

# *Characteristics of the Environment and Landscape Planning of the Historic and Cultural District of the First Automobile Factory*

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**Abstract:** Changchun is the birthplace of China's automobile industry. Changchun first automobile factory has a special cultural value and demonstration value. As the connection point of Changchun's industrial history, the block landscape of Changchun no.1 automobile factory is an important part of the historical landscape of Changchun, a famous national historical and cultural city. The historic and cultural district of Changchun no. 1 automobile factory has left a lot of industrial heritage, historic buildings and characteristic landscape elements in the historical accumulation, and gradually formed a historical and cultural district with distinct industrial characteristics. The purpose of this paper is to explore how to better protect and update the landscape environment of the historic and cultural district with distinct industrial characteristics by taking the landscape environment of the historic and cultural district of Changchun no.1 automobile factory as the research point. Firstly, this paper analyzes the relevant background of the paper, sorts out the development process and trends of relevant research at home and abroad, and prepares relevant questionnaires. Secondly, the development and protection status of the historical and cultural block landscape are investigated and analyzed through the questionnaire, which provides theoretical basis and experience enlightenment for the systematic analysis and landscape characteristic research of the historical and cultural block of the first automobile factory. Finally, it summarizes the value of industrial elements in historical and cultural blocks, summarizes the principles and strategies of protection and renewal, proposes specific protection and renewal measures, and tests the feasibility of the theory through design cases. The results showed that the proportion of respondents in different age groups was 5.80%, 21.4%, 25.80%, 27.2% and 17.8%, respectively. According to relevant data and field survey statistics, there are 128 cultural relic protection units in the block, including 112 state-level cultural relic protection units and 16 city-level cultural relic protection units. 2 buildings with historical features are recommended; There are 50 historic buildings in harmony with the traditional style of the block, and 72 buildings out of harmony with the traditional style.

## 1. Introduction

Urban historical and cultural district is an important carrier connecting urban history and present, and an important guide to inherit the historical context of the city and guide the development of urban style [1]. It has witnessed the rise and fall of the city in the historical period, is the precious and precious resources left to people by history, and is the link between the past and the future of a city. Historical and cultural block landscape incorporates a variety of landscape elements, namely the natural landscape, unique landscape, cultural landscape and the history of regional folk customs, and it plays a "first impression" in the historical block, the role of landscape environment in the historical block overall style, record the urban context, the space structure, the urban texture and traces of history, is the core of the historical block to historic landscape, is the direct embodiment of its historical value [2-3]. The historical and cultural district where the industrial heritage is located is quite different from the traditional historical and cultural district in China. It not only has the artistic, economic, historical, cultural, tourist and social values of the traditional historical district, but also has unique industrial and aesthetic values. The industrial heritage is a precious heritage resource that cannot be rebuilt [4-5]. In the era of historical changes in the process of the history of the industrial architecture, history, landscape and other important resources can't get the timely and effective update, often there are aging infrastructure, industrial backwardness, environmental pollution and other issues, these factors hindered the development of future city, destroying the original industrial image of historic blocks, cut the urban industrial ecological chain, the old industrial area in the historical and cultural blocks lost [6-7] blocks vigor and connotation.

As a key industrial project in the early years of the founding of the People's Republic of China, Changchun no.1 automobile factory witnessed the development process of China's automobile industry and even urban industry from scratch [8-9]. Changchun first automobile factory space environment and the historical and cultural block buildings are very high artistic value and historical value, Changchun area before the first car manufacturers as a block in the protection scope of protection of cultural relics "purple line" Changchun city history, and published in April 2015, "the first batch of historical and cultural blocks" was listed in the national historical and cultural blocks [10]. Since the Soviet union in the 1950s to build the plant, after more than 60 years of wind and rain, Changchun no. 1 automobile factory is still contributing to China's industrial development. As a historic district, the buildings of the production area and the living area of Changchun no.1 automobile factory still carry on their unique characteristics of The Times and historical marks. A historic district is the epitome of the city's history and culture, and the embodiment of the city's cultural continuity. The rise and fall of the historic district reflect the living state of the city's residents. With the development of The Times, there are more and more contradictions between this sense of history and rapid development and people's physiological and psychological needs [11-12]. Therefore, the solution to this contradiction is to clearly understand the spatial and environmental characteristics and architectural characteristics of the former area of Changchun no. 1 automobile factory, and at the same time, combine the needs of residents to put forward reasonable renovation Suggestions.

Landscape planning process for sustainable development, based on the ecological system of the strategy, make the coastal landscape is not affected by the climate is very important, Leena Karrasch in low-lying coastal areas in north-west Germany as an example for empirical research, the design of four different environment and landscape planning based on ecosystem, verified, the four kinds of solutions is to protect the ecological system have a positive effect [13]. In Malaysia, public participation in landscape planning and design is still in its infancy. Mohd Yunos chose datuk klamath lake garden as a case to discuss the application of public participation technology in landscape planning and design to solve the problems and shortcomings of public participation

[14-15]. By exploring the color landscape planning, buildings and urban color landscape of zhongshan road in shenyang, DIAO Yan put forward an environment and landscape planning scheme adapted to China's urban construction, providing reference and theoretical support for future urban street landscape design [16]. With the growth of the elderly population, China has entered an aging society. By investigating and studying the outdoor activities of the elderly, YIN zhong-jian discussed how the landscape industry can create a high-quality outdoor leisure environment for the elderly from the aspects of landscape planning and design methods, the elderly's community environment and outdoor space theory, the elderly's outdoor psychological needs and behavioral characteristics, etc. [17]. On the basis of analyzing the current situation of domestic landscape architecture, CHEN Qi proposed a rare botanical garden according to the overall plan of the crested ibis scenic spot and the planning and design ideas, and constructed a beautiful forest community rich in flower varieties according to the principle of unity of science, appreciation, education and art [18]. S. Yasmin Sofia Hussain investigated the process and problems that should be paid attention to in the planning of open space in urban residential areas, and discussed the relationship between urban planners and landscape architects in the planning of open space in residential areas [19]. With the rapid development of urbanization, urban wetland is gradually reduced, and the ecological function of urban wetland is destroyed or lost. Based on the analysis of related concepts and principles of wetland, LI zhen-xing formed a site survey on urban development, wetland protection and utilization, and provided an environmental and landscape planning and design [20]. Dorota Gawryluk believes that the historical complex has a strong impact on the urban landscape, and its landscape should be comprehensively protected within the scope of subsequent exposure scale. The use of greening as a means can reduce the exposure of buildings and improve the standard of using the historical complex [21-22]. Lima believes that the history of the landscape and the driving forces of its various sectors determine the recent state of its structure and ecological functions, which in turn can be translated into the availability of ecosystem services [23]. Yolanda Hester to black culture center in Los Angeles Leimert park as an example, the black community in the pursuit of cultural tourism and seek to establish a national brand culture area that may occur in the process of historical, cultural and economic reasons, put forward the new consensus building, named for the challenge of rebuilding the cultural tourism community cultural assets, market and capital for the plight of the problem [24].

The first automobile factory historical and cultural block reflects the source and process of the development of China's automobile industry, its value presents diversity, science, integrity, reflects the development of China's automobile manufacturing industry and the initial footprint of the automobile industry production. The first automobile factory has been established for more than 60 years. It is the first automobile manufacturing factory in China and produces the first truck and the first car independently. The historical and cultural block of the first automobile factory has experienced the changes of the historical era. The infrastructure is relatively old, the overall style of the block declines, and the vitality of the block is low. Due to the early construction period, there are many factors affecting the landscape environment of the historical and cultural block where the industrial heritage is located, such as the damage of historical buildings, aging of landscape elements, lack of public service facilities, poor living environment, etc., which are the urgent problems to be solved in the historical and cultural block. The purpose of this paper is to explore how to better protect and update the landscape environment of the historic and cultural district with distinct industrial characteristics by taking the landscape environment of the historic and cultural district of Changchun no.1 automobile factory as the research point. Firstly, this paper analyzes the relevant background of the paper, sorts out the development process and trends of relevant research at home and abroad, and prepares relevant questionnaires. Secondly, the development and protection status of the historical and cultural block landscape are investigated and analyzed

through the questionnaire, which provides theoretical basis and experience enlightenment for the systematic analysis and landscape characteristic research of the historical and cultural block of the first automobile factory. Finally, it summarizes the value of industrial elements in historical and cultural blocks, summarizes the principles and strategies of protection and renewal, proposes specific protection and renewal measures, and tests the feasibility of the theory through design cases. The results showed that the proportion of respondents in different age groups was 5.80%, 21.4%, 25.80%, 27.2% and 17.8%, respectively. According to relevant data and field survey statistics, there are 128 cultural relic protection units in the block, including 112 state-level cultural relic protection units and 16 city-level cultural relic protection units. 2 buildings with historical features are recommended; There are 50 historic buildings in harmony with the traditional style of the block, and 72 buildings out of harmony with the traditional style.

## **2. Historic and Cultural District and Landscape Environment**

The scope of the historic and cultural district of Changchun No.1 automobile factory shall be subject to the "the first automobile factory historical and cultural district protection area" approved in 2010. North to Jincheng street, Chuangye street and the first Changchun car factory hotel land boundary; South to Yingchun south road and Changshen railway on the south side of the plant of Changchun no.1 automobile factory; East to Rixin road, Chunguang road, Chuncheng street; West to the west of the original plant of Changchun no.1 automobile factory. The land area is about 176.19 hectares. The historic district includes Wenguang community, Yingchun community, Kunlun community and the old factory of Changchun No.1 automobile factory. The resident population is about 14,346. The current land use in the block is basically the same as the original planned land use.

### **2.1. Historical and Cultural District**

"Historical and cultural district", also known as "historical district" and "historical district", is a district which mainly reflects the buildings, buildings, streets and surrounding environment of a certain historical period. Historical and cultural blocks are the unique historical features of a city, the embodiment of the cultural characteristics of a city, the continuation of the historical context of a city, the positioning of the characteristics of a city's style, and an important part of the connection between the city's history and future development.

As for the concept of historical and cultural blocks, the code for the protection planning of historic and cultural cities (gb50357-2005) gives a detailed explanation of the term, "after the approval of the people's government of a province, autonomous region or municipality directly under the central government, the historical and cultural areas that are clearly given key protection shall be published to the public. About the definition of the concept of the historical and cultural blocks, is a unique perspective, opinion, which is typically Wu Liangyong professor from the perspective of history and culture, such as to define, he pointed out that the historical and cultural blocks should not only pay attention to the protection of scenic spots and historical sites, ancient architectural structures and maintenance, notice of investigation and inheritance of the cultural value of historic buildings, is the memory of generations of people living with the microcosm. The definition of the historical and cultural district in this paper is based on the "regulations on the protection of famous historical and cultural cities, towns and villages" issued in 2008, which stipulates that "the historical buildings are relatively concentrated, large in scale, and the cultural relics are well preserved, which really reflect the pattern and style of a specific period and have a certain scale of area". The contents and scope of the historical and cultural blocks are also quite extensive, such as the historical buildings, street patterns, people's living habits and the

relationships between the various natural and social environments.

## 2.2. Landscape Environment

From the perspective of physical geography, landscape refers to the natural scene that can express the specific prominent form of the designated area. With the change and development of The Times, the meaning of landscape is also gradually expanding, and now also refers to the modern new scene with aesthetic value and cultural connotation artificially created by human through technology, materials, techniques and other means. Historical landscapes can be divided into two categories according to their actual existence -- physical landscape and immaterial landscape. The former refers to the objectively existing landscape in reality, which contains historical buildings, block building distribution, historical characteristic elements and so on. Immaterial landscape is a landscape that does not exist in reality but can map the historical and cultural content of a special neighborhood, including living habits, religious beliefs, folk customs and rituals. The landscape environment in this paper refers to the landscape elements that have experienced a certain historical period, have special features, and are influenced by industry, historical background and cultural characteristics under the limitation of the overall environment of the historic district. The elements of landscape environment in this paper include the spatial texture of historic blocks, the structure of streets and lanes, architectural features, landscape style features, landscape sketches, plants, infrastructure, public service facilities, etc.

## 2.3. The Principle of Protecting Historical and Cultural Districts

### (1) The principle of holistic protection

The historical and cultural block of the first automobile factory has a relatively complete preservation of the spatial pattern of "one side production, one side life" formed in the early stage of the factory and the layout form of residential courtyard in the dormitory area. The buildings in the factory area are well protected, and the dormitory area is unified after renovation. Although the dormitory area has undergone multiple periods of supplementary construction, the buildings built during this period are mainly residential buildings, whose volume, color and height can be coordinated with the block's soviet-style historical buildings. Therefore, the protection of this historic district should follow the principle of holistic protection.

### (2) Principle of authenticity

Protect the integrity of the block's soviet-style historical buildings, pleasant street size, rich green planting and other physical forms and carry real historical information, and maintain the historical and cultural heritage of the first automobile factory and the basic vitality of the community compound.

### (3) Adhere to the principle of in-situ protection of cultural relics

As the historical witness of modern and contemporary industrial development in Changchun, the first automobile factory historic district has its unique historical and cultural value and constitutes an indispensable part of the original urban system. For buildings and residential blocks, it has experienced a long period of time of development, to the original space to form the perfect unity, it is no longer just to establish initial isolated buildings, has become a bridge carrying existing space with the original space, leaving the original space, its cultural value will be greatly reduced, so the strict protection of cultural relics protection units, historic buildings, in the process of the planning of road landscape and architecture design, we must give full consideration to the overall coordination.

### (4) The principle of combining protection with use

Most of the historical buildings in the historical and cultural district of the first automobile

factory are still in their original functions and running well. Therefore, the historical protection of this district should follow the principle of combining protection and use. It is necessary to broaden the research on the relationship between the existing residential forms and the original residential forms in the historical district of the first automobile factory, and to supplement the modern living environment, so as to make it not only preserve the historical and traditional forms of Soviet style, but also give full play to the functional requirements given by The Times, so as to realize the harmonious coexistence of protection and use.

### 3. Experiments

#### (1) Literature collection and study

Literature collection is an indispensable link in paper writing. Whether it can truly reflect the research content at the present stage and solve the problems at the present stage is the criterion for the success of a paper. Only by studying papers in related fields, can we understand the current development of the subject to a certain extent, and by summarizing the experience and lessons of predecessors, can we have a deeper understanding of the deep meaning of the subject, and then discover the deep value of the subject.

Changchun first automobile manufactory historical block due to the development history of time is not long, than the domestic most of the rest of the historical block of hundreds of years of development, Changchun first automobile factory from the beginning of planning phase begins to less than seventy years, on the data collection integration mainly focused on the development of Changchun since modern times, the main reference Changchun county annals and Changchun first automobile manufacture felt as the main source of historical data.

#### (2) Field research

Through the field research on the block, the first-hand information was collected, mainly including the pictures of the current situation of the block, the people in the block activities were interviewed, the questionnaire survey, and the data were simply sorted out and classified for the purpose of the paper. The advantage of the site investigation is the ability to observe the dynamic block change at any time, and based on this dynamic adjust block protection strategy, to information updated in real time requirements of observer to the scene of the investigation to the early stage of the plan, for the need to research the contents of the list a detailed list, and to research and found that the problem, a two research can not find the true heart, through continuous research to perfect the directory, and deepen our understanding of blocks. Many times for site survey, research the time period to distinguish, for the elderly behavior investigation should choose a period of morning exercises in the morning, evening period of time for the elderly activities such as walking, for the investigation of the young adults to choose in the rush hour, for children to choose in the school, school children are accompanied by parents, the activities of the children are susceptible to the influence of parents' behavior. Different time periods should be set for the research of specific areas according to different situations. The research of road nodes should be conducted in the rush hours of traffic, and the research of leisure space should be conducted on weekends or during the activities of the elderly. In the field research method, software analysis is used to calculate the results of each survey. By comparing the survey data of different periods, a basic data that thoroughly describes the current situation of the block is integrated and used in the paper.

#### (3) Software analysis

The data sources of this paper are quite complicated, so it is necessary to classify the obtained data systematically. Research mainly on the basis of the theory of fabric is space syntax, the software needed to run the data for the CAD drawing of DXF file, not simple in drawing draw



every street or spatial axis, while bill hillier once for plotting's problem mentioned "visible" space is accessible, but it also has talked about "for different space, the embodiment of the space syntax has a different approach", this requests us in drawing map file is required to distinguish between primary and secondary relations of the space, which part of the space for existing integral space is larger, the influence of key expression should be, The spatial relationship with its connection should be expressed in detail, such as the urban traffic hub center with dense streets and the scenic spot with mixed crowds. To the secondary space doesn't mean you can omit to contact the spatial axis, but for this kind of spatial axis in refining, the same properties of several spatial axis is refined into one or several said, such as the village residential building entrance directly leads to the road, if every entrance, said that the road will be more groundless many small intersection, import map arithmetic which can identify easily when will as a main road, this road because map is every point of the total distance of other points in the space as the main data of investigation space integration, These extra calculations are small in number, but many in number tend to affect the whole operation. As mentioned above, the result of space syntax may be different from the existing situation, which does not mean that the reasoning of space syntax is wrong. It can only be said that the development of blocks is not in accordance with the free play of space, but the factor of intervention. To block into DXF format import map, to integrate existing space and accessibility analysis, are also likely to produce with the current situation is not in conformity with the situation, at this moment we need to make sure of DXF file is correct, each point in space can be arrived at any point by space axis, the closed space is a unified whole, if meet this principle, drawing in no big discrepancy, can be concluded that the existing block is the result of the transformation of intention on the spatial relationship of transformation.

#### (4) Questionnaire survey

Based on consulting a large number of domestic and foreign literature, browsing websites at home and abroad on the basis of the collected a lot of the first car factory first-hand information environment and landscape planning in historical and cultural block, and the data, analyzed and summarized, on the basis of the established the first automobile factory environment and historical and cultural block landscape present situation investigation questionnaire, the questionnaire after completion of production, invite the industry experts and scholars, and put forward valuable Suggestions according to the experts to modify and adjust the questionnaire.

The preliminary survey of the questionnaire on the environment and landscape of the historical and cultural district of the first automobile factory was carried out in a small scope.

After the questionnaire was collected, SPSS 22.0 software was used for statistical analysis of the survey data. The statistical methods include multiple regression analysis, variance analysis and independent sample t test. In this study,  $P < 0.05$  was considered as statistically significant

#### (5) System analysis

Firstly, the spatial form of blocks was studied, and the flat space of residential buildings was compared with the flat space of traditional buildings to analyze the residential pattern of Changchun no.1 automobile factory block. Through the comparative study of building facade decoration elements with Chinese traditional decoration and European pattern decoration, this paper analyzes the street landscape style, landscape characteristics, architectural style, etc., and puts forward historical context reference for the renewal of street landscape environment. According to each problem, strategies and measures suitable for the preservation and pre-renewal of the historic and cultural district of Changchun No.1 automobile factory was worked out.

#### (6) Inductive summary method

Through literature review, case reference, investigation and analysis, this paper summarizes the existing problems, value characteristics, protection principles and renewal measures, and applies them to the landscape environment renewal design under the guidance of theories to test the

correctness of theories.

## 4. Discussion

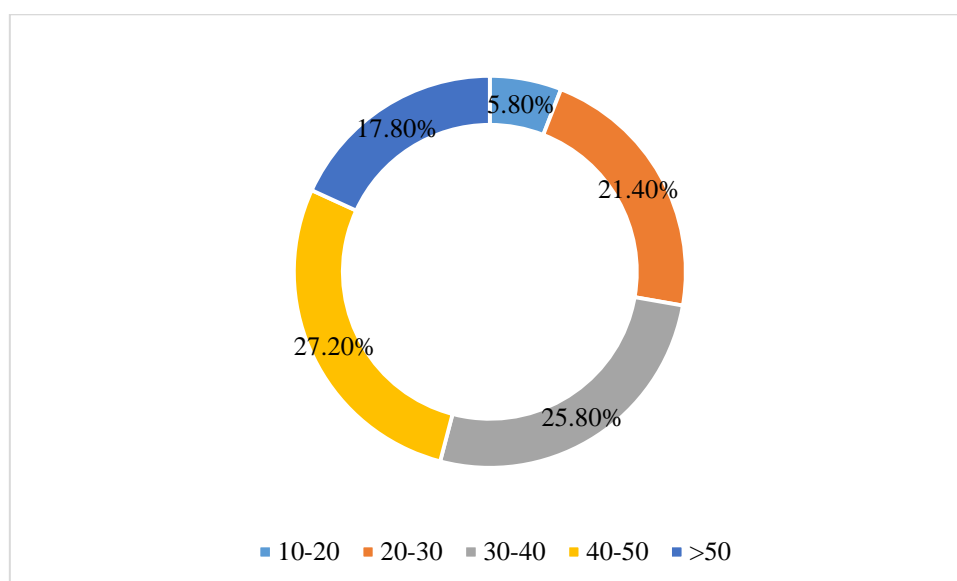
### 4.1. Basic Information of the Questionnaire Respondents

Many times in this paper, the first car plant environment and historical and cultural block landscape present situation investigation questionnaire distribution and investigation, the investigation for the elderly behavior have chosen period of exercises in the morning and evening period of time for the elderly activities such as walking, for young adults investigation to take place in the rush hour for children in school, school children are accompanied by parents, the activities of the children are susceptible to the influence of parents' behavior. For the research of specific areas, different time periods are determined according to different situations. For the research of road nodes, people's rush hours are selected; for the research of leisure space, it is selected to be conducted on weekends or during the activities of the elderly.

After statistics, this paper issued a total of 500 questionnaires, 490 effective questionnaires, the effective recovery rate of the questionnaire reached 98%, in line with the relevant regulations, the questionnaire is effective. The coverage of age, occupation and residential area of the respondents is relatively wide, which proves that the respondents have certain representativeness and the survey results are relatively reliable. The basic information of the respondents is shown in table 1. 5.80% of the respondents were aged 10-20 years old, 21.4% were aged 20-30 years old, 25.80% were aged 30-40 years old, 27.2% were aged 40-50 years old, and 17.8% were aged over 50 years old. The results are shown in figure 1.

*Table 1. Basic information of survey subjects*

Age Sex	10-20	20-30	30-40	40-50	>50
Male	16	51	67	69	49
Female	13	56	62	67	40



*Figure 1. The age composition of the respondents*

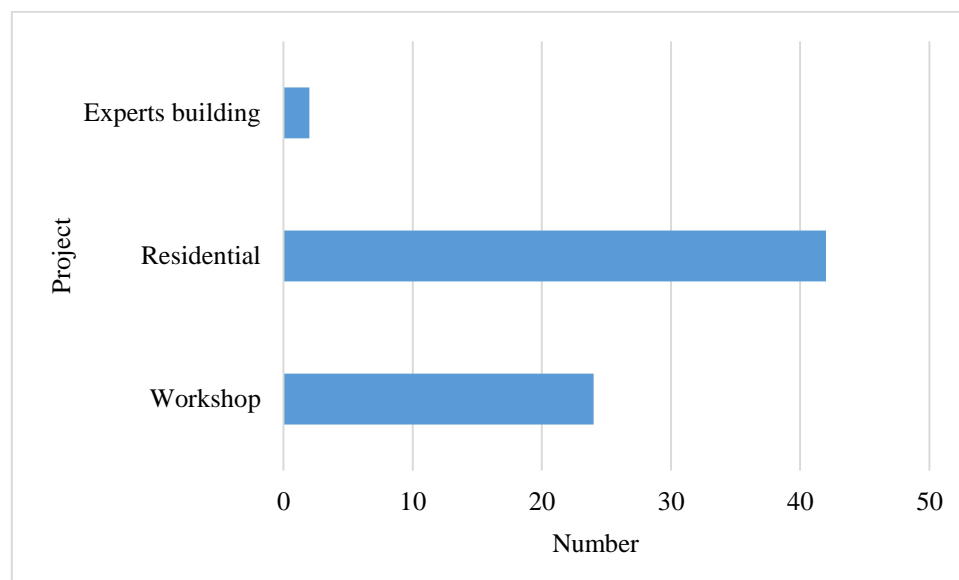


#### 4.2. Characteristics of Block Planning and Protection Status of Historic Buildings

Changchun first automobile factory is China's historical and cultural block in the early industrial production combined with workers' dormitory block, is one of domestic scale, large industrial district, modeled on the Soviet union at that time the domestic residential blocks of planning "neighborhood unit" pattern, with "field" large blocks of each type of road space street blocks, forming independent unit small blocks. Each small block USES the surrounding buildings and walls to enclose the courtyard space of the block, which is rich in plants and large in area. According to relevant data and field survey statistics, there are 128 cultural relic protection units in the block, including 112 state-level cultural relic protection units and 16 city-level cultural relic protection units. 2 buildings with historical features are recommended; There are 50 historical buildings that are in harmony with the traditional style of the block, and 72 buildings that are not in harmony with the traditional style. The classification and classification of historical buildings in the historical culture street area of Changchun no.1 automobile factory is shown in table 2, with emphasis on protection.

*Table 2. A list of historic buildings protected by the historic cultural district*

Project	Building number	Protection level	Current situation
Workshop	24	The seventh batch of state-level national key cultural relics protection units	The building is in good condition
Residential	42	Historic buildings	Well preserved
Experts building	2	Historic buildings	Well preserved



*Figure 2. Historic buildings protected by the historic cultural district*

#### 4.3. Landscape Vegetation Analysis of the Historic District of Changchun No.1 Automobile Factory

Plants are the most important elements in the landscape of the historic district of Changchun no.1 automobile factory. From the view of the existing plant coverage rate of the block, the overall greening coverage rate of the historic and cultural block of Changchun no.1 automobile factory is

relatively high, which retains the greening pattern in the early stage of construction. There are two types of plant layout in the block. One is plant layout in the factory. Trees and shrubs are distributed along both sides of the streets in the factory. The other is the layout of residential plants, street plants around the building, building around the layout of garden plants.

The green style in the block is rich, the plant species is more, the plant growth period is longer. Most of the plants in the block were planted in the factory period, and experienced more than 60 growth rings. The trees planted in the early planning have now grown into towering trees, covering many roads in the block, with trees in the shade. According to the information and field investigation, the number of vegetation in the historic district of Changchun no. 1 automobile factory in recent ten years is shown in table 3.

Table 3. Landscape vegetation analysis

Year \ vegetation	2011	2013	2015	2017	2019
<i>Koelreuteria paniculata laxm.</i>	116	111	127	127	129
<i>Salix matsudana koidz</i>	36	31	37	37	39
<i>Padus maackii kom.</i>	86	88	87	87	89
<i>Uniperus formosana hayata</i>	111	116	132	132	140
<i>Sorbaria sorbifolia(l.)a. Br</i>	63	66	72	72	70

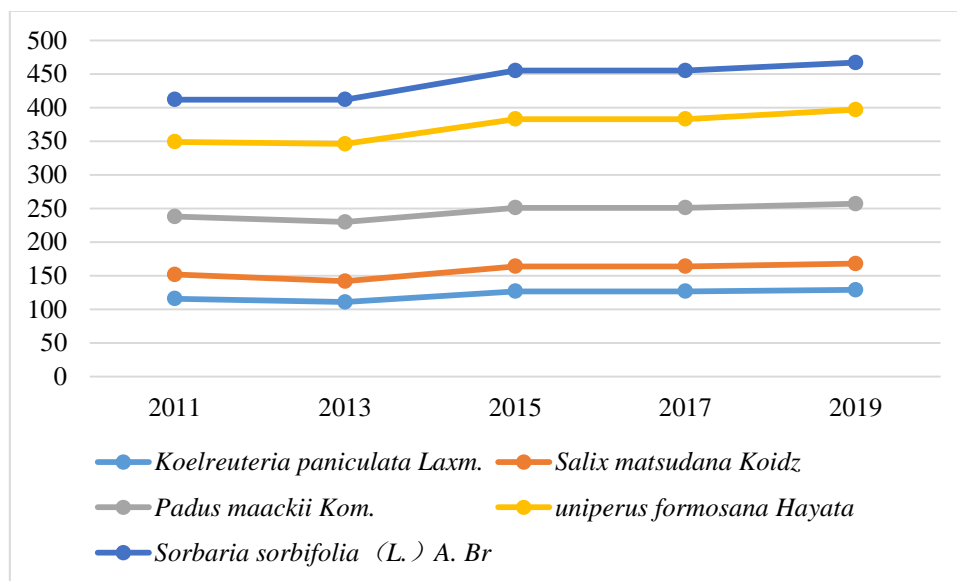


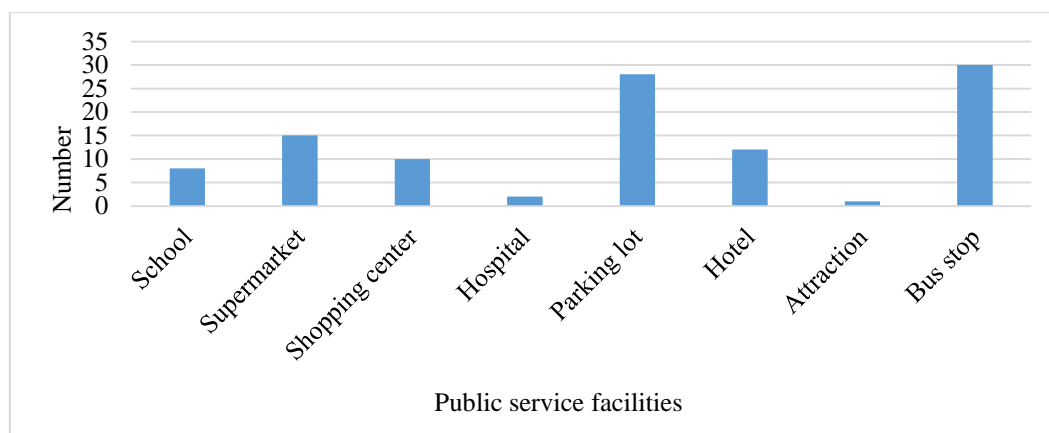
Figure 3. Landscape vegetation analysis

#### 4.4. Distribution of Public Service Facilities in the Historic District of Changchun No.1 Automobile Factory

Public service facilities are the standard to measure the quality of historical and cultural blocks. They can meet the needs of the blocks and decorate the historic atmosphere of the blocks. They are the most important part of the image of the historic blocks. The shape and image of public service facilities reflect the features of historical district and regional culture. The distribution of public service facilities in historical districts was investigated by questionnaire, as shown in table 4.

*Table 4. Distribution of public service facilities*

Public service facilities	Number
School	8
Supermarket	15
Shopping center	10
Hospital	2
Parking lot	28
Hotel	12
Attraction	1
Bus stop	30

*Figure 4. Distribution of public service facilities*

## 5. Conclusion

With the development of social and economic diversification, the landscape of historical and cultural blocks where the industrial heritages are located has become a new urgent research topic in the landscape of historical blocks in China. It is different from the industrial heritage landscape, also different from the traditional historical district landscape, it has the characteristics of industrial heritage and historical and cultural district characteristics, is the integration of the two values. Changchun is an important historical and cultural city in China. The historic and cultural district of Changchun no.1 automobile factory is an important part of it and a continuation of the industrial historical context of Changchun. The landscape of Changchun no.1 automobile factory is a unique industrial feature of Changchun and a "picture of industrial history" showing the image of Changchun. The historic and cultural district of Changchun no.1 automobile factory was built in the period of "the first five years plan" in China. The problems of aging and lack of street landscape, infrastructure and public services all appeared, and the vitality of the district was low. Protect the historical elements left in the landscape environment, and update the facilities that affect the overall landscape. It is of great significance to how to better inherit the industrial cultural connotation, continue the industrial historical context, promote the future development of Changchun historic and cultural city, and improve the landscape quality of historic and cultural blocks. Through the research on the characteristics and elements of the landscape environment of historical and cultural blocks, the main research results are summarized as the following:

(1) Clarify the relevant background and definition of the landscape of historical blocks, and sort out the development context of historical and cultural blocks at home and abroad. This paper

summarizes the relevant theoretical knowledge of historical block landscape, enumerates relevant cases at home and abroad, and analyzes the experience gained.

(2) Make clear the core scope of the historical style of the historic cultural district of Changchun no.1 automobile factory, point out the main factors affecting the landscape environment of the district, and put forward the main problems existing in the landscape environment of the district.

(3) To investigate the main factors influencing the block landscape environment, spatial texture blocks, streets road structure, landscape features of historic buildings, landscape pattern and distribution characteristics, plant greening and landscape sketch, etc., the existing problems of these factors has carried on the detailed elaboration, analyzes the landscape value, of late for the protection of the content and update the design provides a practical basis.

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### Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

### Conflict of Interest

The author states that this article has no conflict of interest.

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