Housing and Density Options Study
Prepared for City of Minnetonka

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Anonymous Real Estate Broker Interviewees

Anonymous Land Developer Interviewees

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Executive Summary

The University of Minnesota – Humphrey School of Public Affairs graduate student research team, through the 2012-2013 Resilient Communities Project and the City of Minnetonka, compiled this housing density research report and toolkit to fulfill project #RCP 2012-04a. Using the Minnetonka 2030 Comprehensive Guide Plan (2008) and the Opportunity City Pilot Program Report (2009) as a foundation for housing and land use goals and future recommendations for the City, this report seeks to provide the City of Minnetonka’s Community Development staff and officials with research and guidance on the promotion of a full range of housing choices through future pursuit of increased housing density on small-lot residential infill development sites throughout the community.  

Community Profile

The City of Minnetonka is a western 3rd-ring suburban community in Hennepin County and the Twin Cities metropolitan area. The community’s population of 49,734 is the 14th largest in the seven-county metropolitan area, and the 17th largest within the state of Minnesota.  

The land area of Minnetonka is 26.93 square miles, and the water area is 1.29 square miles, totaling 28.22 square miles. Developable land throughout Minnetonka is nearly 100 percent developed. Simultaneously, the City’s minimum lot size for a detached, single-family home in a Low Density Zoning District remains at .5 acres. This has contributed to a bucolic, township-like character in various residential zones throughout Minnetonka, which did not legally incorporate into a village until 1956 and into a city until 1968. Furthermore, Minnetonka’s housing stock is aging; over 91 percent of the residential properties were constructed before 1990. Large parcels...
EXECUTIVE SUMMARY

of land, contributing to high housing resale prices, and aging homes are creating numerous challenges for the City.4

Like many other communities around the Twin Cities, Minnetonka is also undergoing some notable demographic changes, which will play a significant role as the City and metropolitan area continue to evolve and adapt over time. One of the most notable shifts that Minnetonka has already seen is within the City’s share of residents between the ages of 25 and 44, which is smaller than surrounding communities such as Eden Prairie, Minneapolis, Plymouth, and seven percent below this age-group share for Hennepin County (see Table i). Additionally, the City’s share of population over the age of 65 is nearly twice the share of Eden Prairie and Minneapolis, and is seven percent higher than the overall share for Hennepin County.

Table i: Age Distribution of Population in Surrounding Communities

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<tr>
<th>Population Age Groups</th>
<th>Minnetonka</th>
<th>Eden Prairie</th>
<th>Minneapolis</th>
<th>Plymouth</th>
<th>Hennepin County</th>
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<tr>
<td>0 - 17 years</td>
<td>21%</td>
<td>26%</td>
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<td>24%</td>
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<td>18 - 24 years</td>
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<td>25 - 44 years</td>
<td>23%</td>
<td>28%</td>
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<tr>
<td>45 - 64 years</td>
<td>33%</td>
<td>31%</td>
<td>22%</td>
<td>30%</td>
<td>27%</td>
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<td>65+ years</td>
<td>17%</td>
<td>9%</td>
<td>8%</td>
<td>12%</td>
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</tbody>
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Source: U.S. Census Bureau, 2010 Decennial Census, Summary File 1, Table P001, 2012.

Mid-Priced Housing

With the housing challenges and changing demographics in mind, the question shifts to how the City of Minnetonka can continue to meet significant housing goals incorporated into the 2030 Comprehensive Guide Plan. The main question for this report’s purposes, of course, is how Minnetonka will continue to diversify its housing choices throughout the City. Low and high-end housing is readily available, but housing to meet the needs, preferences, and values of young families/move-up buyers and aging baby boomers is often financially out of reach due to the size of parcels and land costs, or it is outdated and undesirable. So, to find a starting point, what is affordable for these middle market demographic groups that Minnetonka seeks to attract and retain?

The graduate student research team sought market insight from local real estate brokers and land developers to begin to make progress on this question. The research team found that consideration of the affordable housing metrics estimated by the Metropolitan Council, in combination with additional market metrics and research, an appropriate range for the City of Minnetonka to pursue falls between $200,000 and $350,000. Given the high land costs and large parcels frequently found in Minnetonka, however, the city must pursue small-lot development to make this middle market price range a reality.
However, a focus on pricing alone is not what will attract and retain the targeted demographic groups; basic real estate sales data alone tells us that many real estate transactions within the City already fall within or close the aforementioned price range. The qualitative research gathered from real estate and developer interviews continually pointed to a housing stock that is unappealing to these targeted buyers, so it is unlikely that these transactions capture what the local real estate market looks like for the targeted, middle market buyers.

**Design: Suburban Development Values, Challenges, and Solutions**

As noted, the pursuit of new single-family construction on small-lot infill development is a step in the right direction for diversifying housing and attracting and retaining the middle market demographic groups. However, there is still one major element missing from the solution: design. In recent decades, contemporary suburban development has shifted away from meeting values and preferences of the suburban homebuyer and toward creating prototype housing with minimal character, landscaping, and connection to the community and surrounding environment. In addition to being unappealing to potential buyers, this is especially problematic when considering how to best make small-lot development work well in existing, well-established, traditional neighborhoods of Minnetonka.

A shift toward meeting the social and physical values of positive relationships with neighbors, privacy, safety, security, attractiveness, flexibility, natural beauty, and outdoor living once again is crucial if the City of Minnetonka is going to effectively pursue small-lot infill development that is attractive for the middle market demographic groups.

**Design Toolkit**

The included design toolkit supplements the previous research regarding social and physical suburban development values, contemporary challenges, and solutions. It presents an assortment of six interrelated tools to be used in the design of housing, parcels, streets, and community green spaces to fulfill the previously identified social and physical values (i.e. positive relationships with neighbors, privacy, safety, and status; attractiveness, flexibility, natural beauty, and outdoor living) on smaller, detached single-family, lots.

The recommended design tools include the following methods:

- **Create layers** from the public to private realms
- **Program all spaces** on the lot for use
- **Create a buffer**/conservation easement
- **Pursue** deep and narrow lot configuration
- **Reconfigure garages** and storage space
EXECUTIVE SUMMARY

- **Rethink** the meaning and use of **the street**

Ultimately, fulfilling the social and physical values with these practical design methods for small-lot development means creating an appealing, middle-market housing product for the young family/move-up buyer and baby boomer demographic groups that the City of Minnetonka seeks to attract and retain.

**Community Engagement**

Finally, after having addressed the issues around mid-priced metrics to create attractive housing for young family and aging boomer buyers, as well as providing a set of design tools to make a better suburban environment, the pertinent question now is of how to turn these concepts into tangible steps for the City of Minnetonka to pursue in its efforts to redevelop residential infill sites as small-lot developments.

A three-phase process is proposed that shifts the development process from one that was transactional in nature to a comprehensive process that seeks to:

- **Engage** the community
- Create a set of **community-driven development/design guidelines**
- **Build consensus** among stakeholders
- Provide an environment that allows developers and architects to work creatively and to **minimize the financial risk** of disruption and delay
- **Evolve to a newly articulated approach** to infill development that, rather than being more of the same on a smaller footprint, actually adds value through **design to the neighborhood and the city**.

**Recommendations for the City of Minnetonka**

1. **Focus Less on Price, and More on Meeting Values:** This housing and density options study concludes that the City of Minnetonka’s goal to continue diversifying its housing stock by providing small-lot, mid-priced housing for middle market buyers (young family/move-up and baby boomer age groups) will be most plausibly met by **creating a housing product that matches the social and physical values of the buyers and the community**.

2. **Pursue Small-lot Development:** In order for the City of Minnetonka to provide housing that meets these values, is attractive, and is financially feasible ($200k - $350k) for the targeted demographic groups, the City needs to proactively pursue providing housing on smaller, more affordable pieces of land as infill development opportunities arise throughout the City.
3. **Create an Intentional, Interwoven Design:** The way to effectively develop the desired housing stock diversity, target the desired middle market buyers, and meaningfully incorporate suburban development values such as privacy, natural beauty, safety, and positive relationships with neighbors is to **intentionally use design as a solution.** Deep and narrow lots, pervious pavement materials, natural, well-landscaped buffers, and dedicated community spaces will help create a beautiful, desirable product.

4. **Utilize the Design Tools & Engage the Community:** The specific tools discussed in the Design Toolkit enable the City of Minnetonka to have a launching point from which to begin the public engagement process, which starts with **providing education about density** (see Appendix B). Ultimately, however, the city plans to incorporate the concepts raised in this report to its future land use and development, it must **always act on the principle that public engagement (and buy-in) are essential.**

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1. While “small-lot” development can take on many definitions, all references to this type of residential development within this report are referring to lots less than .5 acres, and generally falling within a range of approximately .15 to .3 acres.
2. (City of Minnetonka, 2008)
3. (U.S. Census Bureau, 2010)
4. Ib.
5. (Urban Land Institute & Regional Council of Mayors, 2009)
Introduction to the Housing and Density Options Study

The University of Minnesota – Humphrey School of Public Affairs graduate student research team, through the 2012-2013 Resilient Communities Project and the City of Minnetonka, compiled this housing density research report and toolkit. Using the Minnetonka 2030 Comprehensive Guide Plan (2008) and the Opportunity City Pilot Program Report (2009) as a foundation for housing and land use goals and future recommendations for the City, this report seeks to provide the City of Minnetonka’s Community Development staff and officials with research and guidance on the promotion of a full range of housing choices through future pursuit of increased housing density on small-lot residential infill development sites throughout the community.

The research and guidance in the following report is divided into seven components, and begins with a community landscape, demographic, and housing profile. This updated data is critical as part of the effort to properly understand the land use and demographic composition of the City, and in order to inform policy goals, shape infrastructure investment, and foster development opportunities for the future.

Secondly, the report outlines market and development conditions related to housing in the City, including a synthesis of Minnetonka’s role in the regional marketplace. The questions regarding mid-priced housing parameters and “market leakage” to nearby communities are also addressed. Additionally, an overview of the Lone Lake Highlands subdivision, a PulteGroup Inc. development, is included in order to provide insight regarding future small-lot single-family development in Minnetonka.

Next, in order to provide insight into the demand characteristics of suburban home buyers, we provide a framework for the analysis of suburban design. Because the Minnetonka scenario is so unique throughout the country, four brief case studies of residential development throughout the U.S. are included in order to highlight the successful use of intentional design elements to meet suburban values. Important takeaways about the significant role that design played in the acceptance of these medium and higher density single-family residential projects are also addressed.

This analysis of suburban design culminates in a design toolkit for the City of Minnetonka, based on the four case studies, for small-lot, single-family, suburban development. This toolkit recommends six areas of focus for integration into future design guidance documents for small-lot single-family, suburban development. These design tools include:

- Using landscaping, front porches, and other design elements to create a series of layers from the public to private realm of a home.
INTRODUCTION

- **Programming all spaces on the lot**, especially the “in-between” spaces such as the side yard and alley, as well as a communal space for gathering and playing
- **Providing a buffer or conservation easement** to create a natural and appealing transition area between existing neighborhoods and infill development
- **Using deep and narrow lots** and corresponding design principles for efficient use of space and added visual and community cohesion
- **Rethinking** the purpose of the street on low-volume local roads, and utilizing the opportunity to reinterpret the street as a unifying design tool that can be safely interpreted for many purposes by those who live in the neighborhood

Finally, before addressing the recommendations and future research areas for the City, the implementation issue of public engagement and neighborhood acceptance is addressed. Appendix B includes a flow chart of a proposed, three-phase engagement process for future infill development, to visually illustrate how the process, timeline, and stakeholders may align in Minnetonka’s future infill development projects.

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6 This research report and toolkit fulfills the Resilient Communities Project #RCP 2012-04a.
7 While “small-lot” development can take on many definitions, all references to this type of residential development within this report are referring to lots less than .5 acres, and generally falling within a range of approximately .15 to .3 acres.
8 (City of Minnetonka, 2008)
9 Importance of demographics data in decision making and planning is also emphasized in Chapters IV (Existing and Planned Land Use) and V (Housing Plan) of the 2030 Comprehensive Guide Plan.
10 lb.
Community Profile: Minnetonka, Minnesota

The City of Minnetonka is a western 3rd-ring suburban community in Hennepin County and the Twin Cities metropolitan area (see Figure 1). The community’s population of 49,734 is the 14th largest in the seven-county metropolitan area, and the 17th largest within the state of Minnesota.¹¹

Land and Housing

The land area of Minnetonka is 26.93 square miles, and the water area is 1.29 square miles, totaling 28.22 square miles. The City is home to the eastern tip of Lake Minnetonka, one of the largest lakes in Minnesota, as well as the Minnehaha Creek and many other significant natural resources, all of which play a critical role in land use and development throughout the City.¹²

While developable land throughout Minnetonka is nearly 100 percent developed, the City’s minimum lot size for a single-family home in a Low Density Residential District remains at .5 acres, which is also the median acreage of owner-occupied residential properties throughout Minnetonka today (see Table 1). This lot size is among the largest low-density minimum lot acreage requirements for communities within the seven-county metropolitan area, and has contributed to a bucolic, township-like character in various residential zones within the City, which did not legally incorporate into a village until 1956 and into a city until 1968.¹³

Residential property ownership and occupancy types in Minnetonka also aid in illustration of the City’s residential landscape: out of the 21,901 occupied housing units in Minnetonka (94 percent occupancy rate), nearly 3/4ths of the properties (attached and detached single-family) are owner occupied (73.4 percent); 26.6 percent of homes, apartments, and townhomes are renter-occupied.¹⁴
The median estimated market value of these single-family, owner-occupied residential properties (11,475 parcels) is $280,000, as of April 30, 2012. Related to the relatively large median parcel size of the City, the median estimated land value is $150,000, nearly 54 percent of the median total property value, thus, the median estimated building value, $127,600, is 46 percent of the overall value. While the share of land to building value is undoubtedly high for the Twin Cities metropolitan area, due to the typical parcel size, the average estimated building value of these properties, $174,150, is also worth noting. Twin Cities stereotypes often confuse Minnetonka with other small communities’ notably large properties along the shore of Lake Minnetonka, and although this is incorrect (as the City only borders the lake along one public-access bay and has minimal lakefront properties), there are a number of larger residential properties throughout the city that that skew the average building value nearly $50,000 higher than the median.

These single-family residential properties have a median finished area of 1,515 square feet (average: 1,716 square feet), and a median construction year of 1964, four years prior to its incorporation as a city. Furthermore, nearly 91 percent (10,454 parcels) reflect a construction year at or before 1990, which is significantly older than the housing stock of communities to the north and west of Minnetonka, such as Eden Prairie and Plymouth.

**Population Distribution**

As of 2010, there are 21,901 households and 13,619 families within these households. 5,468 families, or nearly 25 percent of the households, include children under the age of 18.

Figure 2 depicts the age distribution of the City’s population, as of the 2010 Census. Notably, the City’s share of residents between the ages of 25 and 44 is smaller than surrounding communities such as Eden Prairie, Minneapolis, Plymouth, and seven percent below this age-group total for Hennepin County, as outlined in Table 2.
Minnetonka’s share of population by age group, relative to the other communities and Hennepin County, reverses with the population group generally deemed the Baby Boomers (45 to 64 years of age); the City has the largest share of this age group, which is six percent larger than Hennepin County’s share of Baby Boomers. Furthermore, as emphasized in the Opportunity City Pilot Program Report, the share of Minnetonka’s aging population is also noteworthy: 17 percent of the City’s population (3,490) is 65 years of age or older, while the share of this population group in surrounding communities and Hennepin County is five to nine percent smaller (Table 2).

### Table 2: Age Distribution of Population — Comparison to Surrounding Communities

<table>
<thead>
<tr>
<th>Population Age Groups</th>
<th>Minnetonka</th>
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<tr>
<td>0 - 17 years</td>
<td>21%</td>
<td>26%</td>
<td>20%</td>
<td>24%</td>
<td>23%</td>
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<tr>
<td>18 - 24 years</td>
<td>6%</td>
<td>7%</td>
<td>15%</td>
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<td>12%</td>
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<tr>
<td>25 - 44 years</td>
<td>23%</td>
<td>28%</td>
<td>35%</td>
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<tr>
<td>45 - 64 years</td>
<td>33%</td>
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<td>65+ years</td>
<td>17%</td>
<td>9%</td>
<td>8%</td>
<td>12%</td>
<td>10%</td>
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</tbody>
</table>

Source: U.S. Census Bureau, 2010 Decennial Census, Summary File 1, Table P001, 2012.

11. (U.S. Census Bureau, 2010)
12. Ib.
15. Parcel evaluation excludes 6 parcels on Lone Lake Loop; data does not reflect the reassessed land value
16. (Metropolitan Council - MetroGIS, 2012)
17. 225 records have an imputed estimated square feet value of ‘0’ and were excluded from this calculation
18. (Anonymous Interview 3, 2012)
19. (U.S. Census Bureau, 2010)
20. (U.S. Census Bureau, 2010)
21. (Urban Land Institute & Regional Council of Mayors, 2009)
Analysis of Mid-Priced Housing

i. Mid-Priced Housing and Community Migration

The construction of numerous multi-family developments throughout the area helped to ensure the City of Minnetonka’s success in meeting the Metropolitan Council’s Livable Communities Act goals for the past 15 years. Minnetonka also provides high-end housing stock with large lot sizes to residents that are able to afford the associated higher land costs. However, while Minnetonka provides sufficient housing opportunities for families in the low and high income ranges, it has struggled to supply housing in the middle of the market that fits the preferences of young families searching for larger properties to better accommodate the needs of their growing family (move-up buyers) and those of downsizing baby boomers.

Based on interviews with local real estate agents and land developers, the research team identified the mid-priced range as $200,000-$350,000 for the targeted move-up buyer and downsizing baby boomer. Although Minnetonka provides plenty of mid-priced housing according to this definition, its property offerings within this price range are typically unappealing to the target market. As a result, the region’s move-up buyers and downsizing boomers are settling in communities that provide housing which matches their preferences and also meets their mid-range budgets.

This report refers to the failure of the local housing market to compete with neighboring communities in the mid-priced range as market leakage. To date, the three communities pulling the most residents from Minnetonka are Minneapolis, Plymouth, and Eden Prairie, and the relative strength of these communities as “destination” cities for former Minnetonka residents extends back nearly a decade (see Table 3).

Table 3: 2004-2010 Residential Relocation Destinations

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<td>14</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>1,501</strong></td>
<td><strong>467</strong></td>
<td><strong>502</strong></td>
<td><strong>740</strong></td>
<td><strong>974</strong></td>
<td><strong>1,036</strong></td>
<td><strong>595</strong></td>
</tr>
</tbody>
</table>

Source: Excensus, LLC., 2011.
In order to address this consistent market leakage and help the City address its goal of creating housing that appeals to young families and the aging baby boomer population, a set of standardized parameters to define mid-priced housing for new developments was identified as a potentially helpful planning tool. However, identifying an accurate portrait of Minnetonka’s housing market has been challenging for City officials and staff, and there has been a struggle to define the correct lower and upper price limits of mid-priced housing.

ii. What is Mid-Priced Housing?
There are a number of ways to understand what constitutes an affordable home for families in Minnetonka and the Twin Cities region. In order to paint a picture of what families in Minnetonka are able to afford and what the Minnetonka market is able to provide, the research team explored affordability metrics from the Metropolitan Council, median family incomes in Minnetonka and the larger region, and current housing market trends in Minnetonka.

Affordability measures from the Metropolitan Council establish a baseline for what families in the Twin Cities region can afford, and can be adjusted slightly for Minnetonka to compensate for the higher localized family incomes. According to the Metropolitan Council’s 2012 estimations, an owner-occupied unit is considered “affordable” if its price is less than $171,500. This measure is slightly more than two times the Twin Cities 2012 Area Median Income (AMI) of $83,900 for a four-person family, and is based off of a monthly mortgage that is no more than 30 percent of 60 percent of the AMI ($50,340).

It is important to note that the median family income in Minnetonka was $108,502 in 2011 (2012 inflation-adjusted dollars), which is significantly higher than the aforementioned Twin Cities AMI. Similarly, it is also relevant to note that the 2012 Metropolitan Council affordability calculation methodology shifted significantly from 2010 in order to set more aggressive targets for the 2012 Livable Communities Act and align closer to the methodology adopted by the Metropolitan Housing Implementation Group. The 2010 affordable housing target was based off an annual income of 80 percent of the AMI ($84,000), which calculated to an affordable housing price of $233,100. Although methodology has also been slightly adjusted to accommodate for lowered interest rates and adjustments in the Federal Housing Administration’s underwriting policies, a 2012 affordable housing calculation using the same basic parameters as the 2010 formula would closely resemble $233,100.

If a similar affordability calculation is used for families in this income bracket, a price range of $200,000-$300,000 would not be unreasonable. As the City of Minnetonka considered the appropriate range for mid-priced housing, the Economic Development Advisory Committee (EDAC) stipulated that new development units would not exceed a sale price of $500,000. While this upper limit may be appropriate for some families, the data on both local and regional
median incomes show that a lower and more specific affordability target may need to take priority over broad ranges that include very high income families.

Reviewing recent data on home sales in Minnetonka reveals that there are strong home sales within the range that could be considered affordable based on regional and local family incomes. While home sales have been slowing in recent years, the median and average sale prices of $254,000 and $289,806, respectively, suggest that current home sales may not deviate significantly from what the typical family can afford (see Table 4). However, if the data is segmented by single-family home type, the average sale price of detached single-family homes was an additional $10,000 than the overall average in November 2012, at $299,900 (see Figure 3). These prices are much lower than what Minnetonka officials and staff have identified as the upper threshold limit for mid-priced housing.

Table 4: Minnetonka Single-family Real Estate Activity

<table>
<thead>
<tr>
<th></th>
<th>Minnetonka</th>
<th>October</th>
<th>Change</th>
<th>November (Year to Date)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
<td>2012</td>
<td></td>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td>New Lists</td>
<td>103</td>
<td>90</td>
<td>-12.6%</td>
<td>1,030</td>
<td>1,005</td>
</tr>
<tr>
<td>Closed Sales</td>
<td>45</td>
<td>66</td>
<td>46.7%</td>
<td>538</td>
<td>673</td>
</tr>
<tr>
<td>Median Sale Price</td>
<td>$209,000</td>
<td>$257,000</td>
<td>+23.0%</td>
<td>$232,000</td>
<td>$254,000</td>
</tr>
<tr>
<td>Average Sale Price</td>
<td>$254,380</td>
<td>$280,054</td>
<td>+10.1%</td>
<td>$277,876</td>
<td>$289,806</td>
</tr>
<tr>
<td>Price/ Square Foot</td>
<td>$107</td>
<td>$122</td>
<td>+13.8%</td>
<td>$116</td>
<td>$119</td>
</tr>
<tr>
<td>Days on Market Until Sale</td>
<td>128</td>
<td>94</td>
<td>-26.3%</td>
<td>163</td>
<td>123</td>
</tr>
<tr>
<td>% of Original List Price Received</td>
<td>90.8%</td>
<td>93.6%</td>
<td>+3.1%</td>
<td>90.0%</td>
<td>93.3%</td>
</tr>
</tbody>
</table>


It is paradoxical that Minnetonka has struggled to attract and retain young families when the data suggest that the typical family in Minnetonka and the Twin Cities could afford many Minnetonka homes. Qualitative data from local real estate brokers and developers add to the discussion of mid-priced metrics and discuss buyer preferences that may not be met in the Minnetonka market for young families and aging baby boomers.

MID-PRICED HOUSING

iii. Broker and Developer Insight: Middle Market Metrics

Interviews with local real estate brokers and land developers provided valuable insight into buyers’ preferences and identified shortfalls in Minnetonka’s housing market that cannot be explained by housing prices alone. When the interviewees were asked what the City’s mid-priced housing metrics should be, some inconsistencies were identified, revealing that Minnetonka’s housing market can support substantially higher prices than its target buyers can afford. However, the interviewees were consistent in suggesting that the typical young family looking for their first “move-up” home in the Twin Cities region would struggle to afford a home priced higher than $300,000. This leads us to recommend a ‘mid-priced’ range of $200,000-$350,000, yet compels us to consider the demand characteristics of the target market in order to create a housing stock that suits their needs and budget.

One realtor assessed that a mid-priced housing goal in Minnetonka should be $300,000, but cautioned that Minnetonka properties that meet this affordability target would not be considered attractive to family or baby boomer buyers because they lacked amenities that are desirable to those consumer groups.\(^{35}\) Housing options tend to be limited by a constrained budget, especially for young families.\(^{36}\) For their next home purchase, these buyer groups are both looking for properties in the $200,000 to $350,000 range.\(^{37}\) Naturally, communities that have lower housing prices coupled with the amenities that young families and baby boomers seek will attract these residents. Plymouth and Eden Prairie were commonly cited as drawing the most interest, as well as the communities of Shakopee, Chaska, and Golden Valley.\(^{38}\)

iv. Broker and Developer Insight: Middle Market Preferences

Although the brokers show agreement on what target buyers can afford, they diverge on what the mid-priced housing range should be and what the market can support. They point out that it is very difficult for young families and aging baby boomers to afford the home that they desire in Minnetonka, due in part to the significantly high land costs associated with Minnetonka’s typically large lots. The high prices also suggest that there may not be enough competition in the local housing market for housing that matches the preferences of young families and baby boomers to drive prices down. In order to better understand the preferences of these market segments, interviews also focused on questions to derive a better understanding of preferences. Interview results are summarized below, according to both target demographic groups.

Downsizing Boomers:

- **Proximity to Family:** Older residents want to be closer to their children so they can continue to play an active role within their family’s life.\(^{39}\) This may help explain why residents choose to age in place even though their housing no longer meets their needs.
Reduced Upkeep: Older residents do not want to deal with the burden of yard, facility, and building maintenance. Properties that offer upkeep services are extremely desirable to these buyers. However, properties that offer these services tend to be most affordable the further the distance from Minneapolis.

Storage and Extra Bedrooms: If unable to live near their relatives, older residents want the ability to host them during short visits. Thus, attractive properties have one or two spare bedrooms. Additionally, older residents demand storage space for the goods they have accumulated over the years. Collectively, these needs drive up the purchasing price.

Young Families and Move-Up Buyers:

Mobility and Access to Jobs/Services: Minnetonka’s close proximity to major arterial roadways within the regional transportation network ensures convenient access (via automobile) to jobs, services, entertainment, and other attractions in and around Minneapolis. The location of the City relative to the regional transportation network and downtown Minneapolis (approximately 15 miles northeast of Minnetonka) affords residents the opportunity to enjoy single-family residential living without having to dedicate significant time and energy to commuting.

Newer properties with lots of updates: Young buyers, especially those with children, want to move into properties that require little renovation or updating. Since a majority of the properties in Minnetonka are more than 10 years old, potential buyers often overlook a large portion of the locally available housing opportunities. In comparison, the housing stock in nearby communities like Plymouth is newer and, therefore, more attractive for young buyers. These properties also tend to offer the following amenities that are largely absent from the more affordable properties in Minnetonka:

- Hardwood floors
- Open floor plans
- New appliances
- Granite countertops
- Constructed within the last 10 years
- Flexible workspace adjacent to kitchen
- Other non-programmed rooms that evolve as a family’s needs change
Quality School Districts: Young families want their children to have access to quality school districts. The City’s three districts, Minnetonka, Wayzata, and Hopkins, have been nationally recognized for their performance, innovation, and continued focus on providing quality education. One interview pointed out that the consistent draw of population from Minneapolis to Minnetonka (see Appendix A) is due to families seeking more space and a better (public) school district, such as the Minnetonka or Wayzata districts.

Recreational Opportunity: Prospective buyers want to be able to enjoy the outdoors in a safe and open environment. Minnetonka’s extensive trail network, varied topography, and balanced development design is ideal.

Minnetonka Housing Stock Mismatch
While downsizing boomers and move-up buyers have different housing preferences, both have limited options in Minnetonka. Since a majority of older residents live on a fixed income, their housing needs are limited to their budgeted retirement pay. Move-up buyers, similarly, may have capital limitations imposed by limited work experience. Although Minnetonka has housing available in the $200,000 to $350,000 price range, these properties tend to be outdated ramblers or split-level configurations that remain unappealing to these targeted segments of buyers. Properties that do meet some buyers’ preferences within the City remain unaffordable because the combination of a large amount of land, its value per acre, and renovation is financially out of reach.

In contrast, communities like Eden Prairie and Plymouth offer housing stock that matches buyers’ preferences within their budgets. For younger families, these communities have an ample supply of recently built properties that offer consumers the newest amenities and designs, while still providing a comparable quality of schools and access to other amenities; travelers often disaggregate transportation and fuel costs from other, less segmented expenditures in their lives, and this same oversight of added transportation costs occurs when buyers see opportunity for an updated property at a lower cost in communities further from the urban core (requiring additional commute time). For downsizing boomers, these markets offer properties that are easy to maintain, yet large enough to accommodate visitors.

Recommendation: Redefine Mid-Priced Housing to a Focus on Product
If the City of Minnetonka is interested in retaining and attracting young families and aging baby boomers, the research team recommends that mid-priced housing be defined in terms of the specific demand characteristics of buyers in the metro area, in combination with their budgetary constraints. Of course, this is in contrast to defining mid-priced housing solely as a price range
that could be supported by broader market demand for single-family homes in Minnetonka. Instead of assuming that the targeted demographic groups are inherently interested in purchasing mid-priced single-family housing in the City, no matter the product, this new paradigm shifts to a focus on a product that meets preferences of the targeted demographic groups and intentionally incorporates design to make the housing attractive to these buyers.

Undoubtedly, price is still a very significant component of creating a successful housing product that aims to be affordable for middle income buyers. However, the data regarding the upper and lower bounds of this middle market is somewhat ambiguous, and is further complicated when additional affordability measures are considered. A look at a recent development in the following sub-section of this report, as requested by the Community Development Department staff, aims to consider price and garner lessons learned for the City’s future infill development efforts.

vii. A Review of the Lone Lake Highlands Development

The Lone Lake Highlands development is a 21-parcel single-family subdivision located near the intersection of Trunk Highway 62 and Bren Road, and is a recent example of small-lot single-family residential infill development within the City of Minnetonka (see Figure 4). In order to gain insight on the development and the market for small-lot infill development, members of the research team held an in-depth interview with the site developer and homebuilder, PulteGroup, Inc. The research team met with Ian Peterson (Vice President of Land) and Mick Cermack (Director of Land Acquisition in November 2012 for the interview.

Project Background

Prior to subdivision, the original five acre parcel (see Figure 4, shown in orange) was acquired in 2010 through private purchase from the land heir. Prior to acquisition, the land was occupied by the original farmstead. PulteGroup’s Minnesota division, one of many regional segments of the nation’s largest homebuilder and financial services company, was attracted to the site’s location within the I-494 beltway and proximity to Minneapolis and St. Paul (the urban core), arterial roadways, schools, and employment sites. In fact, Peterson noted that location was essentially the most significant factor in his decision to acquire the privately owned parcel for Pulte to pursue subdivision and redevelopment.
Zoning
The parcel was zoned as part of a Medium Density Residential District at the time of purchase and development. As dictated by the District’s zoning, the redeveloped site was required to have more than four and less than 12 units per acre. Subsequently, the average parcel size within the subdivision is .205 acres (4.8 units per acre) and the median is .185 acres (see Figure 4). However, because of topography, maximum site utilization, and access configuration, the parcel sizes range from .16 acres (6,970 square feet) to the corner lots at .29 acres (12,632 square feet).

Figure 4: Lone Lake Highlands Subdivision - Parcel Map

Source: Metropolitan Council - MetroGIS shapefiles, MetroGIS Regional Parcel Dataset (4/30/12), ESRI ArcGIS - Microsoft Bing Basemap

Buyer Profile
Buyers seeking to purchase homes in the Lone Lake Highlands development aligned closely with those that the City of Minnetonka is generally seeking to attract and retain: young families in search of move-up housing, as well as a few recently retired families looking to downsize and eliminate yard maintenance duties. An interesting insight garnered from Peterson and Cermack was that the majority of buyers in the development previously lived within the Minnetonka school district and their property search intentionally stayed within the district’s boundary.\textsuperscript{55} Peterson noted that the company’s residential infill development projects in other Twin Cities
communities (i.e., Arden Hills, Roseville) are also primarily driven by buyers looking for a new construction opportunity within their existing school district, regardless of whether the opportunity falls within the municipal boundaries of their previous property.56

Pricing

The interview with PulteGroup revealed that the development was intended to sell near a price point of $370,000. However, aside from Cermack briefly mentioning that the original prices may have been too low, and that future PulteGroup development in the local market would aim for higher pricing, no additional details regarding price were addressed. The company’s webpage for Lone Lake Highlands notes that homes range from $384,990 (2 bedrooms, 3 bathrooms) to $446,990 (4 bedrooms, 4.5 baths).57

The public data currently available shows a much higher sale price than the original $370,000 target (see Table 5). Specifically, the web-based Hennepin County Property Information search data indicates that the average sale value within this 21-lot development was $476,228 (median $475,669), and that sale prices ranged from $417,429 and $563,088. This data is somewhat limited because it only includes sale data for 16 homes, as of December 2012; the Pulte interview indicated that three parcels remained unsold, so the two properties unaccounted for are likely October or November 2012 sales that have not been fully processed by Hennepin County. Additionally, the assessed land and building market value is unavailable for these properties.

A final insight regarding the sales data relates to the distribution of sales by parcel size and sale price. One may anticipate that the market would trend toward the purchase of the smaller parcels or larger, corner parcels early or late in buy up period. However, aside from the five remaining parcels at .16 and .17 acres, the dispersion of the sales of the median-size and large parcels does not show any shocking trends. The average parcel size sold between January and June was .205 acres (median .185 acres), and the average from July through November was .226 (median .240), slightly higher skewed by the later sale of two large parcels. Interesting, though, is that the larger properties (despite the views) tended to be those that sold for less than the lots between .19 and .24 acres. Square footage of the properties would aid this analysis in the

<table>
<thead>
<tr>
<th>Table 5: Lone Lake Highlands Parcel and Sales Price Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel Size:</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
</tr>
<tr>
<td>(Acres)</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>.205</td>
</tr>
<tr>
<td>Sold Properties (16 units)</td>
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<tr>
<td>2012 Sales:</td>
</tr>
<tr>
<td>(Acres)</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>.215</td>
</tr>
<tr>
<td>Jan– June:</td>
</tr>
<tr>
<td>(Acres)</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>.205</td>
</tr>
<tr>
<td>July – Nov:</td>
</tr>
<tr>
<td>(Acres)</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>.226</td>
</tr>
</tbody>
</table>

Source: Hennepin County Property Information search, December 2012.
future, and may point to a more definitive coupling of property features that are most appealing to Minnetonka’s targeted demographic groups when packaged together.

Additionally, Peterson and Cermack shared that among the local housing stock priced between $350,000 and $450,000, nearly 90 percent was constructed before 1990, while only two percent of the stock within this range was new construction at the time of project development (2010). This lack of supply (competition) at the time of their internal pricing analysis has persisted through today. However, an analysis of the supply of housing within the broader range of $350,000 to $575,000 would be helpful to understand the existing supply of the price range Pulte actually operated within at Lone Lake Highlands.

What Worked Well?

As previously noted, the location of the site – proximity to central cities, arterial roadways, businesses, within the beltway, etc. – was one of the most significant factors to the site’s successful development. Additionally, the surrounding High Density Residential District zoning was helpful for the project’s relatively smooth proposal and approval process with the city and surrounding neighborhoods. When asked if the company would pursue another project like Lone Lake Highlands in Minnetonka, Peterson and Cermack responded, “We’d do a hundred of them.” As noted above, a lack of competition for new construction under $750,000 in the local market also helped Pulte’s pricing, profit, and relatively fast buy-up in 2012.

Challenges

The topography of the original site and the surrounding, hilly land created two different challenges for Pulte. First, aside from the northern perimeter of the parcel that was previously flattened to meet the elevation of Bren Road, there is a vertical decline in elevation at the site perimeter. While this change in elevation contributes to a more intriguing landscape and scenic views, Pulte’s site design had to accommodate for this landscape with the engineering and construction of structural retaining walls, corresponding drainage, and adjustments to the rear façades and floor plans.

Lone Lake Highlands

Credit: K. Nesse (co-author), 7 December 2012, Minnetonka, JPEG.
The second topography challenge was on central part of the parcel that is now surrounded by Lone Lake Loop and is occupied by two parcels. Originally, this area of the site had a hill that rose to approximately 20 feet higher than the surrounding elevation. Nearly 30,000 cubic yards of material was removed from the site to flatten the hill and create two suitable parcels for construction.

Although these topography challenges and associated costs are not unfamiliar territory for Pulte or other developers (and are certainly relevant to other potential infill sites in Minnetonka), it is not unusual for topography to be cited as a challenging to the design and finances of a project. Paired with this second topography challenge, however, was the zoning for the site. Original site plans included the 19 perimeter parcels and a planned community green space (or other amenities) in the center of Lone Lake Loop, but the project was not approved until these final two parcels replaced this communal open space to meet the existing medium density zoning.

**Lessons Learned for Future Small-Lot Infill Development**

Although a small amount of sales data could not be included in the cost analysis (nor the assessed market value data for all homes), it is relatively clear that the final sales prices of the units within the Lone Lake Highlands development are outside of this report’s recommended range for mid-priced housing. It is challenging to garner much additional, objective information regarding price points from this development, as Pulte’s analysis was based off of shortages of new construction and homes newer than 1990 for properties between $350,000 and $450,000. Of course, the additional factor that makes it hard to derive conclusive and applicable analysis from the development is that the average (and median) price of the 16 homes that have sold is approximately $476,000, and the range of sold properties includes only three homes that were under $430,000 (within $60,000 of the intended $370,000 price point). Nonetheless, as previously mentioned in this report, the research team continues to recommend less of an emphasis on pricing, and much more of an emphasis on the design of a product and its appeal to the targeted demographic groups and surrounding neighborhood on future small-lot developments.

Perhaps some of the most helpful information derived from the review of Lone Lake Highlands, however, is that it would be wise in terms of affordability to push toward development density closer to the upper limits of the medium-density zoning requirements (“less than 12 units per acre”). Crucial to this, though, is that flexibility must be incorporated at the lower end of the City’s medium-density zoning requirement (four units per acre) for developers to find and build the right mix and format of units to make their own finances feasible. This is especially relevant in cases where marginal increases in density could be replaced by community amenities. The intangible value of communal spaces and amenities will be addressed later in this report.
Finally, it is imperative for the City of Minnetonka staff and officials to remember that the ease of neighborhood approval and implementation of Lone Lake Highlands was highly related to the surrounding land use and context. A majority of the applicable sites for future infill development in the City do not have similar land use dynamics, and Pulte’s ease with the process of developing single-family residential homes on small lots is very unlikely to be duplicated again in the foreseeable future.

In order to address this, and in order for the City to make a successful broader effort to attract its target “middle” market buyers, well designed products are essential. The role that design principles play in meeting the values and preferences of suburban home buyers and creating an outcome that is not only acceptable to surrounding neighborhoods, but that adds value to the community, will be addressed in subsequent sections of this report.

22 (Anonymous Interview 1), (Urban Land Institute & Regional Council of Mayors, 2009)
23 (City of Minnetonka, 2008)
24 “Middle market” and “mid-priced” are used interchangeably throughout this report.
25 (Anonymous Interview 1, 2012), (Anonymous Interview 2, 2012)
26 Ib.
27 (Gordon & Wischnack, 2012)
28 (Excensus LLC, 2012)
29 (Metropolitan Council, 2012)
30 Ib.
31 (American Community Survey, 2012)
32 (Nyhus, 2010)
33 (Minnetonka Economic Development Advisory Commission, 2012)
34 Ib.
35 (Anonymous Interview 2, 2012)
37 (Anonymous Interview 2, 2012)
39 (Anonymous Interview 2, 2012)
41 (Anonymous Interview 1, 2012)
43 (City of Minnetonka, 2008)
44 (Anonymous Interview 2, 2012)
46 Ib.
47 (Anonymous Interview 3, 2012)
49 (Anonymous Interview 3, 2012)
50 (Anonymous Interview 2, 2012)
51 (Center for Neighborhood Technology, 2012)
52 (Peterson & Cermack, 2012)
53 (Hennepin County, 2012)
54 Ib.
55 Ib.
Peterson and Cermack did discuss the possibility of developing twin-homes on the site in order to meet density, but did not see a demand for this housing product and could not make the physical configuration of the homes work well with the topography.
Design: Suburban Development Values, Challenges, and Solutions

Framework for Analysis

In order to provide a framework for the analysis of the design principles that can lead to effective, medium density single-family suburban development, a duality between traditional and contemporary suburban development is established. Analysis of these two modes of development is centered on the ability of each to fulfill an array of social and physical values that suburban homeowners hold. The values were gleaned from the aforementioned interviews with real estate agents and developers, academic research, and through a review of City of Minnetonka planning documents.

Following the review of these values, it becomes apparent that traditional suburban development easily fulfills the entire array of values, while contemporary small-lot suburban development struggles to do so. However, if the suburban environment is treated as a series of interrelated design elements, we find that it becomes possible to better fulfill the values of the potential suburban homeowners and the existing residents. Four brief suburban development cases are included to provide further evidence of successfully interwoven design elements within suburban communities across the U.S.

i. Traditional Suburban Development

In Minnetonka, suburban living is characterized by single-family houses placed on large lots. This form of development has, traditionally, satisfied a number of social and physical values (see below). These values are easily met when homes are placed in the middle of large, attractive parcels of land. Homeowners have sufficient space on their land that they can program to meet their individual needs without worrying about intruding on their neighbor’s space—and their neighbor has the same. While expanses of open or forested space provide ample separation between neighbors, the natural environment also acts as a unifying visual and textural element in the suburban environment.

Traditional Single-Family, Low-Density Minnetonka Homes (Minimum Lot Size = 0.505 Acres)
**Social Values**

- **Positive Relationships with Neighbors** - Residents are free to define the degree to which both indoor and outdoor space is public, semi-public, or private. Boundaries between neighbors are rarely points of contention since homes are separated by adequate space.\(^6^2\)

- **Privacy** - Sufficient space separates neighbors from each other, and the natural environment provides additional buffer.\(^6^3\) It is important to note that the need for privacy in the home and backyard was first generated by an increase in street activity in the first part of the 20th century. The need for privacy today is driven more by its importance as a component of the status conveyed by owning one’s own home than by its functionality. This is a complex topic explored in more depth by Arnold and Lang.\(^6^4\)

- **Safety** - Residents perceive the suburban environment as safe and peaceful; it is low-density, social cohesion seems high, and everyone has a contained parcel of defensible space for family activities.\(^6^5\)

- **Status** - Ownership of a private parcel of land and one’s own home is inherently tied to a degree of social standing and status in the United States. Architecture is a further means of conveying status. Owners have freedom to express their status architecturally because of the plentiful land available on their lot. Status is further reinforced by the degree to which the home and lot convey an image that represents the comprehensive set of values that the suburban homeowner holds. Since the large lot easily fulfills each value, it more naturally emanates social standing and status.\(^6^6\)

**Physical Values**

- **Attractiveness**: Residents take pride in attractively built and well-maintained homes, contributing to a cohesive neighborhood “feel.”\(^6^7\)

- **Flexibility**: Residents are free to “program” their land any way they wish (e.g., active recreation or passive relaxation). Choices can change over time and adapt to new preferences. Parcels have ample space for additions to accommodate family growth and change.\(^6^8\)

- **Natural Beauty**: Homes are situated within a large lot that, by default, preserves the surrounding natural environment for the enjoyment of the property owner. The natural environment further contributes to a consistent and cohesive neighborhood design and feel.\(^6^9\)
• **Outdoor Living:** The physical expanse of the land and the natural buffer between residences provides ample opportunity for many types of outdoor activities and leisure to take place on site. Outdoor spaces are critical not only because they provide functional space, but also in their contribution to the presentation of the home to the world. For a variety of reasons, including the increased noise from street activity in city life, outdoor activities have become increasingly focused on the back yard, and garages have been moved to the front of homes to free up this private space.\(^{70}\)

ii. **Contemporary Suburban Development**

In more recent decades, as land development and home construction have become increasingly commoditized, many parcels are developed simultaneously and consumers are provided a suite of base models and upgrade options to meet their preferences. While the architectural forms have remained substantively unaltered, this prototype-based method of development and construction has been deployed in higher-density settings, while the unifying natural buffers present between larger parcels have been decreased or eliminated.\(^{71}\) This contemporary mode of design and construction introduces challenges to the fulfillment of values that the more traditional mode of development met with ease.

**Traditional Social Values Challenged**

- **Positive relationships with neighbors:** Homeowners have fewer choices in establishing socially acceptable relationships with their neighbors. Since boundaries are defined by exterior walls and imaginary lot lines rather than by expanses of space, disputes may be more likely to arise between neighbors.\(^ {72}\) Additionally, a perceived lack of privacy (as described above) may cause residents to respond by walling off from the public realm, decreasing community interaction.

- **Privacy:** Privacy matters more when homes are closer together. On small lots, privacy tends to be reinforced only at the exterior perimeter of the home, whereas on large lots, homeowners have the flexibility to choose where and how privacy is reinforced on their property.\(^ {73}\) The typical small-lot home succeeds in providing adequate privacy to homeowners within the confines of their homes’ walls, particularly if privacy is incorporated through a thoughtful and complementary design of adjacent houses. However, the denser form struggles to establish the implied private and semi-private realms to passers-by because small parcels often do not naturally convey the same sense of transitional space and obscurity through vegetation and topography presented by larger wooded parcels.

- **Safety:** The perception of safety is diminished because there is no effective connection between the private and public realms. The streetscape is defined by stark walls, garage doors, and vacated interstitial spaces rather than by a peaceful natural setting.\(^ {74}\)
Status: Elements of status that arise from variations in the land and landscaping are diminished by placing homes on small, similar lots. Similarly, a prototype-based model conveys a "sameness" of design that diminishes architectural distinctiveness. Elements of the lot that have typically contributed to status, such as a large, manicured front lawn and the ability to define private and public space have been diminished due to the scaled down size of the lot.

Traditional Physical Values Challenged

- **Attractiveness:** The homeowner has insufficient buffer from negligent neighbors who fail to care for their property. This may cause homeowners to worry about the level control they have over their property values and may eliminate attractive vistas from their homes.

- **Flexibility:** The typical model home is not designed to accommodate a variety of use interpretations because rooms are programmed for a separation of discrete uses such as cooking, sleeping, eating, and studying. As families grow or change, there is little capacity for additions or reconfigurations of homes placed on smaller parcels. Research also suggests that while buyers have normative market perceptions about the value of backyards, people actually use them mostly as an outdoor family room or dining space rather than for more active recreational purposes. Front yards see even less use, but remain important in the public consciousness as part of the American residential tradition. Inefficiently programmed outdoor spaces, or those with limited functional purpose in relation to the house, may be off-putting for prospective buyers as they consider their potential needs.

- **Natural Beauty:** Homeowners have less control over the consistency of their dwelling experiences because there may be few unifying relationships between the homes and other physical objects in their community. On the large lot, the natural environment provides this unity and consistency.

- **Outdoor Living:** Outdoor living is problematic due to a lack of privacy, wasted space on the owner’s lot, few clear boundaries between the owner’s land and their neighbor’s, and less space to preserve the beauty of the natural environment around the home. The opportunities for achieving the array of perceived outdoor programming needs of the family are not typically provided on small lots.

iii. Solution to the Value Challenges:

Interweaving Design in the Suburban Space

It is possible to read the higher density suburban environment as a series of disconnected and unrelated houses with privacy that is reinforced only at the perimeter of the house walls. As shown above, this presents challenges to the way the homeowner’s values are fulfilled.
An alternative, and potentially more beneficial, approach is to understand the suburban environment as a fabric. In this paradigm, design and experience extend together beyond the individual house and integrate with the surrounding community. These concepts, explored by Renee Chow in her book, Suburban Space: The Fabric of Dwelling (2002), can be applied to small-lot development in Minnetonka to achieve housing and density targets while more fully realizing the values that make larger parcels so attractive for current and potential residents. To achieve a fabric, Chow suggests that communities should be designed holistically with an interweaving of the following experiential aspects of design:

- **Access**: The configuration and design of access to structures organize the setting rather than merely being a path for movement. Access is structured throughout the setting from inside to outside.
- **Assemblage**: The material elements of the spaces of residential settings connect dwellings to the landscape and reinforce direction of connection to the landscape and boundaries between properties.
- **Claim**: The control over territory that can be exerted by an individual or a group is varied and is not only defined by the front wall of the household.
- **Dimension**: Primary dimensions, such as bathing and eating, should be interwoven with personal uses, such as reading a book or watching television.

A simple way to think about this conceptual framework is that in a well-designed suburban fabric, these aspects of design are integrated between and among houses. Design bridges the experience from the private (indoor) to the public (outdoor), and breaks into and across the surrounding environment to unify it into a consistent whole. In this framework, aspects of design are interrelated, and are balanced in such a way that no single aspect dominates any other. This is very different from traditional suburban settings where design attributes end at the exterior perimeter of the home and the space is defined primarily by walls and lot lines.

iv. **The Intentional Design Experience: Case Studies**

When aspects of design are interwoven throughout the suburban environment, it becomes possible to recreate on the small suburban lot the presence and perception of privacy, the cohesive neighborhood feel, flexibility of indoor and outdoor space, and attractiveness that the expansive natural surroundings provide on the larger lot. The following brief case studies of suburban residential development exemplify successful examples of intentional design in communities across the U.S.
Housing and Density Options Study

**SUBURBAN DEVELOPMENT DESIGN**

**Traditional Design Principles: I’On & South of Broad, Charleston, SC**

I’On is a development located in Mount Pleasant, a suburban community outside of Charleston, South Carolina. This master-planned community exemplifies many of the design principles of traditional Charleston architecture in a contemporary suburban setting.

The South of Broad neighborhood of Charleston provides the historical source for the architectural principles at work at I’On. Despite pressures for redevelopment in the old core of Charleston, this neighborhood has retained its architectural character and unified built fabric. The traditional Charleston houses of this neighborhood are rarely taller than 2.5 stories, and are usually situated at the front of long and narrow parcels. The houses are oriented perpendicular to the street so that the long “front” of the home actually faces the side yard. Interiors are typically one room deep and feature many windows and doors opening onto large porches and versatile outdoor spaces. These houses often include space for parking at the rear of the lot, and are accessed via brick paver driveways through the side yard.

Despite the density of this building form, privacy is adequately addressed by elevating the parlor floor above the street and facing almost all windows away from the neighbor’s private yard. The front steps, privacy door, and front porch provide three layers of clear delineation between the public, semi-private, and private realms.

I’On in Mount Pleasant is modeled after this traditional residential form. The neighborhood was founded in 1995 and quickly became one of the most desirable places to live in the area. Despite the neighborhood’s size and many amenities, the design principles that make it work can be applied on a much smaller scale. I’On is a well-manicured community that is buffered from surrounding traditional suburban development by large trees and dense vegetation. Narrow streets and extensive sidewalks accommodate children on bicycles, groups of chatting neighbors, walkers, runners, and well-behaved pets. Gateways at the entrance of the neighborhood (see above) signify a strong sense of arrival and provide a physical buffer, clearly delineating the bounds of the neighborhood.

Homes are required to have a front porch of at least eight feet in depth, in keeping with the Charleston tradition. Most homes are located on .1 acre lots, but extensive trails, open spaces, and common areas throughout the community maintain its spacious feeling. In a departure from the area’s architectural tradition, however, rear alleys provide vehicular access to houses in I’On.
Twin Homes: Lowry Hill Neighborhood, Minneapolis, MN

At the crest of Lowry Hill overlooking downtown Minneapolis sit several stately houses of varied, yet complementary architectural styles (see image below). These beautiful homes are seamlessly integrated among the older mansions in the neighborhood, and are largely indistinguishable from them. However, these homes were built much more recently and are twin homes, not detached single-family dwellings.

Twin homes are constructed as two side-by-side homes with a shared wall to give the impression of one large house. Twin homes provide an acceptable meeting point between affordable housing and the preservation of both existing property values and community character. They present a viable option for increased density in areas where small-lot or conventional multi-family development is politically or practically challenging. Twin homes provide twice the dwelling density on a site, but can cost less to construct per dwelling unit than detached single-family homes.85

Although the twin homes atop Lowry Hill are at a price point out of reach for many homebuyers, they are included here because they provide an example of the feasibility, character, and community acceptance attached dwellings within a neighborhood comprised almost exclusively of highly-desirable single-family homes. Despite the resources available to the Lowry Hill Neighborhood to organize itself against higher-density development, these twin homes were welcomed due to their high design standards and the strong reputation of the housing developer.86 These houses demonstrate that twin homes can not only fit in politically and architecturally when done well, but can also enhance the existing character of a neighborhood.
Cottage Housing and Cluster Development: Pacific Northwest

Over the past decade, the concept of cottage housing, or cluster housing, has become increasingly popular for suburban infill sites in the Pacific Northwest. This concept places several small single-family dwellings around a shared common space, usually a courtyard or a small park, rather than facing a public street. An illustration of this type of development is shown below.

Cottage developments demonstrate the idea that a well-designed home is more valuable than a mediocre, larger home. In a typical cottage development, clusters contain between four and twelve houses between 500 and 1,500 square feet in size, resulting in a density of up to 11 units per acre. Despite the small size, design elements like structural interrelatedness, shared common space, front porches that can serve as an additional living area, and open floor plans, alleviate the need for excess unused space. The primary entrance to the home faces the shared open space, while garages and parking areas are located behind the homes and hidden from view. The small house size and the use of shared space accomplish a high dwelling unit density while not compromising on privacy or sense of community.

As demonstrated by several examples in the Seattle and Portland metropolitan regions, this type of housing has successfully addressed issues of affordability and infill density. Seattle, Washington suburbs such as Langley, Shoreline, Redmond, and Edmonds are at the forefront of cottage housing ordinances and implementation, while Portland leads the way in cottage design standards.

Successful cottage housing ordinances most commonly do not create a new type of zoning designation, but instead utilize an overlay zone in areas that are already designated single-family residential. A common criticism of cottage housing is that it will be out of character with existing development, so intensive public participation and education is essential in the planning phase in order to successfully implement cottage housing while ensuring that it is compatible with the surrounding neighborhood.
Design Solutions in a Prototype Setting: Glenwood Neighborhood, Aliso Viejo, CA

Located in southern coastal Orange County, California, Aliso Viejo is a contemporary master-planned city of about 50,000 people. The housing here is a mix of single-family houses, townhouses, and multi-family developments. Neighborhoods feature lush landscaping and high-end community amenities, and many acres of community green spaces compensate for the small lot sizes. The housing in Aliso Viejo was, with extremely rare exceptions, built by national home builders using prototype models. Mediterranean architecture dominates in the community, and existing single-family homes list for approximately $250 per square foot.93

The Glenwood Neighborhood is the newest master-planned development in Aliso Viejo. The site is on a hillside that was formerly part of an adjacent golf course, and has broad mountain and valley views. The neighborhood features the resort-style amenities that are popular in this part of the region, and architectural and landscaping details create a lush and attractive environment. Home prices here reflect the premium for newer development in this aging city. Contrary to previous developments in Aliso Viejo, Glenwood is built on a small gridded street system, enabling pedestrian connections throughout the neighborhood to community amenities and green space. Homes are configured to maximize privacy and views on small lots, and interiors open to small, but well-landscaped, outdoor rooms.

Homes from Glenwood are included in this report because they exemplify many of the design principles that contribute to the realization of the values of the suburban homeowner, and the development achieves this while using a national homebuilder and a prototype style of model building and sales. Like Minnetonka, the price points here are higher than in the surrounding neighborhoods and suburbs, but in this case, the pricing is driven by land premiums and high-end design and construction. The development sold out quickly, and prices are justified by the special attention given to architectural detail, streetscapes, and other design elements that make this a high-quality living environment.


61 (City of Minnetonka, 2008)
62 (Chow, 2002), (Arnold & Lang, 2007)
63 (Anonymous Interview 2, 2012)
64 (Arnold & Lang, 2007)
65 (Anonymous Interview 2, 2012)
66 (Jenkins, 1994)
67 (Minnetonka Mills Corridor Development Initiative)
68 (Chow, 2002)
69 (Urban Land Institute and Regional Council of Mayors), (Chow, 2002)
70 (Arnold & Lang, 2007), (Anonymous Interview 2, 2012)
71 (Chow, 2002)
72 Ib.
73 (Arnold & Lang, 2007), (Chow, 2002)
74 (Jacobs, 1961)
75 (Chow, 2002),
76 (Arnold & Lang, 2007), (Jenkins, 1994), (Grampp, 1984)
77 (Chow, 2002)
78 Ib.
79 Ib.
80 Ib.
81 Ib.
82 (Arnold & Lang, 2007)
83 (The I’On Company, LLC, 1997)
84 (Hill, 1997)
85 (Garnett, 2011)
86 (Keith Waters & Associates, 2012)
87 (King County Housing Alliance, 2000)
88 Ib.
89 (City of Portland Department of Planning and Stability, 2012)
90 (Community Housing Coalition, 2007)
91 (City of Redmond, Washington, 2011)
92 (King County Housing Alliance, 2001)
93 (Trulia, 2012)
Design Toolkit

This design toolkit supplements the previous research regarding suburban development values, contemporary challenges, and solutions. It presents an assortment of six strategies, along with specific tools for implementing the strategies in the design of housing, parcels, streets, and community green spaces. to fulfill the previously identified social and physical values (i.e. positive relationships with neighbors, privacy, safety, and status; attractiveness, flexibility, natural beauty, and outdoor living) on smaller, detached single-family, lots.

Ultimately, fulfilling the physical and social values (demand) with these practical design methods for small-lot development means creating a supply of appealing, middle-market housing product for the young family/move-up buyer and baby boomer demographic groups that the City of Minnetonka seeks to attract and retain.

i. Layering of Public to Private Realms

Concept and Rationale

In traditional, large-lot suburban development, expansive outdoor space enables each homeowner to define transitions between public and private realms. In so doing, the homeowner exercises choice in how to interact with neighbors, visitors, and strangers. In a denser contemporary suburban setting, outdoor space is significantly diminished and transitions between public and private can become ambiguous or abrupt. This challenges the homeowner's ability to choose how to interact with the public. The solution to this problem is to re-establish meaningful transitions between public and private using design cues and functional spaces. While these cues may be subtle, achieving an effective transition provides the right balance in a denser setting between shared community life and the privacy of home.94

Case Study Tools: Front Porches of I’On Village

I’On makes use of a variety of traditional techniques to layer space, including front porches on nearly every home. Generally, homes have two story porches.

This allows inhabitants of homes to choose the level of privacy they would like to maintain while enjoying their outdoor, semi-private spaces - the lower level is ideal for saying hello to neighbors as they walk by, and the upper level is perfect for relaxing with a cup of coffee without the threat of being bothered.
RECOMMENDED DESIGN TOOLKIT

Methods/Tools

- **Outdoor transitional space:** Movement from the street (public) to the porch (private) can be layered through the addition of the sidewalk, a short permeable fence or low wall, an entrance gate, a short front walk, and a stoop or front porch. Landscaping can provide additional enclosure and obscurity from view, if so desired, in this shortened transitional space between street and front door.95

- **Indoor transitional space:** Similarly, as indoor private and semi-private spaces are close to the public realm of the street and sidewalk, they should be arranged thoughtfully. The transition from public toward private should continue as one progresses through the house, ensuring the most personal activities are sited appropriately within the living space and allowing some degree of permeability from the sidewalk into the most public rooms of the house. A long and narrow house footprint accomplishes this quite effectively.96

![Images of transitional spaces](image1.jpg)


ii. Program All Spaces on the Lot for Use

Concept and Rationale

As described earlier, the traditionally large lot sizes in Minnetonka have provided homeowners the flexibility to achieve their own set of values in many different ways, simply given the large amount of space available on the home lot. To retain homeowners in Minnetonka and attract new buyers, it is no less important to ensure that smaller parcels provide that same flexibility in programming. Indeed, a small space does not need to be an impediment; research shows that while families heavily invest in backyard improvements, they tend to use outdoor space mostly for cooking, eating, and family playtime. These activities can easily be accomplished on thoughtfully programmed small lots. Along with the traditional back patio or backyard, it is important not to forget the spaces in-between, such as side yards and alleys.
The absence of significant empty, un-programmed space does not have to be a barrier to meeting the physical and social values of homeowners.97

Methods/Tools

Below are seven examples of spaces that can be thoughtfully designed to allow for flexibility in programming while not losing the efficiency that comes with smaller-parcel development.

1. **Driveway:** In the traditional development mode, a driveway is a paved surface connecting the street to the garage. Perpendicular to both, the driveway rarely provides a connection and a use for anything other than the vehicle. However, driveways can be reprogrammed to welcome multiple uses. Positioning and surface material can be rethought to communicate that the driveway is an attractive place for social gathering, play, or pedestrian access. The traditional homes of Charleston feature driveways that use narrow strips of bricks over grass, defining a path for the vehicle while simultaneously erasing the distinction between lush yard and paved surface.98

2. **Front Porch:** Traditional suburban architecture saw a decline in the front porch; as houses were positioned farther from the street, the porch no longer served the social function it once had. In small-parcel development, as houses once again move closer to the public realm, a porch becomes a useful tool for establishing a transition between public and private. It also provides a shaded place that can become an outdoor sitting or dining room in warm weather and a welcome respite from the elements in winter. Porches orient dwellings toward the street and toward each other, anchoring the community inward in a comfortable way when truly private outdoor space may be limited. To allow for maximal flexibility, it is important that porches be made sufficiently deep to accommodate a number of activities. A depth of at least six feet is a useful guideline. Where a front porch is not possible, a stoop can serve similar social and physical functions.99

“The porch promotes grace and comfort. It promotes good conversation simply by plus of the fact that on a porch there is no need for it.”

Garrison Keillor

3. **Landscaping:** Utilize landscaping to define spaces on the lot so that they are interpreted as useful for activities to take place. One aspect of the lot that Americans do not express a willingness to give up is the front yard, despite not being used often by homeowners for functional purposes. However, the front yard takes up premium space. Therefore, creative landscaping should be used to make smaller front yards as attractive as possible.

4. **Built Structures:** Decorative walls, fences, and ancillary buildings such as garages or tool sheds, and the exterior walls of the home itself can be used thoughtfully to create outdoor rooms.

5. **Rear Access:** For subdivisions with car access in the rear of houses, the alley can become an attractive and useful public-private space. The transition from rear garage to house, too, can be made of such a proportion to be usefully programmed for a vegetable garden or a seating area.

6. **Side Yards:** These spaces, traditionally thought of as secondary to front and rear yards, can become truly livable outdoor rooms if interior areas are oriented to provide access.

   - **Define Borders:** Eliminate potential for disputes over borders by placing walls or landscaping in a way that makes the side yard of each property defined and usable.

   - **Diversify Potential Uses:** It may be the case that side yard space needs to be used for a driveway access. Consider utilizing unconventional paving materials to make the space interpretable as useful for purposes other than vehicular access. This will provide continuity and connection of design and use.

   - **One Side Yard per Home:** Useful side yard space is maximized by placing one edge of each home directly on the property line rather than placing the home in the center of the property.

   - **Provide Access:** Placing access points to the home oriented toward the side yard allows for more diverse interpretations of use and structures activities (the activity of accessing the home) in a parallel fashion. This tends to unify spaces, make them visually interesting, and allow flexibility in the transition from public to private.
7. **Shared Community Space:** Providing communal neighborhood space for targeted activities to take place may reduce the burden on the private yard to fulfill the needs of the family. Several developers identified that the tot lot is a desired neighborhood amenity for many families. Given that research suggests that one of the most important uses of yard space is for child play, the tot lot is an especially relevant tool. If a tot lot is used, several homes should be oriented around it to provide actual and perceived safety for the children who use it.

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**Case Study Tools: Programmed Side Yards, South of Broad, Charleston**

*In historic downtown Charleston, homes are positioned such that the side yard becomes both the front yard and the back yard at once. This maximizes useful space because the home is not placed in the middle of the lot.*

**Diverse Potential Uses:** The space itself is very private because the neighboring home is oriented away from it, and landscaping elements shield much of the yard from public view. The space is also flexible in interpretation—the brick paving allows it to be viewed variously as a driveway, a beautiful garden, and a place for entertaining guests during a dinner party.

**Defined Borders:** While in other cases such openness to the street might raise privacy and safety concerns, the clear boundaries created here by house and gate impart a sense of definition and comfort that enables full utilization of these versatile side yard spaces.

**Thoughtful Use of Built Structures:** The fence and gate serve a dual purpose for the side yard; definition is created and the decorative nature of the fence acts as part of an outdoor room, aiding in the flexible interpretation and use of the space.*
iii. Buffer/Conservation Easement

Concept and Rationale

Where space permits, a natural buffer should be provided between new, higher density developments and existing, low-density residences. Ideally, buffers will take the form of a conservation easement that expresses a long-term intent to maintain the space as a natural buffer, aligning with conservation goals established in the 2030 Comprehensive Guide Plan. While a buffer may require further reducing the land available for development, there are certainly trade-offs. Advantages to using this strategy include:

- **Attractive Visual Transition:** Contributes to an interweaving of design elements across and between spaces in the suburban environment by extending natural elements of the surrounding low-density neighborhood into the new higher density neighborhood. This provides a more natural visual transition from one area to the next and helps to maintain the attractiveness of both the new development and the existing neighborhood.

- **Communal Space:** Provides communal space for youth and family recreation in a densely built environment.

- **Dwelling Experience for Existing Neighborhood:** Addresses the fears of surrounding neighbors that development will change their dwelling experience by providing a commitment to a buffer from new development.

- **Natural Preservation:** Preserves trees and other natural elements that tend to contribute positively to property values and to the vision for natural surroundings, as expressed in the 2030 Comprehensive Guide Plan.  

- **Trail Connectivity:** Provides opportunities for trail connectivity.

Methods/Tools

- **Avoid Walls and Vegetation Screens:** Whenever possible, buffers should both unify and separate rather than creating a stark division between two areas.
- **Conservation:** Preserving existing vegetation will help to unify the new subdivision with the old and will express a commitment to protecting the interests of pre-existing residents in the context of change.
- **Create Space for Activity:** Utilize buffers to serve multiple purposes and create connections by programming them for activity, even if just as a short nature walk or simple trail connection.
- **Structures and Rights-of-Way as Buffers:** On some sites, placing vehicle access, garages, or other structures on the outer perimeter provides the right buffer and visual transition between one neighborhood texture and another.\(^\text{104}\)

iv. Deep and Narrow Design

**Concept and Rationale**

The traditional suburban home is laid out horizontally, stretching out along the street. This is an inefficient use of space at the neighborhood level. Most obviously, houses laid out parallel to the street inefficiently use space because of the width of the lot and the street frontage required for each lot.

A deep and narrow configuration, on the other hand, is a more efficient use of land, requiring less street frontage and associated infrastructure than for dwellings oriented in a horizontal manner. If the space along the sides of homes must be used for access instead of other access layouts (e.g. rear alleys), driveways may be shared by two home units or reconceived as a multipurpose space for access and recreation. Even if driveways are conceived and used in the traditional way, a 90’ x 60’ lot with a 40’ wide roadway still uses 13 percent less land oriented with a narrow facade than a 100’ x 50’ lot with a long facade. Both of these lots have the same buildable space for the home (4,500 square feet), while the combined footprint of the building and pavement of the narrow facade lot is larger because it has to accommodate the longer driveway (5,400 square feet vs. 5,000 square feet). Notwithstanding, the larger lot with a narrow facade creates a more efficient overall use of space than the smaller lot when oriented with the short side adjacent to the road.\(^\text{105}\)

In addition to inefficiency, the traditional suburban home layout can also preclude the opportunity to incorporate advantageous design elements. These beneficial design elements of the deep and narrow lot, while less palpable than increased physical efficiency, include:
**Recommended Design Toolkit**

- **Flexibility:** The deep lot provides opportunities for a depth of access along the sides of the house. This allows the home and outdoor spaces to be interpreted by inhabitants in a diversity of ways. Second, the narrow and deep home flows more naturally as people move through the space, and allows for more opportunities to interpret interior spaces within the home differently. Refer to Chow’s work on interior configurations for a substantial analysis of this point. Developers in the Twin Cities noted the increasing demand for flexible rooms, such as a dining area that can also be interpreted as a living room, or space in the kitchen that can be used as an office. Developers in the Twin Cities noted the increasing demand for flexible rooms, such as a dining area that can also be interpreted as a living room, or space in the kitchen that can be used as an office.

- **Privacy:** When homes are deep, it is easier to achieve a layering of space from public to private without compromising the real privacy of the inhabitants. Aspects of the home emanate from deep within it, creating a sense of privacy for its inhabitants while allowing ample space for definition of public and semi-private spaces leading into the home.

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**Case Study Tools: Thoughtful Configuration of Deep and Narrow Design, Glenwood Neighborhood**

The homes in Glenwood are distinctively narrow, yet because of shared aspects of design, similar setbacks, and elements of construction (such as retaining walls) that extend beyond each property and into the next, the pedestrian is not struck by the narrowness of each house, nor by the carefully configured, irregularly-shaped lots. The result is a unified environment that reads as a cohesive fabric, rather than individual and unrelated volumetric elements.

*In this aerial photograph of the same section of Glenwood as the above picture, the design elements become evident: the thoughtful configuration of buildings, the use of retaining walls to define space, and the side orientation of houses all provide privacy and maximize space on tightly packed lots. Note the pedestrian street at center, providing a ribbon of green that further compensates for the diminished private space in this densely built neighborhood.*
Cottage housing communities often provide separate storage structures for families to store bikes, lawn furniture, and other larger items that typically might be stored in an extra garage space.

The need for storage can be reduced in these communities by providing shared maintenance equipment, such as a lawn mower that all families in the cluster can access.

Methods/Tools

- **Maximize Lot Space:** Build homes with their long sides parallel to each other, with a narrow entrance facing the street, to allow for increased private space and maximal efficiency of space on the smaller lot.
- **Subdivide Large Parcels:** Subdivide large parcels with long and narrow lots to minimize roadway and other public infrastructure requirements.

v. **Garages and Storage Space**

**Concept and Rationale**

The garage has become an important component of the front of the home’s landscape and signals wealth and prosperity to the community (especially the three car garage). The garage has also played a role in addressing the storage crisis faced by many American families who live in an increasingly consumer-oriented society. Most contemporary suburban developments are built with the garage facing the street, dominating the front façade of the house. This configuration makes it difficult to fulfill the values of the suburban homebuyer in several ways:

- **Attractiveness:** The street-dominating garage presents design challenges on the small lot because it becomes difficult for design elements to connect neighboring homes and bring them into an attractive, coherent whole.
- **Inefficient usage of space:** When garages become an extension or component of the façade of the home it requires wider lots with more street frontage, and thus a greater usage of precious space. In small lot development, any inefficiency in space usage makes it more difficult to achieve all of the values held by the homeowner.

RECOMMENDED DESIGN TOOLKIT

- **Privacy and Status:** Garages that dominate the streetscape make it impossible to layer space on the lot from public to private, instead reinforcing privacy only at the perimeter of the home. In this scenario, the garage robs the lot/home combination of its ability to emanate an aura and allure of privacy, which is another important component of status in the suburban home.

**Methods/Tools**

There are several ways to minimize the dominance of the garage and to more efficiently utilize space on a small lot:

- **Flexible Storage Space:** Families tend to want a third car garage both to convey status and for miscellaneous storage.\(^{110, 111}\) It is possible to eliminate the third car garage while preserving storage space on the lot in a more efficient way, either by making basement or attic space more useful, or by placing useful storage above a detached or attached garage structure. The sunken garage strategy (below) would allow families the advantage of vehicular access to storage space in the basement of the home.

- **Rear Placement:** Place the garage at the rear of the home with a narrow access (driveway) or shared access (alley or shared driveway between two homes). This allows lots to be narrow and deep, minimizing the lot’s road frontage while preserving the ability for ‘good’ design to make the neighborhood cohesive and attractive. Rear-placed garages can lead to a backyard space with more paved surface. Consider utilizing pervious and decorative paving materials to enhance this space to make it feel more like an “outdoor room.”

- **Sink the Garage:** Place the garage below the main floor of the house. This technique is especially effective if the driveway is narrower at the street than where it enters the garage. Sinking the garage minimizes the dominance of the garage door on the landscape while preserving aspects of design at eye level that can unify the neighborhood. It remains possible to layer the claim of the property from public to private because the garage door loses its dominance on the facade of the home.\(^{112}\)
vi. Rethink the Street

Concept and Rationale

In the quiet, serene suburban environment, the street need not exist for the sole purpose of moving automobiles. Traffic volume on local suburban streets, especially in small subdivisions, tends to be very low. This opens up an array of opportunities to utilize the street as a unifying design tool that can be safely interpreted for many purposes by those who live in the neighborhood.\textsuperscript{113}

Methods/Tools

The following are several options that can be pursued for making the street a versatile and value-added element of a small suburban subdivision:

- **Alternative Curb Design:** Using low\textsuperscript{114} or surmountable\textsuperscript{115} curb and gutter design can allow the street to become more useful for activities other than driving. In a small-lot development, there may be less space for children to enjoy amenities like cul-de-sacs, which provide space for play and are commonplace in the suburbs. By diminishing the distinction between curb and sidewalk, opportunities open up for the street to be interpreted for multiple uses in a safer way.\textsuperscript{116}

- **Landscaping:** Utilizing landscaping and street trees along planter strips in a uniform way enhances the attractiveness of homes and adds to a sense of well-being and privacy on each lot. This tactic also unifies the streetscape and connects homes together in an attractive way.\textsuperscript{117}

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**Case Study Tools: Rethinking the Street in Suburban Charleston**

*I’On Village utilizes narrow streets, short setbacks, and ample landscaping and street trees to create the perception of an outdoor room.*

*Even though the public is close in proximity to the homes, privacy is reinforced by the narrow lots, boulevard trees, and landscaping.*

*Credit: Google, 2012.*
- **Narrower Streets**: Streets should be no wider than is absolutely necessary. This is both functional and aesthetic. By narrowing the street, the amount of land dedicated to right of way is reduced (which can amount to short-term savings for the developer and longer-term savings for new residents when paying infrastructure assessments), but the fronts of opposing houses are also brought closer together. This confers a wealth of benefits, including enhanced community feel and increased safety (for pedestrians, motorists, and children at play). Opportunities for design connections between objects in the suburban environment existed with the wider street, but are further enhanced by a narrow street because objects are more naturally read as connected. Narrow streets also provide important safety benefits; slowed traffic establishes the street as a community space, and this safety element is enhanced when houses are pulled close to the street and visually oriented thereto.\(^{118}\)

- **Unconventional Paving**: Using brick, stone tile, or other permeable paving material allows the street to be reinterpreted for activities other than driving. While the street may not actually be used for walking or playing very often, this design element implies to drivers and users both that the street is for many activities, not just cars. This makes the neighborhood feel more vibrant, safer, and more attractive. Unconventional paving methods further provide the opportunity for design elements of the neighborhood to be reinforced by the street, which unifies homes that are made of similar materials into a cohesive and attractive whole.\(^{119}\)
Refer to “Rethink the Street” section for ideas on how to make this access more effective and attractive. Driveway and lot configuration calculations are examples created by the student research team authors.

(Chow, 2002)
(Anonymous Interview 3, 2012), (Anonymous Interview 1, 2012)

(Chow, 2002)
(Anonymous Interview 3, 2012), (Anonymous Interview 1, 2012)

(Arnold & Lang, 2007)
(City of Portland Department of Planning and Stability, 2012)
(Chapin, 2011)
(Minnesota Department of Transportation, 1994)
(Minnesota Department of Transportation, 2011)

Ib.

Ib.

Ib.
Community Engagement

Finally, after having addressed the issues around mid-priced metrics to create attractive housing for young family and aging boomer buyers, as well as providing a set of design tools to create a better suburban environment, it is useful to turn these concepts into tangible steps for the City of Minnetonka to pursue in its efforts to redevelop residential infill sites as small-lot developments.

Implementation is not directly addressed here, as it is outside the scope of work requested by the City. However, it is critical to recognize that implementation depends entirely on the temporal and political context and, therefore, can take any number of forms and directions. Nonetheless, the question of public engagement is addressed here, as it is a primary barrier to successful suburban infill development.

i. Stakeholder Values and Concerns

Like all forms of development, densification and infill are often met with opposition or skepticism by residents of surrounding neighborhoods, who may have a vested interest in seeing particular outcomes from the approvals and development process. Members of the community are enabled to bring those concerns forth at neighborhood meetings and community hearings initiated after the developer has submitted a project proposal. When they do so, residents may express the following values and concerns when asked to provide feedback to a development proposal:

1. A desire for land to remain open, to preserve views, tree coverage, or recreational space.
2. A concern over the increased traffic, noise, and stress on existing infrastructure that may accompany development of any kind.
3. Concerns about impacts or changes to the existing social fabric of the community as rendered by the new development.
4. Perceptions that denser development and lower-priced housing may have an adverse effect on surrounding property values.
5. Perceptions that denser development and lower-priced housing may introduce crime to the neighborhood.
6. Concerns that new development may be unattractive, incompatible with existing neighborhood fabric, or otherwise visually unsuitable for the parcel in question.
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Developers, too, may bring their own legitimate set of concerns to the table when seeking approval for projects. These can include:

1. Inability to obtain a particular variance for small changes to allowable density may make a project financially infeasible.
2. City staff and council are unlikely to approve a project that the community does not welcome, however legal the proposal or strong its design merits.
3. Delays to the development process can be expensive, sometimes leading to a project not moving forward and leaving a parcel of land underutilized.
4. Concerns that the public has a tendency to negotiate the intensity of a project down from its initial density.
5. The significant investment in design and engineering, prior to formal proposal and approval before the city, can be wasted if the community requests alterations and variances far outside the original design intent.
6. Despite existing zoning laws, infill presents significant challenges as communities may wish to preserve open land and will oppose any development outright.
7. Those who oppose a project feel compelled to speak up, but those who would favor it rarely show up to public meetings.

City staff and council, meanwhile, are faced with the formidable challenge of reconciling these two broad groups of stakeholders, while still achieving community goals:

1. The city has a responsibility and an interest to provide a meaningful opportunity for community input and comment on proposed projects prior to their approval.
2. Allowing development on open land presents a real fiscal benefit that, when realized, can help to achieve other community goals.
3. The decades-long scope of comprehensive plans is difficult to reconcile with present-day zoning guidelines, market realities, and the desires of surrounding property owners.
4. A messy and protracted approvals process can raise animosity and ill will between all parties, making the process ever more contentious each time an opportunity for infill arises.
5. Despite these challenges, land use regulation is still the most effective, and sometimes the only, tool available for cities to meet housing goals and maintain an attractive and high-value residential environment.
ii. The Existing Participatory Process Paradigm: A Developer Example

The existing participatory process, based on community meetings and public hearings where the public reacts to developer proposals, goes only part of the way toward addressing the various interests described above. The existing process also introduces additional challenges and limitations that can result in an end product that adds little value to the surrounding community beyond additional structures on smaller parcels.

One large developer of single-family and multi-family housing in the prototype-based mainstream described the approvals process for a suburban infill development. First, the developer acquired a parcel zoned for single-family or multi-family development up to a certain allowable density. After their own internal analysis determined that the optimal intensity of development, based on their business, was for small-lot single-family prototype-based houses below the density maximum allowed on the site.

Understanding the tendency for communities to “negotiate down” during the public proposal-to-approval process, this developer brought a proposal to a community meeting that showed densely built, tall townhouses at the highest allowable intensity on the parcel. When presenting this proposal to the community, the developer stated that this intensity was consistent with what was legally allowed on the parcel. The developer and the community then engaged in an informal negotiation process that, over time, resulted in the community providing legitimacy and approval to a revised proposal that was essentially the same development plan (single-family prototype-based units) as what the developer had determined internally was the optimal intensity for this parcel.

Similar to many developer/community negotiation processes, as the developer offered to decrease density (down to the original and intended design) as their compromise to the community, the community overlooked its opportunity to add elements to the design that would add value to the neighborhood. The city, for its part, held fast to the zoning code for the site, requiring the developer to reconfigure the subdivision and provide two additional single-family dwelling units on what had been a community green space at the center of the development, in order to meet zoning minimums. The resulting development accommodated the existing density zoning, received approval by the city council, and was constructed.

iii. How Well Did This Process Work?

An assessment of this process and the development that resulted surfaces several observations. The interaction between the developer, the city, and the community was in this case, mostly transactional. These parties came to the table together at the point when it was necessary to negotiate on the details to reach approval, rather than meeting earlier to articulate the values, vision, and boundaries that would inform and shape the project. Additionally, as in other transactional processes, interaction between parties largely ceased after the transaction was
complete. There was no ongoing, organized method to collectively evaluate the process and its outcome. For its part, the city took a largely passive role, wherein which it articulated the legal boundaries for what was allowed, but provided no additional guidance on how the various interests and stakeholders could be reconciled to realize the full and best potential for the site.

The project that resulted from this process was, in essence, the same prototype-based development as can be seen throughout the western suburbs, but simply configured for a smaller parcel, on smaller subdivided lots and in smaller houses, without any of the added value that can be realized through thoughtful design based on articulation of values earlier in the development process.

This is not to say that by any means this was an unsuccessful participatory and developmental process. Indeed, the developer, the city, and the community all came to the table to share ideas and provide input. However, we posit that all parties involved lost the opportunity to deliver additional value to the community, and back to the developer, through a more thoughtfully designed participatory process that could result in a more creative approach to homebuilding.

The outstanding question is how the City of Minnetonka can energize its development and participatory process to simultaneously achieve the following outcomes:

1. Fostering an engaged community that receives the democratic value that comes from being empowered to co-produce a public process and shape the outcomes for their neighborhood.
2. Creating a set of community-driven development guidelines that are informed by the values articulated by stakeholders and participants in the process, as well as the design tools and research provided in this report.
3. Building consensus among stakeholders that lends legitimacy to the planning and development process and reaffirms the final outcomes.
4. Providing an environment that allows developers and architects to work creatively, that minimizes the financial risk of disruption and delay, and that provides a flexible structure to produce housing that reflects both market realities and community values.
5. Evolving to a newly articulated approach to infill development that, rather than being more of the same on a smaller footprint, actually adds value through design to the neighborhood and the city.
iv. Moving From Transactional Input to Engaging Partnership

This report proposes to change the paradigm from transactional input to engaging partnership. There are many ways to do this. An example follows that addresses the need for a shift in paradigm and describes one way of many to do it. The framework incorporates principles set forth in real-life participatory processes; the neighborhood/community and task force framework were specifically derived from the 2010 Eliot Community Center Reuse Study’s participation process and lessons learned in the western Twin Cities 1st ring suburban community of St. Louis Park.\textsuperscript{121, 122} Put simply, this framework takes the existing transactional process and repositions it as a small but central component of a broader collaboration between stakeholders. See Appendix B for a flow chart of the framework that visually articulates the stakeholders, three-phase timeline, and engagement methods proposed by the research team.

**Phase 1: Neighborhood/Community Visioning and Planning**

This phase, which takes place six to eight months before a project should be slated for proposal and approval through formal channels, begins simultaneously with a stakeholder identification process and a broad outreach strategy. While the paradigm shifts toward co-production, the city still maintains responsibility for demarcating the boundaries of debate and discourse and for identifying those who should be involved. This will differ in every community and case, but this first identification step is essential as it frames the entire process going forward. As discussed throughout this section, community members, the developer, and the broader community represent three stakeholder groups that must be included; surely, there are others.

Once stakeholders are identified, the collaborative work between them can begin. This presents the opportunity for the community to define and articulate its values, broadly and then more specifically. Depending on numbers and nature of participation, there are many ways to do this; whichever specific strategy is employed should be infused with conversation, discussion, and idea generation. World Cafe is one strategy that allows for open discussion and open idea generation; design charrettes could be useful later, to more clearly articulate community vision once the values have been expressed. This work is defined as collaborative, because it should not leave out the developer community. Just as the community brings all its values to the table as described above, so does the developer. Therefore, it is important that neither party be left out of defining the values that inform its desired outcomes, and that conversation and discussion together helps to surface these values, reconcile them, and bring forth new resources that may go unidentified and unused when each side becomes entrenched in a party-versus-party transactional setting.
After stakeholders have been identified and collaborative work has begun in its early stages, a task force should be formed to guide the visioning and value articulation process. The task force, which can be appointed by city staff, exists to provide a forum for more even representation of various stakeholder positions. If the process becomes contentious, the task force can step in to restore balance to the discourse. The task force also serves to record outcomes from each step, keeping the process moving forward as values are articulated and defined more clearly toward a set of actionable design guidelines.

Finally, the City has an important role in overseeing this entire phase. Once conversation and collaboration has begun, the city reaches out to the broad community that may not be represented due to geographic or practical limitations. The city acts as a source of transparency, ensuring not only that information flows out from the process but that a real conversation happens with the public. In one way, the city acts as the guard rails, ensuring that the process stays within the boundaries established initially. In another, the city ensures that the process maintains open enough to proceed organically, and for the community and developer to surface resources and co-produce a process that reflects all values that should be brought to the table. The role of the expert public manager is essential here, even if it takes place largely in the background.

The City should also manage initiatives around education. In the case of infill development, significant education is required to enhance community understanding around what density really is and what it is not; per the recommendation of the Opportunity City Pilot Program Report and using the findings of the 2012-2013 RCP Minnetonka Housing Identities Study as a foundation, this education process should use existing neighborhood and community groups to assist in the successful dissemination of this pro-active density education initiative that seeks to increase understanding and buy-in. Community values and market values also need to be reiterated throughout the process. Furthermore, traditional outreach - through mailers, newsletters, and community meetings - should be coupled with a real and meaningful engagement with social media. The city’s outreach and education work serves to continually take the temperature of stakeholders and to create a responsive conversation around development, not merely to push information out.

**Phase 2: Developer Proposal – Project Approval/Construction**

Once the collaborative work has transformed stakeholder values into a set of guidelines for development of a particular site, the existing transactional process can begin. This framework proposes leaving this central portion of the process largely unchanged; Minnetonka, like every
city, has an established way of approaching public involvement around development transactions, and it is important to maintain consistency with what has already been established.

What is different in this framework are the inputs. The collaborative work between stakeholders, overseen by the city and guided and recorded by the task force, will have surfaced new resources to introduce into the transactional process. Specifically, convening early and often will have produced at least these two essential inputs:

- Reflective Design Guidelines: A more clearly articulated set of guidelines for development that reflect what the community actually wishes to see.
- Developer Certainty: Additional certainty for the developer, who is now free and compelled to put forth a more authentic and honest proposal where investment can be made in creatively meeting community values rather than in negotiating to an outcome based on a business model.

The goal of Phase 2 is that all the inputs are in place to ensure that what is proposed is fully consistent with what the community has expressed it values. As such, Phase 2 should not commence until the collaborative work between stakeholders in Phase 1 is complete. How “complete” is defined will differ in each process, but the transactional nature of Phase 2 should be mostly a procedural formality if Phase 1 has been completed successfully. If the resulting proposal does not sail through to community and council approval, specific steps from Phase 1 should be revisited to evaluate the project against articulated values and vision or, if necessary, to realign those values and vision to actionable market realities.

Phase 3: Design & Process Evaluation/Re-Visioning by Community

Just as the community derived value in Phase 2 by introducing a set of actions earlier on that surfaced new inputs, the community can derive additional value by following through beyond approval. The goal is both to carry forward the work in the context of future proposals and also to fully, clearly, and honestly evaluate the process and the development that it produced.

Evaluation of the built project can take a number of forms, depending on the context and participants. If the process has been friendly and positive, a grand opening, kickoff, or community convening can take place to celebrate the new addition to the community fabric; at this event, comments on the development can be gathered (and should continue to be gathered as the project matures). If, on the other hand, the process has been challenged and contentious, more honest feedback on the development might be solicited by targeted feedback events such as small-group walk-throughs and community meetings. Either way, it is essential to look back and gauge the degree to which what was built reflects the values that were articulated in Phase
ENGAGING THE COMMUNITY

1 by community stakeholders and the developer. This should take place soon after project completion, but should be revisited over time as a project becomes a more integral and integrated part of the community in which it was built.

Evaluation of the process itself is just as essential. An overarching goal of this new paradigm for participation is to introduce partnership into what was once a transactional, position-based negotiation process. To what degree did this happen? Assessing success in this area can be challenging, especially if participants felt that the process was contentious or did not feel empowered to contribute in the ways that they might have wanted to. Surveys can help, as can simply asking a participant (or a non-participant) to tell their story as it relates to the process that has taken place over the past year. Success in changing this paradigm may take place over time, and many iterations of the process may be required to understand how it has shifted the dynamics of power and discourse between parties and stakeholders over time. Thus, assessment should similarly be ongoing and findings should inform the process as it is reshaped for future development projects.

120 (Anonymous Interview 4, 2012)
121 (City of St. Louis Park, 2010)
122 (Olson, 2012)
123 (Porter, Simon, Holey, & Merz, 2012)
124 (Urban Land Institute & Regional Council of Mayors, 2009)
Recommendations for the City of Minnetonka

1. **Focus Less on Price, and More on Meeting Values:** This housing and density options study concludes that the City of Minnetonka’s goal to continue diversifying its housing stock by providing small-lot, mid-priced housing for middle market buyers (young family/move-up and baby boomer age groups) will be most plausibly met by **creating a housing product that matches the social and physical values of the buyers and the community.**

2. **Pursue Small-lot Development:** In order for the City of Minnetonka to provide housing that meets these values, is attractive, and is financially feasible ($200k - $350k) for the targeted demographic groups, the City needs to **proactively pursue providing housing on smaller, more affordable pieces of land** as infill development opportunities arise throughout the City.

3. **Create an Intentional, Interwoven Design:** The way to effectively develop the desired housing stock diversity, target the desired middle market buyers, and meaningfully incorporate suburban development values such as privacy, natural beauty, safety, and positive relationships with neighbors is to **intentionally use design as a solution.** Deep and narrow lots, pervious pavement materials, natural, well-landscaped buffers, and dedicated community spaces will help create a beautiful, desirable product.

4. **Utilize the Design Tools & Engage the Community:** The specific tools discussed in the Design Toolkit enable the City of Minnetonka to have a launching point from which to begin the public engagement process, which starts with **providing education about density** (see Appendix B). Ultimately, however the city plans to incorporate the concepts raised in this report to its future land use and development, it must **always act on the principle that public engagement (and buy-in) are essential.**

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125 (Urban Land Institute & Regional Council of Mayors, 2009)
What’s Next for the City of Minnetonka?

In addition to the aforementioned recommendations directly regarding the middle market, housing products, and public engagement, the research team also recommends two additional areas for continued investigation and research:

i. **Live Where You Work Program**

As briefly addressed in the recommendations section of the Opportunity City Pilot Program Report, this research report also recommends further study of the implementation of a “Live Where You Work” home ownership program as an additional strategy for the City of Minnetonka to attract and retain middle-market (young family/move-up) buyers.126

The City of St. Louis Park, which is the program directly referenced in the Opportunity City document, currently administers a Live Where You Work Homeownership Program to encourage employees of St. Louis Park businesses to pursue the purchase of a residential unit within the City. Eligible applicants for the one-time $2,500 loan (deferred and forgivable after three years of residency), must be currently employed at least six months by a St. Louis Park employer and seek to designate the property as their primary residence.127 Value and purchase price of the property are not limited, but the recipient’s household income cannot surpass 120 percent of AMI ($83,900 in 2012),128 which equates to $100,680 for a four person family in 2012.129 Additionally, the funding must be applied directly toward a down payment, closing costs, gap financing, or placed in escrow for the repair of code violations within six months of the closing date.130

While the specifics of St. Louis Park’s AMI income limit, loan amount, and all other related terms and conditions are determined by the City and would be generally open to Minnetonka’s discernment, if implemented, the basic financial components of this model program already make a compelling case for further research about implementation realities for the City of Minnetonka. An informal interview with St. Louis Park’s Housing Supervisor and a member of the graduate student research team provided additional promising program information, including the following:
**ISSUES FOR CONTINUED INVESTIGATION**

- **Funding Source(s):** The Live Where You Work program is funded through the City of St. Louis Park’s Housing Rehabilitation Fund; the direct source for this funding stream is from an annual fee charged to the recipients of public financing from the private activity (municipal) bond fee charged to a borrower completing an economic development-related project (e.g., the Park Nicollet Methodist Hospital campus expansion). The annual fee charged is .00125 percent (1/8 of one percent) of the outstanding balance of private activity bonds.\(^{131}\) Planned expenditures of private activity bond revenues are subject to Chapter 429 of the 2012 Minnesota State Statutes.\(^{132}\)

- **Program Participants:** Although data is limited to the 14 participants since the program began in 2010, multiple recipients were not first-time homebuyers and the top quartile of recipients reported household incomes (HH size varying from two to four people) within a $10,000 range of 2012 AMI.\(^{133}\) Previous mortgage affordability calculations (see: Analysis of Mid-Priced Housing) show that, while an arguably different buyer group is searching for housing in St. Louis Park, it is reasonable to conclude that a similar program in Minnetonka could attract young-family/move-up buyers that could afford a home between $200,000 and $250,000.

Benefits from a Live Where You Work Program inherently impact other planning-related goals for a City, including decreased Vehicle Miles Traveled (VMT), emissions, and infrastructure stress; employer support for community development; and lower personal expenses due to a shortened commute, which can be reallocated to more localized spending that may more directly benefit the local Twin Cities economy.

**ii. Hopkins School District – Perception Challenges**

As addressed briefly in the Analysis of Mid-Priced Housing section, the research team recommends that further attention be paid to the perceived quality of experience within the Hopkins School District. Although this recommendation is derived from the experiences of an individual land developer and does not reflect a representative sample of buyers seeking to purchase a home within Minnetonka, the local and regional perception of a school district is fundamental to residential land values within it, and warrants further attention.

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\(^{126}\) (Urban Land Institute & Regional Council of Mayors, 2009)  
\(^{127}\) (City of St. Louis Park, 2012)  
\(^{128}\) (Metropolitan Council, 2012)  
\(^{129}\) (City of St. Louis Park, 2012)  
\(^{130}\) Ib.  
\(^{131}\) (Schnitker, 2012)  
\(^{132}\) (League of Minnesota Cities, 2012)  
\(^{133}\) (Schnitker, 2012)
Works Consulted


King County Housing Alliance. (2000, March). *Cottage Housing Development*. Retrieved from King County Housing Alliance: http://www.mrsc.org/govdocs/s42cottagehousdev.pdf


Peterson, I., & Cermack, M. (2012, November 2). Vice President of Land - Pulte Homes Minnesota Division, Director of Land Acquisition - Pulte Homes Minnesota Division. (J. Giant, & B. Oltz, Interviewers)


## Appendix A

### Table A: 2004-2010 Residential Relocation Originations

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<tr>
<td><strong>Totals</strong></td>
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<td>717</td>
<td>520</td>
<td>530</td>
<td>1,035</td>
<td>1,127</td>
<td>876</td>
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</table>

*Source: Excensus, LLC (2011)*
**Proposed Community Design Process for Small-Lot Residential Infill Development**

**Goal:** Shift from a transactional development negotiation to an engaging outreach/education, design, development, and evaluation process.

<table>
<thead>
<tr>
<th>Stages of Process</th>
<th>Neighborhood/Community Visioning &amp; Planning</th>
<th>Developer Proposal-Project Approval/Construction</th>
<th>Design Process Reevaluation Re-visioning by Community</th>
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<tbody>
<tr>
<td><strong>Timeline</strong></td>
<td>6-8 Months</td>
<td>1-4 Months (as needed)</td>
<td>30 – 45 Days</td>
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<td><strong>Stakeholders</strong></td>
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<td><strong>Real Estate Developer</strong></td>
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<td>(Ongoing Efforts)</td>
</tr>
<tr>
<td><strong>Minnetonka Community Development Staff</strong></td>
<td></td>
<td></td>
<td>(Ongoing Efforts)</td>
</tr>
</tbody>
</table>
| **Density Education** | - Use Community/Neighborhood Organizations to educate residents on benefits of density  
- Also utilize City’s website and printed media/mailing campaigns |                                               |                                                     |
| **Social Media Outreach** | - Establish followers and distribute density education and ongoing project/planning/news; active presence is key for attentive followers |                                               |                                                     |
| **Intentional Interaction** | - Develop relationships, stay informed |                                               |                                                     |
| **NBHD/Community Group(s)** |                                           |                                               |                                                     |
| **Project Kickoff** | - Recruit neighborhood residents for volunteer’s task force  
- Co-production opportunity |                                               |                                                     |
| **NBHD Design Charette** |                                           |                                               |                                                     |
| **Feedback Meeting** | - Recap of 1F design guidance |                                               |                                                     |
| **Meeting & Tour** | - Task Force’s 1st Meeting  
- Development Walking Tour |                                               |                                                     |
| **Design Workshop** | - Integrate Charette findings  
- World Café setup: Topic tables based on UMN Design Toolkit/Research |                                               |                                                     |
| **Meeting Task Force's 3rd Meeting** | - Create Design Guidelines |                                               |                                                     |
| **NBHD Meeting** | - Presentation of project and incorporation of design guidance to neighborhood  
- (including Task Force) |                                               |                                                     |
| **Project Approval of Developer Proposal** |                                           |                                               |                                                     |
| **Construction** |                                           |                                               |                                                     |
| **Project Tour** | Following completion of construction; event includes open invitation to residents and interested parties (especially those about to go through design guidance process) |                                               |                                                     |
| **Evaluation Workshop** | Evaluation of process, revisioning for future processes |                                               |                                                     |

**Intended Outcome & Value**

- Begin ongoing education/outreach process about benefits of density. Create and foster relationships. Integrate design toolkit into community-oriented design guidance.
- Shortened, streamlined approval process. Increased certainty for developer.
- Project that reflects community vision and design guidance. Ongoing involvement of NBHD and community. Improving process of its application on other small-lot developments in Minnetonka.