Since the comprehensive reform and opening up started from the first half of 1990s, large scale of residential areas have been constructed in the suburban area of Beijing. At the same time, a lot of projects for redevelopment of welfare housing areas have been done in the core area of the city. As a result, Beijing metropolitan region experienced a remarkable expansion and development after 1990s.

With the transformation of the housing supply system, the unit yard system began to disintegrate. The welfare housings were replaced by the commercial housing, and a new type of modern community was established. This study is to present the distribution of new types of residential area and to reveal the reconstruction process.

The study area was the area within the fifth ring road of Beijing. In this study we obtained data from satellite images and fieldwork. The satellite images were collected from USGS, which were photographed in the spring of 1990, 2000, 2010 and 2013. We made fieldwork to help making the classification and accuracy assessment. The field work was done on October 2013.

As the result of fieldwork, the distribution of each type of land use was collected. In Beijing, most of the new type of commercial housing was constructed after 1998. A large number of low buildings in a densely area belong to the unit yards. Very high buildings with green space inside the yards can be seen as the feature of the high residential area. However, in the case of high commercial buildings (such as hotel, shopping malls and so on), these buildings always located in a open area without green space.

After distinguishing the high buildings and low by using the shadows of themselves, eight types of land use were classified by using the Erdas software: high commercial buildings, high residential buildings, low and old buildings, agriculture land, green space, empty or under construction land, Water and street.

As a result of time series analysis, it was proved that the area of low an old buildings decreased rapidly and were replaced by high commercial buildings and high residential buildings. At the same time, a rapid expansion of high residential area progressed in the suburb. We realized that these two types of transformation promoted the rapid growth of Beijing city, and that the housing development was one of the main factors leading Beijing rapid urban development.

Expansion of residential area in Beijing (1990-2013)