution to the tourism infrastructure [11, 12].

As a peculiar green Island in the eastern part of the railway, the production areas of Rubeņu road are located. It is one of the plots of the forest of

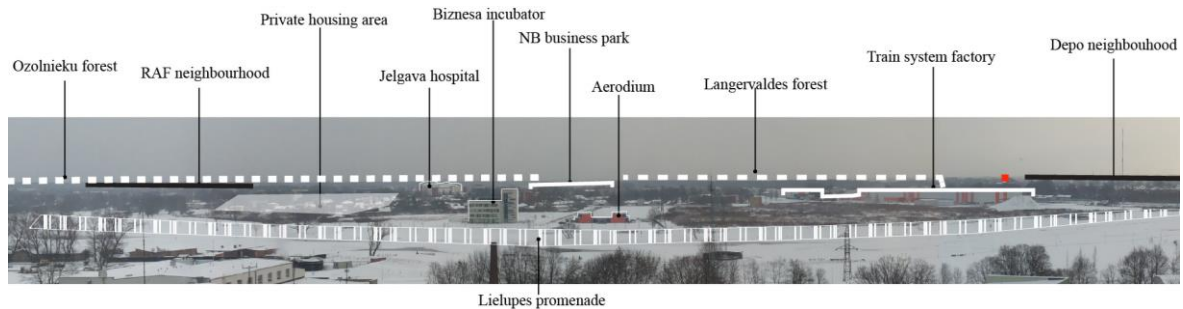


Fig. 19. The siluet of industrial territory  
[Source: construction by Anna Katlapa, 2015]



Fig. 20. The adjustment of the outbuildings of the former new manor for the manufacture of aircraft models  
[Source: photo by A. Ziemeļniece, 2015]

Langervalde with a beautiful pine area, in which expanding the clear cut, in the 70s of the 20th century agricultural agro-chemical production housings were built for the needs of agriculture, gaining the green protective belt around the production site [13]. Next to it, in the 80s of the 20th century - a modern housing for the construction of treatment plants (Fig. 17, 18).

Continuing to study the industrial areas along the railway in a northeasterly direction, it is also worth to mention the adjacent production zones belonging to the area of Ozolnieki municipality, which are separated by a forest area around 2 km wide. Consequently, it is not difficult to forecast merging of the two industrial areas in the next 30 years, so contributing to business intensity. Taking into account this factor, the opportunity of creating Mežaparks between the areas of both local governments should be carefully thought over in the spatial planning. The above industrial zone belonging to Ozolnieki is located exactly next to the water body or the former sand quarry, enjoyed by vacationers.

The parallelism of the production areas along the railway 4 km in length has developed a new infrastructure - a public nature of the building and blocks of mansions, high-rise residential buildings. This makes it necessary to expand the green recreational spaces. One of the research criteria is considered to be the wedge-type development of the green areas between the building zones in the direction of the river Lielupe (Fig. 19).

### Conclusions

Historically, in its geographical location Latvia has been dependent on the change of the economic and political situation both in the west and the east. It is also attributable to the current very fragile situation in the country, which has caused an increase in the number of road transport, reducing the role of the railway in the economy. The number of oil and gas tanks rolling through Jelgava has fallen to a minimum, which still ten years ago created a significant cargo transit from Russia to the port areas. The adjustment of the current situation could bring *Rail Baltic*, but its route does not go through Jelgava. So, the growth of the road transport flow is predictable, which has led the local government to seek funding for faster construction of North Bridge. Undoubtedly, it will create a new infrastructure and an impulse for creating production areas along the city's bypass, attracting logistics, warehouse zones and offices. In turn, the postwar production areas along the river Lielupe discussed in the research will acquire the status of the industrial heritage by changing their functional significance in the urban space.

### References

1. **Dābols, A.** Cukura nozares atjaunotājiem būs no kā mācīties. *Zemgales Ziņas*. 2015., 30.04.
2. SIA "Grupa 93", 2004. Degradēto teritoriju izpēte Rīgas pilsētā. *Pētniecības darbs*, Rīgas dome.
3. **Žukovska, L.**, 2013. Degradēto būvju un teritoriju novērtēšanas metodikas izstrāde un aprobācija Cēsu pilsētā. *Maģistra darbs*, Latvijas universitāte.
4. *Jelgavas teritorijas plānojums (1999-2010)*, Izdevniecība AGB, Jelgavas pilsētas pašvaldība. 1999., 107 p.
5. Jelgavas pilsētas ilgtermiņa attīstības stratēģija 2007.-2020. gadam, Aktualizētā redakcija - 23.05.2013. Jelgavas pilsētas pašvaldība.
6. *Jelgavas pilsētas teritorijas plānojums 2009. -2021.*, Jelgavas pilsētas pašvaldība, 2009.
7. *Vizuālais piesārņojums. Tūrisma un viesmīlības terminu skaidrojošā vārdnīca*. Rīga, 2008.

8. *Cukurfabrikas nojaukšana* [Elektroniskais resurss]. Pieejas veids: <http://www.esmaja.lv/es-baumas/runa-ka-eiropas-savieniba-piespieda-slegt-cukurfabrikas-latvija> Resurss skatīts 2015.01.11.
9. Informācija par ekonomisko, demogrāfisko, sociālo, vides un klimata izaicinājumu risināšanu Jelgavas pilsētā un pilsētu – lauku mijiedarbību. 1.pielikums Jelgavas pilsētas attīstības programmas 2014.-2020. gadam investīciju plānam. [Elektroniskais resurss]. Pieejas veids: <http://goo.gl/TLc4Sk> Resurss skatīts 2015.01.11.
10. *Jelgavas būvmateriālu kombināts* [Elektroniskais resurss]. Pieejas veids: <http://www.db.lv/laikrakstuarhivs/citas/jelgavas-buvmaterialu-kombinats-cer-atgut-fibrolita-tirgu-pieaugot-pirktspejai-340565> Resurss skatīts 2015.01.11.
11. *Vagonrūpnīca*. <http://www.delfi.lv/business/uznemumi/krievijas-rupniecibas-milzis-sak-buvet-vagonu-rupnicujelgava.d?id=43378371#ixzz3O8ehwIep> Resurss skatīts 2015.01.11.
12. Krūmiņš, G. Tautsaimniecība un naudas politika Latvijā (1945–1991), interneta resurss, pdf.
13. **Tomašūns, A.** Mana Jelgava.2014. [Elektroniskais resurss]. Pieejas veids: [http://www.jelgavniekiem.lv/pict/res/mana\\_jelgava.pdf](http://www.jelgavniekiem.lv/pict/res/mana_jelgava.pdf) Resurss skatīts 2015.01.11.
14. *Ziemeļduisbergas ainavu parks* [Elektroniskais resurss]. Pieejas veids: <http://rmitallchange.weebly.com/north-duisburg-landscape-park.html>, Resurss skatīts 2015.01.11.

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**Kopsavilkums.** Jelgavas industriālo teritoriju intensīva attīstība Lielupes labajā krastā aizsākās 20gs. 50.-60. gados, izbūvējot līdzās dzelzceļam plašas teritorijas būvmateriālu ražotnei, naftas bāzei, lauksaimniecības tehnikas remontbāzei, RAF automobiļu ražotnei, kā arī noliktavu zonas. Ražošanas apbūves vāriņgums 70. gados attiecināms arī uz bijušās cukurfabrikas un lokomotīvu remontu bāzes paplašināšanos. Intensīvā teritoriju būvniecība atstāja novārtā gan daudzstāvu dzīvojamo zonu, gan nodalošās zaļo stādījumu joslas. 150 gadu atskatā kopš dzelzceļa pārmiju mezgla izbūves Pārlielupē, ir nomainījušās četras politiskās varas, kas līdzī ir nesošas ne tikai savu izpratni par pilsētas ekonomiskās attīstības iespēju, bet arī katram gadsimta posmam raksturīgo tehnoloģisko attīstību līmeni. No tvaika lokomotīvēm un ogļu izmešiem līdz modernām digitālās vadības iespējām un koģenerācijas stacijas siltumapgādei Pārlielupē, iebūvējot cauruļvadus zem Lielupes gultnes.

Industriālo teritoriju attīstība Pārlielupē aizsākas līdz ar dzelzceļa mezgla izbūvi 19. gs. 60.-70. gados, Krievijas ķeizarkās valdības laikā intensīvi attīstot satiksmi starp Sanktpēterburgu un Vakareiropu. Stratēģiski nozīmīgais dzelzceļa sliežu krustojums un pārmiju platības ir Pārlielupes industriālās teritorijas aizsākuma punkts. Tas ir pievilinājis cukurbiešu audzētājus, būvmateriālu ražotājus, kokmateriālu un šķembu krautņu izveidi, naftas cisternu pārsūkņēšanas bāzes būvniecību, automobiļu un visbeidzot vagonu būvniecības šodien (attēls 3, 4). Dzelzceļš kā spēcīga tranzīta artērija gadsimta laikā ir koncentrējusi ap sevi hektāriem lielas ražošanas teritorijas, kur katra no tām ienes pilsēttelpā savu mērogu, siluetu un struktūru.

Pētījums pierāda, ka atsevišķo industriālo zonu veiksmīgas attīstības pamatā šodien ir rūpīgi izstrādātas uzņēmējdarbības un sabalansētas loģistikas darbība. Tas ir attiecināms ne tikai uz ražošanas tempu kāpinājumu un projektu finanšu piesaisti, bet arī uz apkārtējās ārtelpas vizuāli harmonisku sakārtotību. Aplūkotie Pārlielupes ražošanas teritoriju piemēri iezīmē to, ka postsociālisma laika „elkoņa politikas” saimniekošanas metodes nav spējīgas šodien konkurēt Eiropas brīvā tirgus apstākļos. Pēckara gadu paaudžu morāles nomaiņa, izpratne par materiālajām vērtībām un ražošanas stratēģiju perspektīvajā attīstībā - šobrīd ir galvenie stūrakmeņi, lai veidotos pievilcīga pilsēttelpas industriālā zona.

Vēsturiski Latvija savā ģeogrāfiskajā novietojumā ir bijusi atkarīga no ekonomiski politiskās situācijas maiņas gan rietumos, gan austrumos. Tas ir attiecināms arī uz patreizējo ļoti nestabilo situāciju valstī, kas ir izraisījis autopārvadājumu skaita pieaugumu, samazinot dzelzceļa nozīmi ekonomikā. Līdz minimumam ir samazinājies caur Jelgavu ritošo naftas un gāzes cisternu sastāvu skaits, kas vēl desmit gadus atpakaļ veidoja nozīmīgu kravu tranzītu no Krievijas uz ostu teritorijām. Esošās situācijas korekciju varētu ienest *Rail Baltic*, taču tās trase neskar Jelgavu. Tātad ir prognozējams autopārvadājumu plūsmas pieaugums, kas ir rosinājis pašvaldībai meklēt finansējumu ātrākai Ziemeļu tilta izbūvei. Neapšaubāmi, tas veidos jaunu infrastruktūru un impulsu ražošanas teritoriju izveidei gar pilsētas apvedceļu, piesaistot loģistiku, noliktavu zonas un birojus. Savukārt, pētījumā aplūkotās pēckara gadu ražošanas teritorijas gar Lielupi iegūs industriālā mantojuma statusu, mainot to funkcionālo nozīmi pilsēttelpā.