A LOT TYPES APPROACH TO CODING
FOR DIVERSE ESTABLISHED NEIGHBORHOODS

(A paper based on the work produced in URP 6631: Planning Studio II, taught by Korkut Onaran, Ph.D. at the College of Architecture and Planning, University of Colorado at Denver, Spring 2007)

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INTRODUCTION:

While the application of many form-based coding solutions has been widening in recent years, and the use of specific building types, especially in coding for the existing diverse urban neighborhoods are being explored, the number of applications integrated into the current codes for central cities are still limited. This paper suggests that the lot types approach to coding can be a very strong tool in not only preserving but also allowing regeneration of established urban neighborhoods with unique characters, along with their valuable small businesses, diverse urban markets, and affordable choices of housing.

This paper will outline a study that was conducted in a planning class (URP 6631), taught by the author at the University of the University of Colorado, Denver, in spring 2007. The class has produced coding proposals for three model neighborhoods surrounding Denver’s downtown, one of which will be outlined here. Before going into the details of these proposals let us first review some of the key concepts related to the lot types approach to coding.

TYPOLOGIES:

Typologies have been developed to understand complex realities since the beginning of enlightenment era. Creating a language of building types as a way of rationalizing the design process had been a common theme in the early building typologies. In the spirit of French rationalism the first generation typologies were abstract. They were ambitious attempts to create a comprehensive language, logical system, that could include all buildings. Many of these typologies had been crafted on a clear slate, some aiming at finding the archaic origins of certain types (e.g. Laugier 1765) some others focusing on the new industrial age buildings (Vidler 1978, see also Lavin 1992). Though detached from the urban context these early typology studies nevertheless introduced the idea of a “type,” the essence of a building, as distinguished from a model.

What is a type then? A type carries the Platonic “idea” of an object whereas each object in our see-and-touch world is a reflection or a presentation of an idea. This indicates that a building type exists conceptually only in the realm of ideas, not in the realm of objects as a building.

Even though the first generation building typologies were developed in an ahistoric context without referring either to the evolution of a type or to its urban context, the idea of cataloging buildings by types created an interesting attitude between “progressist,” and “culturalist” if we are to use F. Choay’s dichotomy of progressive (modern) versus culturalist (traditionalist) attitudes in design (Choay 1969). The early typologies, by their distance from the social and urban context, were in a way new and progressive, and by their ambition of cataloging all that had been done thus far to create a language of
buildings, they were traditionalist. This way the concept of typology has created, by its very nature, a dialectic tension between the past and the future, which became more distinct in the upcoming generations. This dialectic relationship between the past and the future also defines the dual role of crafting an empirical code that is based on typologies evolved in the past, and one that can also guide and encourage typologies yet to evolve. In other words, the crafting of a code that protects the values in an exiting urban fabric, yet allows innovations in the future.

In the late 60s and early 70s the traditional urban centers started to attract designers’ attention as successful neighborhoods to be rehabilitated both in the US and in Europe, and thus urban design became one of the central foci in planning and design professions. In this context preparing typologies became a popular way of studying the historic centers. This generation of typologies aimed at studying the urban context empirically and using the typological approach as a way of planning and designing in the city to create continuity in its historical development (for instance see Krier 1978, Conzen 1980, Krier 1983, Maretto 1986, also see Vernez-Moudon 1994). One of the earlier advocates of this approach, Leon Krier, describes the role of typology in one of his manifestoes in the following way:

Against the anti-historicism of the modern movement we repropose the study of the history of the city. … The history of architectural and urban culture is seen as the history of types. Types of settlements, types of spaces (public and private), types of buildings, types of construction. … The physical and spatial unity of the traditional city is understood as a result of the maximal interaction of these types. (Krier 1978, p.41).

Typologies have the greatest potential to scrutinize for us not only building organizations but also the complex relationships between public and private realms, between urban spaces and buildings, as well as many other urban design factors, such as density, intensity, and parking, all at the same time. It is this characteristic of the typology approach that makes it particularly appropriate for form-based coding for diverse, established urban neighborhoods.

LOT TYPES:

A lot type can be defined as a set of bulk, density, and intensity regulations that are tailored based on a specific building type. In other words, lot types combine building types with the lot characteristics to create rules allowing and guiding the regeneration of the building types along with their lot characteristics.

Recently, the lot type approach has been used in crafting codes for new communities (for instance see Duany, A. & E. Plater-Zyberk.1991, Duany Plater-Zyberk & Company. 2005). Also, the “Transect” concept, a cross section from rural to urban, has been proposed as a way to craft lot type characteristics within the continuum of increasing urbanity from rural preserves to urban centers (see Duany Plater-Zyberk & Company. 2005, Duany, A. & D. Brain. 2005). However, the potential of a lot types approach in grasping the complexities of existing diverse urban neighborhoods and creating codes that can preserve the small scale of the local urban enterprises is yet to be discovered.
THE HIGHLAND NEIGHBORHOOD OF DENVER:

Highland Neighborhood, located NW of Downtown Denver, has been developed mostly in the 1900s, 1910s, and 1920s and went through a series of population shifts, with each generation adding to the complexity of the urban fabric. Small vibrant businesses coexisting with residential uses in similar building types is one of the characteristics of Highland. Almost all of the lots in the neighborhood have alley access. There is, however, some diversity in block sizes and configurations. The historical platting created lots with 25’ frontages and varying depths (depths of 100’, 120’, and 140’ being the most common). Lots with 33’ frontages (four lots consolidated and subdivided into three) are common as well. While certain areas are dominated with one and one-and-a-half story structures, there are two, and two and a half story structures as well, which creates an interesting balance with the occasional taller buildings. The fine grain of diverse uses in small sized lots is one of the most valuable aspects of the neighborhood since it allows small scale interventions to happen and it also provides a range of affordable residential options.

This fine grain of diversity, however, has been diminishing in recent decades. The neighborhood, because of its amenities and proximity to downtown, has been witnessing significant redevelopment. Many of these projects, unlike the ones by the previous generations, do not respect to the scale and diversity of the neighborhood. Along with other factors, the current zoning is to take some significant blame.

Figure 1: Highland Neighborhood of Denver and the zoning districts assigned by the current ordinance. Note that there are nine zoning district categories assigned for the neighborhood.
Figure 2: A nine block segment from the neighborhood. The red lots on the map on the left represent properties with non-conforming lot sizes, while the ones on the right are properties with non-conforming setbacks.

Figure 3: A twelve block segment from the neighborhood. The highlighted lots on the map on the left represent properties with non-conforming lot sizes, while the ones on the right are properties with non-conforming setbacks.
Current zoning, prepared in the 1950s following the vision of the suburban development with the assumption that urban neighborhoods at the center were unhealthy and to be replaced with better fabrics in time, is short of addressing Highland’s fine grain of diversity. Figure 1 provides the current zoning map where business districts were created to capture the non-residential uses in a scattered way. Similar to many conventional zoning categories, the current zoning’s residential districts limit the non-residential uses, and its business districts do not differentiate between small neighborhood businesses and larger scale and larger impact retail establishments. Thus within the residential zone districts non-residential uses have been thinning out and within the business districts residential uses were being pushed out along with small scale businesses because of the impact of larger scale retail.
In terms of the lot characteristics, the current zoning falls short of responding to the existing fabric as well. The R2 and R3 residential zone districts (that is most of the neighborhood) require a minimum lot size of 6000 sf with a minimum frontage of 50’, creating a large number of non-conforming properties (see figures 2 and 3). They also ask for an additional 3000 sf of lot for each additional unit, once again making many small duplexes and triplexes non-conforming.

Facing these numerous non-conformities, Denver’s zoning has created an inclusive and rather relaxed definition of “grandfathered” properties where old buildings can be replaced by the new ones as long as the original envelop has been respected. Since the change has been minimal for a few decades, it is only recently that the discrepancy between current zoning and the realities of the neighborhood has become an issue.
In terms of this discrepancy and many other characteristics, the Highland Neighborhood is not unique in Denver. Many other established neighborhoods surrounding the downtown Denver display similar characteristics. This is one of the reasons why the City of Denver initiated an ambitious effort to revisit the entire zoning ordinance and formed the Denver Zoning Code Task Force in 2006.

CODING FOR HIGHLAND’S DIVERSITY

In the spring of 2007 the planning class (URP 6631), taught by the author at the College of Architecture and Planning, University of Colorado at Denver, took on the challenge to produce coding proposals that are aimed at reducing the mentioned
discrepancies between the code and the reality of established neighborhoods. The class met the Denver Zoning Code Task Force and consultants (Winter and Company) in the beginning of the semester, developed proposals for three neighborhoods, and provided two presentations to the Task Force at the semester’s end. Here, because of space limitations, only the coding proposals for the Highland Neighborhood will be outlined.

After extensive analysis of the existing urban fabric-- lot sizes, lot coverages, densities, setbacks, building types, uses, users, types of businesses, parking configurations, etc. -- the class developed a series of lot types to be assigned to various districts with different combinations. Since lot types were the major determinants in their formation, we called these districts “typomorphology districts” (see figure 8 and table 1).

Lot size, lot coverage, bulk characteristics, number of units, and allowed uses are the variables that define a lot type. Lot types are aimed at providing varying setbacks for buildings with differing intensities on differently sized lots. A building may have a large percentage of coverage with very limited setbacks if it is only one story, whereas if it is two and a half stories or three it may need deeper setbacks with smaller coverage to balance the intense effect of its massing.

Figure 7: The “High Intensity Traditional” and “High Intensity Non-Traditional” lot types.
Figure 8: The proposed zoning plan. Instead of use districts this map provides typomorphology districts to which different lot types are assigned.

Figure 4 shows the three lot size ranges of the “Low Bulk Traditional” lot type allowing only one-story high buildings. “Medium Bulk Traditional” lot type (figure 5) increases the height to one-and-a-half stories, allowing a second story located within the gable with the dormers. These building types are very common in the neighborhood and, as mentioned before, many of them have non-conforming lot sizes and setbacks. The height and intensity increases in the “High Bulk Traditional” lot type (figure 6) and reaches their maximums with the “High Intensity Non-Traditional” lot type (figure 8). The “High Intensity Traditional” lot type (figure 7), on the other hand, limits the height to two stories, but increases the lot coverage to a maximum of 75% and allows zero setbacks on the street frontage. Thus it addresses many “Main Street” building types.

Table 1: The table that assigns lot types to typomorphology districts. Note that rather than a single type, a set of lot types are permitted in each district, thus providing choice and enhancing diversity.
Lot types assign uses to the lots as well. Since the impact of non-residential uses depends on their sizes, many small businesses continue to function in predominantly residential areas in the neighborhood. Therefore allowing businesses and limited cottage industries on low and medium bulk lot types (see figure 4 and 5) has proven to be non-controversial. As the buildings allowed on the lots become larger, the size of the businesses should be controlled in areas that are not in corridor typomorphology districts (see the notes on figure 6).

Parking requirements act as another important impediment against small scale investments. The proposed code deals with parking by providing simple base requirements (see table 2). Reductions are allowed for areas close to transit stops. Note that businesses under 1000 sf and eating establishments under 700 sf are not required to provide any parking if the business owner lives within 200 yard of the business. This again addresses many small non-conforming businesses currently active in the neighborhood.

Table 2: The parking requirements

<table>
<thead>
<tr>
<th>RESIDENTIAL UNITS</th>
<th>REQUIRED PARKING</th>
<th>NON-RESIDENTIAL UNITS</th>
<th>REQUIRED PARKING</th>
<th>CAFES AND RESTAURANTS</th>
<th>REQUIRED PARKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Bedroom</td>
<td>1</td>
<td>Less than 1000 sf</td>
<td>0 *</td>
<td>Less than 700 sf</td>
<td>0 *</td>
</tr>
<tr>
<td>2-Bedrooms</td>
<td>1 1/2</td>
<td>1000 sf - 1999 sf</td>
<td>1 per 500 sf</td>
<td>700 sf - 1499 sf</td>
<td>1 per 500 sf</td>
</tr>
<tr>
<td>3-Bedrooms</td>
<td>2</td>
<td>2000 sf - 2999 sf</td>
<td>1 per 400 sf</td>
<td>1500 sf - 2999 sf</td>
<td>1 per 300 sf</td>
</tr>
<tr>
<td>3-Bd or more</td>
<td>3</td>
<td>3000 sf and up</td>
<td>1 per 300 sf</td>
<td>3000 sf and up</td>
<td>1 per 250 sf</td>
</tr>
</tbody>
</table>

Note:
* Businesses allowed to provide no parking if the owner lives within 200 yard of the business.
1. Tandem parking shall count against requirement when both spaces serve the same unit.

Figure 8 presents a zoning map with typomorphology districts and table 1 assigns lot types to these districts. Note that in each district there is more than one lot type choice. The pattern we observe on the proposed zoning map, of corridors with different intensities around the inner, calmer neighborhoods (figure 8), was similar to the other two neighborhoods the class has studied. It is important to underline that even though we see these corridors differentiated from the inner neighborhoods, the proposed coding system does not bring a mutually exclusive differentiation between these zones in terms of use, but a more gradual transition supporting the fine grade of use diversity we currently observe in the neighborhood.

CONCLUSION:

The outlined code proposal for the Highland Neighborhood of Denver, where the lot types approach has been applied to craft a code that can address the complexities of an exciting diverse urban neighborhood, suggests new and exciting horizons. Unlike the way conventional zoning prevents small markets and local urban niche businesses to flourish,
the lot types approach allows its regeneration. This approach protects the diversity of business opportunities, as well as affordable living options in urban neighborhoods. After all, preserving urban fabric is not just about preserving the physical environment, but also about fostering the diverse social patterns and market opportunities that these neighborhoods have offered to the previous generations.

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