Private Governments and Private Services: Homeowners Associations in the City and Behind the Gate

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**Abstract**

In this article, we examine homeowners associations (HOAs) as private providers of what are traditionally considered local government services: streets, security, recreation, maintenance, and public works (e.g., water, drainage, sewerage, and trash collection). Although much has been theorized about the nature of such organizations, little empirical data has been collected to examine these prescriptions. We present the results of a 2005 survey of large-scale HOAs to shed light on the characteristics of such associations, and especially the nature of their relationships with local governments that may be providing similar services. We find that the survey raises interesting questions about how these associations interact with local governments, and that the nature of private as opposed to public governance demands further study.

Homeowners associations are residential private governments that were identified as the most extensive privatization effort in the United States in 1989 (McKenzie, 2005; U.S. Advisory Commission on Intergovernmental Relations [ACIR], 1989). Since that time, the number of homeowners associations (HOAs) has increased to some 286,000 organizations, with on average 10,000 new associations added each year (Community Associations Institute, 2006). These fast-growing units of urban governance represent a radical change in how local collective goods and services are provided (Dilger, 1992; Foldvary, 1994). The discussions about HOAs and their services have concentrated on theoretically grounded arguments of how associations can be expected to operate. Individual cases are often included to illustrate points of interest (Langbein & Spotswood-Bright, 2004). Gated HOA communities have also been subjects of academic interest, with much of the research grounded in specific cases (Blakely & Snyder, 1997). It is not known whether the chosen cases demonstrate common approaches or rare examples because baseline information about HOAs is lacking. This study helps fill the information gap by reporting the results of a 2005 national survey of large-scale HOA communities and the services they made available to their residents. We hope that adding this limited but systematically collected empirical evidence will shed some much-needed light on discussions about the characteristics and actions of homeowners associations.

Large-scale HOAs are private governments similar to cities in their size and scope. “Large-scale” HOAs, a designation coined by the Community Association Institute, have populations of 1,200 or more, roughly the size of nearly half of the incorporated municipalities in the U.S. (U.S. Census Bureau, 2002). Like cities, HOA communities have powers and responsibilities within established geographic borders (ACIR, 1989). Both have the authority to demand mandatory payments from residents, regulate behavior within their jurisdictions, and impose sanctions to enforce their rules (McCabe, 2005). Like cities, large-scale HOAs provide a range of
services—from streets and swimming pools to trash collection and security. As private enterprises, however, HOAs have considerable autonomy over their service provision (Frug, 1980; Nelson, 2005), a freedom many states deny their cities. States often identify the services cities and other local governments either must or may provide. Other states regulate local service provision or service providers (Krane, Rigos, & Hill, 2001). HOAs’ functional responsibilities, on the other hand, are largely the choice of the developers that create the community, build the facilities, and establish the homeowners association (Hyatt, 1985, 2000; McKenzie, 1994). As actors in the marketplace, real estate developers have strong financial incentives to provide services that meet but do not exceed potential homeowners’ demands. Market forces, it is argued, lead real estate developers to supply the optimal mix and level of collective goods and services, increasing the efficiency of private governments (Boudreaux & Holcombe, 2002; Tabarrok, 2002).

The literature addressing the provision and production of local goods and services (Bish & Ostrom, 1973; Joassart-Marcelli & Musso, 2005; Miller, 1981; Stein, 1990) leaves the role of HOAs unconsidered. HOAs are independent service providers, but little is known about the characteristics of HOA communities or the services they provide their residents. This article briefly describes HOAs’ characteristics and moves on to describe the survey’s approach and limitations. We then analyze these HOAs’ service provision across functional categories, including streets, security, recreation, maintenance, and “public works” (e.g., water, drainage, sewerage, and trash collection). The implications that the growth of homeowners associations have for urban governance concludes our discussion.

Homeowners Associations

The term “homeowners association” is the common name for residential private governments (McKenzie, 2005). Real estate developers establish HOAs to manage common areas, which may include open space, streets, or recreational amenities. Buying property in the HOAs’ jurisdiction automatically makes property owners HOA members. Homeowners have individual interests in their homes as well as interests in the common areas that are held by the association. Most HOAs, particularly large-scale HOAs, are incorporated as private nonprofit corporations and governed by boards of directors elected from the association membership. At minimum, the boards are charged with maintaining the common areas and enforcing the associations’ rules governing the use of property and individual behavior (Hyatt, 1985, 2000; Natelson, 1989; Sterk, 1997).

The Survey

There is no national public database of HOAs. Following the lead of earlier national surveys (ACIR, 1989; Dilger, 1992), we relied on the assistance of the Community Association Institute (CAI), a professional association whose members include community managers, attorneys, accountants, homeowners, and others with an interest in residential community associations. Unlike earlier studies, this survey concentrates only on the “large-scale community,” which CAI defines as one with at least 1,200 housing units, a minimum of 1,000 acres, and an annual
operating budget of $1.5 million or more (http://www.caionline.org). CAI provided a membership list of their large-scale community group. To avoid double counting, the membership list was screened to assure each community was allotted only one response. The resulting set of discrete, large-scale associations totaled 436. The CAI Research Foundation staff found online communications to be the most effective means of obtaining members’ opinions. Using Zoomerang survey software, an Internet-based survey instrument was designed and disseminated to the 436 potential respondents.

Survey research is prone to nonrespondent bias, and this may be especially problematic with Internet surveys. Several steps were taken to increase response rates and assure that all types of large-scale communities were represented (Dillman, 2000). The first round of surveys was sent in January 2005, with a second round sent in March. Telephone and mailed reminders followed in April 2005. In February and May 2005, CAI members without listed email addresses were telephoned and directed to a secure website that linked potential respondents to the questionnaire. By June 2005, 175 complete responses had been returned, for an overall response rate of 40%. Questionnaires were directed to each community’s management office. To help assure validity, the wording and content of questions about the communities and their services were based on ACIR’s 1989 survey instrument. These questions appear in Appendix A.

Drawing inferences from survey research demands caution. Because of the small population and lack of information about the communities themselves, we attempted a census instead of drawing a sample. Our results, then, apply to the responding communities and can be generalized to the CAI large-scale community group. Since CAI membership is voluntary, it is not known whether it is representative of all large-scale HOA communities in the United States. Statistics are used only to assure that differences among the responses are large enough to “matter,” not to make inferences about the national HOA population.

Community Characteristics

The respondents’ communities were located throughout the United States, but concentrated in the South (38% of the respondents) and West (42%). Some 15% of the respondents reported locations in the Northeast and 3% in the Midwest. Over 80% of the communities were founded after 1970. This pattern is consistent with regional growth and development trends from the 1970s through the present, reflecting population shifts to the South and West as well as state and local governments’ increased acceptance of planned community developments (McCabe, 2005). The pattern is also consistent with the total CAI large-scale community group.

Survey respondents estimated their communities ranged in size from 100 to over 80,000 residents. Community managers kept track of the number of homes or lots, not the number of people, but most respondents hazarded rough population estimates. Ten communities reported populations of over 30,000 people, but the other 165 respondents calculated community populations of less than 21,000. An estimated population of 10,000 was the modal response, with a mean of 7,648 and a median of 3,800. Communities that offered only one kind of housing, such as all
single-family homes (26%) or multifamily buildings (3%), were in the minority. Nearly half (48%) of the communities’ housing was predominantly single family, but included options such as townhouses, duplexes, condominiums, or apartments. Variations in the communities’ housing types hint at underlying differences in their populations in terms of age, income, lifestyles, and preferences. This suggestion is consistent with the empirical analysis of HOA populations in California, which found that HOAs were less economically segregated than other neighborhoods (Gordon, 2004).

Of the 175 responding HOAs, 98 (56%) were located in incorporated municipalities. Most HOAs (62%) were also served by at least one special district (other than school districts). Services the HOAs do not provide could either be unavailable or provided by a public sector organization such as a city, county, or special district and paid for by the individual homeowner through taxes or fees. In other words, large-scale HOA communities are not “governments” themselves, but are overlaid by local governments that may or may not provide services within the association communities.

All HOAs are territorial entities, but when walls or gates enclose a community, abstract boundaries have physical form. Gated communities, on the rise since the 1990s, have become a topic of scholarly and popular interest. Blakely and Snyder (1997) estimated that about 20% of new housing was built behind gates. Gates and walls were more prevalent among the survey respondents, with 106 (61%) reporting that their communities were gated.

Private Services

Cities’ adoptions of alternative modes of service delivery (i.e., options other than their direct provision and production of goods and services) have been attributed to limited local revenues combined with increased programmatic responsibilities and heightened service standards (Clingermayer & Feiock, 1997; Dilger, Moffett, & Struyk, 1997; Ferris & Graddy, 1986; Levine, 1984). The alternative service delivery mechanisms discussed in the literature include a continued role for local governments (Warner & Hebdon, 2001). Even when governments do not produce the service, they may plan, arrange, pay for, “incent,” or monitor service provision on an ongoing basis (Stein, 1990). Cities’ regulatory powers can also be used to mandate service provision. Through their land development regulations, local, general purpose governments may require developers to provide infrastructure within their projects or even demand payment (in the form of impact fees) for the projects’ effects on public services outside the developments’ boundaries (Altshuler & Gomez-Ibanez, 1993).

Within HOAs, developer-provided goods and services may be available for public use or only for residents of the private community. This public–private difference affects the operation and appearance of the goods and services as well as the long-term legal responsibility for their upkeep. The regulatory process applies different standards and design requirements to public infrastructure and development than to private. For example, private roads can be more narrow or made of different materials than public streets. Local government has no liability or maintenance responsibility for private goods or services (Ben-Joseph, 2004). Private
police may deter crime by their presence, but they have no more enforcement power or legal authority than any one else (Bayley & Shearing, 1996). In other words, private police cannot arrest and detain lawbreakers. These examples suggest that there may be qualitative differences between some “public” goods and their private counterparts.

HOAs ultimately assume responsibility for the private goods and services developers assembled. Tables B1–B5 in Appendix B show the number and percentage of communities supplying transportation, recreation, security, public works, and community maintenance services. These include the goods and services these large-scale HOAs provide or pay contractors to provide.

Not surprisingly, given the associations’ charge, the services provided most often concerned maintaining the commons, including grass cutting and weeding (95%) as well as tree or plant trimming (97%). In addition, 47% of the respondents noted that the HOAs maintained or landscaped medians or other areas outside the communities’ official boundaries, creating some positive spillovers for their host communities. In terms of their frequency of occurrence, caretaking functions were followed by a variety of recreational amenities, with swimming pools provided by 82%, community centers by 77%, tennis courts by 77%, greenways or natural areas by 75%, play lots or tot lots by 67%, and trails by 63%. One-third of the communities reported providing a golf course, while 48% had gyms or fitness centers and 43% had fields for sports such as baseball or soccer. Most of the transportation services related to maintenance, including street repair (62%) and street cleaning (61%), but a majority of the communities also provided street lighting (55%), sidewalks, or bike paths (with 51% of the respondents noting each of these services).

HOAs’ provision of infrastructure was relatively rare. One-third of the respondents reported being responsible for the initial construction of streets, while 23% provided cable and 19% provided either drinking water or sewage services. Services related to public works—storm drainage maintenance (61%) and trash collection (41%)—were more commonplace than providing water or sewer services. Among security services, patrols (63%) were most often made available, followed by gates (50%), guards (48%), and fences (45%). Only 14% reported supplying a call box as a security measure.

**Private Services in the City and Behind the Gate**

The services large HOA communities provide may differ for communities located in cities, which may use their regulatory powers to require that certain services be in place. Similarly, the academic attention paid to gated communities suggests that these enclaves differ fundamentally from other communities. Underdeveloped theory and the dearth of baseline information about large-scale HOA communities demand prudent analytical approaches. To better answer the question of service delivery, we examined two sets of relationships for significance: (a) the difference between HOAs located in incorporated areas and those located in unincorporated areas and (b) the difference between HOAs that were gated communities and those that were not. Since the survey asked respondents a series of “yes” or “no” questions with respect to different kinds of service delivery, we ran a series of chi-square tests of significance on each model. The results are listed in Tables C1 through C5 in
Appendix C. We included all respondents who completed the service delivery questions on the survey instrument (N = 175).

HOA services in cities may be distinct from those in unincorporated areas for a number of reasons. Cities have long been looked to as responding to population-driven demands for services. If cities regulate private service provision in HOAs, the services provided would reflect the developers’ responses to both land use regulations and market forces. Distinctions in the service offerings between HOAs in cities versus unincorporated areas should be present. On the other hand, when large-scale HOAs locate within incorporated areas many basic services may already be in place, and the need for private services is lessened.

Gates present physical barriers, and such physical features can influence land use patterns, especially in urban areas (Noonan, 2005). Consequently, service provision may also vary between HOAs that are gated versus ungated. Based on focus groups and interviews with residents, Blakely and Snyder (1997) created a typology of gated communities. Lifestyle communities focus on recreational amenities, prestige communities on exclusivity and status, and security enclaves on safety. Theory provides a scant basis for predicting how these differences, if any, would be expected to play out in terms of the private services provided.

The survey results showed that large-scale HOAs’ private services were nearly the same in both cities and unincorporated areas, with no significant differences in the private provision of street and transportation services, security services, public works, and most recreation and community maintenance services. There were few exceptions. HOAs in cities provided more tennis courts and community maintenance services (e.g., painting members’ dwellings and landscaping areas outside the community boundaries) than their counterparts in unincorporated areas.

The distinctions in HOAs’ private services were greater between gated and ungated communities. Across all categories, gated communities provided more private public works than ungated HOAs, including drinking water, sewer, cable, trash collection, and the initial construction of streets. They also provided more street cleaning, repair, and lighting, as well as more maintenance of storm drainage systems and members’ dwellings than did their counterparts without gates. Gated communities provided significantly more security services, including guards, patrols, gates, fences, and call boxes than ungated HOAs. Gates may not actually reduce crime, but, particularly among upper-income residents, members of gated communities believe their neighborhoods are safer than do residents of ungated neighborhoods (Blakely & Snyder, 1997; Wilson-Doenges, 2000). There were, however, no significant differences between gated and ungated communities in the provision of recreational amenities.

Taken together, the results show the range of private services large-scale communities provided their residents, especially in recreation and security and in the maintenance of common areas and public works. The notion that large-scale HOAs in cities offer different sets of private services than HOAs outside the corporate limits was largely unsupported. Significant differences lie behind the gates, however. Gated HOA communities had more private security features than ungated communities, adding weight to Blakely and Snyder’s (1997) idea of gated communities as “security enclaves.”5 In all but one service category, gated communities made more private goods and services available than their ungated counterparts.
Members living in gated communities may view their HOA as a lifestyle choice characterized by more recreational amenities (Blakely & Snyder, 1997). The survey, however, found no significant differences in the kind of recreation facilities offered in gated communities versus ungated communities.

**Discussion and Conclusion**

Despite their status as private enterprises, HOAs are part of the local public economy that allow for particularized service delivery within their borders. The growing number of HOAs suggests that their share of that economy is increasing, particularly in the South and West. The survey results found that large-scale HOA communities were active components of the local public economies of both incorporated and unincorporated areas, with virtually no significant service provision distinctions between communities within and outside city boundaries. However, the survey also found clear service differentiation between large-scale gated HOA communities and others. This finding could be seen as confirming the notion that private governments, when gated, can match residents’ preferences and private service provision more precisely than cities can. In other words, gated communities have an efficiency advantage over cities (Oakerson, 1989).

Like cities, large-scale HOA communities offer a bundle of goods and services to their residents. Since the service package is provided only within the community, HOAs can rely more heavily on benefit-based fiscal instruments to pay for the service package than cities can (Oakerson, 1989). HOA residents are then apt to get more of what they pay for through their dues, fees, and assessments than other city residents receive through their tax payments. HOAs offer few opportunities for redistribution beyond their community’s boundaries. Since most of the large-scale HOAs surveyed were located within cities, their tax payments to their city governments would be available for citywide services and their HOA payments for community-specific services.

From the Community Association Institute’s perspective, HOA residents are subject to “double taxation” when they pay public taxes for services that their associations provide privately, and eliminating double taxation has been CAI’s expressed policy position since 1988 (http://www.caisecure.net/public_policies.pdf#page=57). Few state and local governments have responded to the issue. New Jersey requires municipalities to repay HOAs for some private services that would otherwise be publicly provided. Montgomery County, Maryland, provides tax rebates to associations (Nelson, 2005). The double taxation issue may become more prominent as the number of HOA communities continues to increase. This issue illustrates the need to recognize HOAs as parts of an increasingly complex local public economy and to acknowledge their residents as a latent force in state and local politics.

Large-scale HOA communities present intergovernmental-like issues to the practice of local governance. As private entities, however, the communities are excluded from formal avenues of intergovernmental cooperation and omitted from the information-sharing requirements imposed on public organizations. Private communities may seek a kind of secession from the public realm, at least in terms of tax
payments, if private services replace public services. In California, cities with private
governments have lowered public expenditures, a finding that suggests private
services are being substituted for public ones in some cases (Cheung, 2006). On the
other hand, if private services augment public services, there may be more room for
partnerships like the contract cities of the Lakewood plan (Miller, 1981), with HOA
communities contracting with local governments to provide or share costs for
services.

HOAs’ mandatory membership requirements equip potential political actors
with organizational resources that voluntary neighborhood associations lack
(McCabe, 2005). These resources could turn HOAs into strategic partners for
rebuilding urban democracy, a function that has been ascribed to voluntary neighbor-
hood associations (Berry, Portney, & Thomson, 1993) but not to HOAs. Private
governments’ involvement in politics have been portrayed as myopic, concentrat-
ing on land use or development proposals at the communities’ borders (Tarlock,
1989). Dilger (1992) found that 70% of the HOAs studied monitored local gov-
ernment decisions regularly, and tried to affect the outcome if it seemed the
HOAs’ interests were endangered. ACIR’s 1989 survey found that most of the
contact between HOAs and local governments were initiated by the HOA, not by
the government.

Taken together, these studies depict HOAs as largely self-interested communities
that may have seceded from the broader polity until their interests were jeopar-
dized. This portrayal may be accurate, but it is clearly incomplete. Dilger’s (1992),
ACIR’s (1989), and this study’s survey instruments were directed to HOA officials
or board members. The community-centered focus found in these studies may be
an artifact of the studies’ chosen respondents. To understand the roles of private
governments in the local public economy and in urban governance, the views of
local officials and the practices of local governments need to be included. Local
governments may rely on HOAs as partners not only in service provision but also in
civic engagement, as links between individual residents and the broader commu-
nity. Exclusion is a choice made by both the private governments and the local
governments that overlie them. Further study into the operation and integration of
private governments and private services into the governance of urban areas should
include both public and private sector actors.

Notes

1 Developers appoint the association’s first board of directors and have weighted voting powers that
diminish as the community is built and its units are sold (Hyatt, 1985; McKenzie, 1994).
2 Members of the large-scale community group are self-selected. Our data suggest that the housing
threshold (1,200 units) is not strictly adhered to as a condition of membership.
3 Gordon (2004) also found HOA communities to be less racially diverse than other California
neighborhoods.
4 The local government’s land development regulations typically require certain services (such as
streets, water, sewer, or stormwater retention) be provided in new developments. Privately provided
services need not conform to public standards (e.g., for the width of local streets) and must be privately
maintained as part of the HOA common areas.
5 Blakely and Snyder’s security enclaves were created by the residents themselves, not by developers.
The security measures provided by these HOAs were financed by the association, but may have been
initially put in place by the developer.
About the Authors

Barbara Coyle McCabe is Associate Professor in the School of Public Affairs at Arizona State University. Her research and teaching interests focus on public budgeting and finance, intergovernmental relations as well as urban governance and policy.

Jill Tao is Associate Professor in the Public Administration Program in the College of Social Sciences, University of Hawai‘i at Manoa. Her research interests are rooted in comparative administration and policy, with a special focus on issues of development and the nexus between public and private sector activity at the local level of government.

References


**APPENDIX A**

**Homeowners Associations’ Survey**

**Service Provision**

**Community Characteristics**

1. About how many people live in the community you manage (hereafter, “your community”)?

2. About what percentage of the housing in your community is:
   - Single family detached houses and semi-detached houses
   - Single family townhouses or duplexes
   - Multifamily

3. Is your community:
   - Completely ungated
   - Ungated but with gated sections/neighborhoods
   - Completely gated
   - Other, Please Specify

4. Is your community:
   - Completely built out
   - About 75% built out
5. Is your community incorporated as a separate municipality?
   • Yes
   • No

6. If your community is not incorporated as a municipality, is it:
   • Located within an incorporated municipality
   • Located in the unincorporated area of a single county
   • Located in the unincorporated area of more than one county
   • Other, Please Specify

7. Other than school districts, is your community served by one or more special district governments (e.g., drainage districts, fire protection districts, etc.)?
   • Yes
   • No

### Service Provision

8. Which of the following services related to streets does your community provide, or pay contractors to provide, through dues or special assessments?
   • Initial construction of streets
   • Street repair
   • Street lighting
   • Street cleaning
   • Sidewalks
   • Bike paths
   • Other, Please Specify

9. Which of the following services related to recreation does your community provide, or pay contractors to provide, through dues or special assessments?
   • Swimming pool
   • Golf course
   • Gym/fitness center
   • Playlot/totlot
   • Trails
   • Community center
   • Tennis court
   • Greenway/natural area
   • Sports field (e.g., baseball or soccer fields)
   • Other, Please Specify

10. Which of the following services related to security does your community provide, or pay contractors to provide, through dues or special assessments?
    • Security guard
    • Security patrol
    • Call box
• Gates
• Fences
• Other, Please Specify

11. Which of the following other services does your community provide, or pay contractors to provide, through dues or special assessments?
• Grass cutting/weeding common areas
• Trimming trees/plants in common areas
• Drinking water
• Sewer
• Cable
• Trash collection
• Wash/storm drainage maintenance
• Painting/outside maintenance of residences
• Maintenance/landscaping areas outside the community boundaries (e.g. medians, easements)
• Other, Please Specify

12. Does your community provide or pay for any other services to residents? If so, please list them below:

13. In what year (approximately) was your community established?

14. Please indicate your community’s location (City, if applicable, and zip code)

APPENDIX B

HOAs: Services Type and Number Provided

Table B1. Services Related to Streets and Transportation

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number Providing Service</th>
<th>Percentage Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial construction</td>
<td>58</td>
<td>33%</td>
</tr>
<tr>
<td>Street repair</td>
<td>109</td>
<td>62%</td>
</tr>
<tr>
<td>Street cleaning</td>
<td>106</td>
<td>61%</td>
</tr>
<tr>
<td>Street lighting</td>
<td>97</td>
<td>53%</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>89</td>
<td>51%</td>
</tr>
<tr>
<td>Bike paths</td>
<td>89</td>
<td>51%</td>
</tr>
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</table>

Table B2. Services Related to Recreation

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number Providing Service</th>
<th>Percentage Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming pool</td>
<td>144</td>
<td>82%</td>
</tr>
<tr>
<td>Golf course</td>
<td>57</td>
<td>33%</td>
</tr>
<tr>
<td>Gym/fitness center</td>
<td>84</td>
<td>48%</td>
</tr>
<tr>
<td>Playlot/totlot</td>
<td>117</td>
<td>67%</td>
</tr>
<tr>
<td>Trails</td>
<td>111</td>
<td>63%</td>
</tr>
<tr>
<td>Community center</td>
<td>135</td>
<td>77%</td>
</tr>
<tr>
<td>Tennis court</td>
<td>134</td>
<td>77%</td>
</tr>
<tr>
<td>Greenway/natural area</td>
<td>131</td>
<td>75%</td>
</tr>
<tr>
<td>Sports field (e.g., baseball or soccer)</td>
<td>75</td>
<td>43%</td>
</tr>
</tbody>
</table>
### Table B3. Services Related to Security

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number Providing Service</th>
<th>Percentage Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security guard</td>
<td>84</td>
<td>48%</td>
</tr>
<tr>
<td>Security patrol</td>
<td>110</td>
<td>63%</td>
</tr>
<tr>
<td>Call box</td>
<td>24</td>
<td>14%</td>
</tr>
<tr>
<td>Gates</td>
<td>88</td>
<td>50%</td>
</tr>
<tr>
<td>Fences</td>
<td>78</td>
<td>45%</td>
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### Table B4. Services Related to Public Works

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number Providing Service</th>
<th>Percentage Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking water</td>
<td>33</td>
<td>19%</td>
</tr>
<tr>
<td>Sewer</td>
<td>33</td>
<td>19%</td>
</tr>
<tr>
<td>Cable</td>
<td>40</td>
<td>23%</td>
</tr>
<tr>
<td>Trash collection</td>
<td>72</td>
<td>41%</td>
</tr>
<tr>
<td>Storm drainage Maintenance</td>
<td>107</td>
<td>61%</td>
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</table>

### Table B5. Other Community Maintenance Services

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number Providing Service</th>
<th>Percentage Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass cutting/weeding common areas</td>
<td>166</td>
<td>95%</td>
</tr>
<tr>
<td>Trimming trees/plants in common areas</td>
<td>169</td>
<td>97%</td>
</tr>
<tr>
<td>Painting/outside maintenance of residences</td>
<td>45</td>
<td>26%</td>
</tr>
<tr>
<td>Maintenance/landscaping outside community boundaries (e.g., medians, easements)</td>
<td>83</td>
<td>47%</td>
</tr>
</tbody>
</table>

### APPENDIX C

**HOAs: Services, Location, and Gated Communities**

### Table C1. HOAs in Cities and Gated Communities

<table>
<thead>
<tr>
<th>Type of HOA</th>
<th>Number of cases (Total $N = 175$)</th>
<th>Percentage of total cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gated communities</td>
<td>106</td>
<td>61</td>
</tr>
<tr>
<td>Incorporated communities</td>
<td>98</td>
<td>56</td>
</tr>
</tbody>
</table>
Table C2. Street Service Delivery by HOAs Pearson Chi-Square Values (Asymptotic Significance, Two-Sided)

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Incorporated Communities</th>
<th>Gated Communities</th>
<th>Total n Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial construction</td>
<td>0.024</td>
<td>12.755*</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>(0.877)</td>
<td>(0.000)</td>
<td></td>
</tr>
<tr>
<td>Repair</td>
<td>0.015 (0.990)</td>
<td>19.899*</td>
<td>109</td>
</tr>
<tr>
<td>Cleaning</td>
<td>0.013 (0.911)</td>
<td>21.928*</td>
<td>106</td>
</tr>
<tr>
<td>Lighting</td>
<td>0.010 (0.922)</td>
<td>8.279*</td>
<td>97</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>0.927 (0.336)</td>
<td>1.603</td>
<td>89</td>
</tr>
<tr>
<td>Bike paths</td>
<td>1.368 (0.242)</td>
<td>1.603</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total n</td>
<td>98</td>
<td>106</td>
<td>175</td>
</tr>
</tbody>
</table>

Shaded boxes have significance levels for $\alpha \leq 0.05$.
*indicates significance levels for $\alpha \leq 0.01$.

Table C3. Recreation Services Delivered by HOAs Pearson Chi-Square Values (Asymptotic Significance, Two-Sided)

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Incorporated Communities</th>
<th>Gated Communities</th>
<th>Total n Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming pool</td>
<td>0.065 (0.799)</td>
<td>1.705 (0.192)</td>
<td>144</td>
</tr>
<tr>
<td>Golf course</td>
<td>1.623 (0.203)</td>
<td>2.181</td>
<td>57</td>
</tr>
<tr>
<td>Gym/fitness center</td>
<td>0.814 (0.367)</td>
<td>1.627</td>
<td>84</td>
</tr>
<tr>
<td>Playlot/totlot</td>
<td>1.297 (0.255)</td>
<td>1.616</td>
<td>117</td>
</tr>
<tr>
<td>Trails</td>
<td>1.730 (0.188)</td>
<td>0.157</td>
<td>111</td>
</tr>
<tr>
<td>Community Center</td>
<td>0.889 (0.346)</td>
<td>0.081</td>
<td>135</td>
</tr>
<tr>
<td>Tennis court</td>
<td>6.407* (0.011)</td>
<td>0.094</td>
<td>134</td>
</tr>
<tr>
<td>Greenway/natural area</td>
<td>3.540 (0.060)</td>
<td>0.054</td>
<td>131</td>
</tr>
<tr>
<td>Sports field (e.g. baseball or soccer)</td>
<td>1.515 (0.218)</td>
<td>0.241</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total n</td>
<td>98</td>
<td>106</td>
<td></td>
</tr>
</tbody>
</table>

Shaded boxes have significance levels for $\alpha \leq 0.05$.
*indicates significance levels for $\alpha \leq 0.01$.

Table C4. Security Services Delivered by HOAs Pearson Chi-Square Values (Asymptotic Significance, Two-Sided)

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Incorporated Communities</th>
<th>Gated Communities</th>
<th>Total n Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security guard</td>
<td>0.859 (0.354)</td>
<td>38.806*</td>
<td>84</td>
</tr>
<tr>
<td>Security patrol</td>
<td>0.036 (0.830)</td>
<td>21.167*</td>
<td>110</td>
</tr>
<tr>
<td>Call box</td>
<td>0.061 (0.804)</td>
<td>6.054*</td>
<td>24</td>
</tr>
<tr>
<td>Gates</td>
<td>0.007 (0.932)</td>
<td>73.422*</td>
<td>88</td>
</tr>
<tr>
<td>Fences</td>
<td>0.164 (0.686)</td>
<td>27.186*</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total n</td>
<td>98</td>
<td>106</td>
<td></td>
</tr>
</tbody>
</table>

Shaded boxes have significance levels for $\alpha \leq 0.05$.
*indicates significance levels for $\alpha \leq 0.01$.
Table C5. Community Services Delivered by HOAs Pearson Chi-Square Values (Asymptotic Significance, Two-Sided)

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Incorporated Communities</th>
<th>Gated Communities</th>
<th>Total n Providing Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass cutting/weeding common areas</td>
<td>0.514 (0.473)</td>
<td>2.947</td>
<td>166</td>
</tr>
<tr>
<td>Trimming trees/plants in common areas</td>
<td>1.295 (0.255)</td>
<td>5.015</td>
<td>169</td>
</tr>
<tr>
<td>Drinking water</td>
<td>0.041 (0.840)</td>
<td>3.927</td>
<td>33</td>
</tr>
<tr>
<td>Sewer</td>
<td>0.932 (0.334)</td>
<td>3.927</td>
<td>33</td>
</tr>
<tr>
<td>Cable</td>
<td>0.047 (0.828)</td>
<td>8.195* (0.004)</td>
<td>40</td>
</tr>
<tr>
<td>Trash collection</td>
<td>0.515 (0.473)</td>
<td>1.289</td>
<td>72</td>
</tr>
<tr>
<td>Storm drainage maintenance</td>
<td>1.500 (0.221)</td>
<td>10.454* (0.001)</td>
<td>107</td>
</tr>
<tr>
<td>Painting/outside maintenance of residences</td>
<td>4.084 (0.043)</td>
<td>4.131</td>
<td>45</td>
</tr>
<tr>
<td>Maintenance/landscaping outside community boundaries (e.g. medians, easements)</td>
<td>5.260 (0.022)</td>
<td>1.332</td>
<td>83</td>
</tr>
</tbody>
</table>

Total n

Shaded boxes have significance levels for $\alpha \leq 0.05$.
*indicates significance levels for $\alpha \leq 0.01$. 