Subdivision Requirements as a Regulatory Barrier to Affordable Housing

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By

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and

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Executive Summary

This report presents a statistical analysis of regulatory data gathered from subdivision and zoning ordinances for the national Study of Subdivision Requirements as a Regulatory Barrier to Affordable Housing. It serves as a technical appendix to the main report that discusses the implications of regulation on housing cost in the U.S.

The broader purpose of this study is to explore the connection between subdivision and zoning regulations and housing prices. The approach of the study is to investigate regulatory standards and requirements that raise the cost of residential development. This is done by examining regulatory standards that lend themselves to direct measurement and analysis of their cost implications.

The project has several distinct parts: (1) conducting review of literature available about the topic; (2) choosing regulatory variables and collecting data on them for a nationwide representative sample of jurisdictions; (3) determining excessive values for the variables and determining the associated costs; and (4) assessing the administrative and processing costs of the regulations.

This report documents the second part of the study: data collection for specific variables for a national sample of jurisdictions. The core of the report is a descriptive analysis of the 14 variables included as part of the sample. The report presents the sampling methods and procedures for collecting the data.

METHODS

SAMPLING METHODS

This report is based on a sample of 469 local governments in the U.S. that have the authority to adopt land use regulations. The sampling challenge was to develop a methodology that resulted in a random sample that is representative of the population. The objective was to develop a sample that was (1) geographically representative of jurisdictions across the nation, (2) reflected the national distribution of population (including jurisdiction size), (3) reflected both fast and slow growing jurisdictions, and (4) represented a range of government types.

The methodology we used to draw the sample weighted the sample by population in states (e.g., the number of samples for each state is proportional to its population) and then by amount of population growth in each local government between 1996 and 2000. This methodology placed emphasis on the amount of population in each state, and ensured that both fast and slow growing governments were represented. The rationale for the sampling methodology is described in Appendix 2 to this report.

The sampling methodology originally intended to examine subdivision ordinances from 1,100 jurisdictions. When the Project Team began evaluating which standards to measure, we found that many of the relevant standards were in

zoning ordinances, rather than subdivision ordinances. After consultation with HUD, the Project Team decided to review zoning ordinances and subdivision ordinances and to reduce the sample size to 500 jurisdictions to reflect the increased work of gathering data from multiple ordinances. We chose the smaller sample of 500 jurisdictions from the previous sample of 1,100 jurisdictions. In cases where the ordinances could not be obtained from the jurisdiction, we used a substitution method to choose a different jurisdiction.

Analysis of the sample jurisdictions performed after data collection was completed showed that the sample is roughly representative of each state by population and geography. Jurisdictions in the sample represent 26% of the entire U.S. population.

ORDIANCE REVIEW PROCEDURES

Ordinance review consisted of five steps.

1. *Choose the residential district to review*. The first step in ordinance review was choosing the correct residential district to review. This step was the most critical step in ordinance review. The methods for choosing the zoning district are presented below.

2. *Gather data from the zoning ordinance.* The following information was generally found in the section of the ordinance that described the chosen zoning district: lot width, lot size, floor area, and setbacks. The zoning ordinance often contained landscaping requirements and off-street requirements.

3. *Gather data from the subdivision ordinance.* The following standards were generally found in the design standards section of the subdivision ordinance: sidewalk requirements, street width standards, open space requirements, and curb and gutter requirements. Some jurisdictions included landscaping or off-street parking requirements in the subdivision ordinance.

4. *Search both ordinances for missing standards.* When researchers did not find standards in the usual ordinance, they searched the other ordinance for the standards. For example, if landscaping standards were not found in the subdivision ordinance, the researcher searched the zoning ordinance for landscaping standards for the chosen zoning district.

5. *Gather administrative data.* The final step was to gather administrative data about the ordinances, such as the last date the ordinance was updated and the type of update.

Methods for choosing zoning districts

Zoning ordinances presented some inherent challenges to analysis of the variables. A typical zoning ordinance has three or more residential districts. The

Project Team quickly concluded that reviewing every residential district for each jurisdiction in the sample would be infeasible. Thus, we developed a protocol for gathering standards that significantly reduced the data collection effort.

We focused our attention on the "border" zone between low-density single-family development and high-density multifamily development. These “border” zones typically had smaller minimum regulations for lot size and other lot dimension variables than other single-family zones. We focused on this zone because it presents a greater opportunity for development of affordable housing than zones that require larger lot sizes.

We chose the "border" zone based on the following characteristics: it permitted detached single-family houses outright; it had the smallest minimum lot size and setbacks; and (where applicable) it allowed a mixture of detached single-family houses and duplexes or multifamily housing. In cases where it was unclear which zone to choose after evaluating these characteristics, we always chose the zone with the smallest minimum lot size where detached single-family homes are permitted outright.

ANALYTICAL APPROACH

The analytical approach focused on two types of statistical analysis: (1) basic descriptive analysis; and (2) means testing. The basic descriptive analysis consisted of the following statistics: mean, median, mode, frequencies, range, and standard deviation. The means testing used chi-square and ANOVA with post-hoc testing to determine if the variables varied significantly by class membership within subcomponents of the sample including government type, census region, membership in a Metropolitan Statistical Area (MSA), central city, and population quartiles. These tests showed whether and how the variables differed by these subcomponents and which differences were significant.

SUMMARY OF FINDINGS

Table 1 provides a summary of descriptive statistics for the variables reviewed in the study. The findings for each variable are discussed below.

Table 1. Summary of descriptive statistics of the variables reviewed

	N	Mean	Median	Mode	Standard Deviation	Minimum	Maximum
Minimum lot size (square feet)	419	9924	6,000	5000	16,946	750	217,800
Minimum lot width (linear feet)	342	61.92	60	50	25	20	250
Minimum front setbacks (linear feet)	413	25.15	25	25	13	0	100
Minimum side setbacks (linear feet)	417	8.257	8	5	5	0	30
Minimum rear setbacks (linear feet)	404	20.55	20	25	9	0	65
Minimum floor area (square feet)	86	1060	1,000	1000	359	500	2,500
Minimum off-street parking spaces	367	1.878	2	2	1	0	4
Minimum open space requirements							
Percent of total land in subdivision	47	13.1	10	10	9	3	50
Number of square feet per dwelling unit	18	1562	795	871	3,447	310	15,246
Number of square feet per person	34	229.4	218	218	112	87	436
Minimum sidewalk width (linear feet)	153	4.487	4	4	1	3	10
Minimum planting strip width (linear feet)	37	4.608	5	5	1	2	8
Minimum street pavement width (linear feet)	192	27.81	28	30	6	16	45
Minimum street right-of-way width (linear feet)	262	52.24	50	50	8	20	80

Source: Survey of Regulatory Standards, CPW 2006

Most of the 469 jurisdictions reviewed had zoning and subdivision ordinances. Eighty-three percent of the jurisdictions had both zoning and subdivision ordinances. Six percent of jurisdictions only had zoning ordinances, 4% of jurisdictions only had subdivision ordinances, and 6% of jurisdictions had neither ordinance. The jurisdictions with neither ordinance were included in the study to represent jurisdictions with less regulation.

Lot size requirements were highly variable among jurisdictions. The smallest minimum lot size in the study was 750 square feet and the largest was 217,800 square feet (5 acres). Forty-one percent of the jurisdictions in the sample had minimum lot sizes between 5,000 and 6,999 square feet. Statistical testing showed significant differences in lot size requirements for each subcomponent of the sample. This indicated that there were fundamental differences in minimum lot sizes for each of the subcomponents of the sample. For example, there were significant differences in minimum lot sizes for each of the four Census regions (one of the subcomponents of the sample), with larger minimum lot sizes in the Northeast than in the other three regions.

Lot widths varied across jurisdictions. The smallest lot width requirement was 20 feet, the largest 250 feet, and the median 60 feet. Fifty-five percent of jurisdictions required minimum lot widths of 50 to 69 feet. As with lot sizes, statistical testing showed significant differences in lot width requirements for each subcomponent of the sample.

The mean front setback requirement was 25 feet. Fifty-six percent of jurisdictions had front setbacks between 20 to 29 feet. Like lot size and width, front setbacks differ in a significant way for each subcomponent of the sample.

The mean side setback requirement was eight feet per side.. Fifty-eight percent of jurisdictions required minimum side yard setbacks of between five to

nine feet. Side setbacks differed in significant ways for each subcomponent of the sample.

The mean rear setback was 21 feet. The smallest requirement for a rear setback was zero feet and the largest was 65 feet. Fifty-five percent of jurisdictions required rear setback of between 20 to 29 feet. Rear yard setbacks differed in significant ways for each of the five subcomponents of the sample, except for population quartiles.

Fewer than 20% of jurisdictions had minimum floor area requirements. For these, the mean floor area was 1,060 square feet and the median 1,000 square feet. The smallest floor area requirement was 500 square feet per dwelling unit and the largest 2,500 square feet.

More than three-quarters of the jurisdictions required two off-street parking spaces. For these, the mean number of off-street parking spaces required per dwelling unit was 1.88 and the median was 2 parking spaces. Further statistical testing showed that the number of off-street parking spaces required differed in a significant way based on population quartile, as well as between central cities and non-central cities.

Fewer than half of the jurisdictions had landscaping standards. Forty-two percent of the jurisdictions had landscaping standards specifically for subdivisions or the zoning district that we examined for the study. Differences in landscaping requirements were significant for the following subcomponents of the sample: Census region, whether the jurisdiction is part of an MSA, and population quartile.

Open space standards show substantial variation. We collected three types of requirements for open space: (1) percent of total land in the subdivision, (2) number of square feet per dwelling unit, and (3) number of square feet per person. About 20% of the jurisdictions in the sample used one of these methods for determining open space requirements.

Fifty-one percent of jurisdictions explicitly required sidewalks. Twenty-six percent of all jurisdictions required sidewalks on both sides of the street. The average sidewalk width was four feet. Requirements for sidewalks varied in a significant way by the following subcomponents of the sample: government type, whether the jurisdiction is part of an MSA, and the jurisdiction's population. In contrast, sidewalk width requirements did not vary significantly based on any of the subcomponents of the sample.

Relatively few (8%) jurisdictions had requirements for planting strips. The planting strip is a landscaped area between the sidewalk and curb. The mean and median planting strip width was five feet.

Curbs and gutters were required by 50% of the jurisdictions in the study.

The mean and median pavement width for streets was 28 feet. Most jurisdictions' standards for pavement width were either 20 to 24 feet wide, 25 to

29 feet wide, or 30 to 34 feet wide. Pavement width differed in a significant way for each subcomponent of the sample.

The mean street right-of-way was 52 feet. Fifty-six percent of jurisdictions with right-of-way standards require right-of-ways no smaller than 50 to 54 feet and 24% of jurisdictions require right-of-ways at least 60 to 64 feet wide. Street right-of-way requirements varied significantly by Census region.

GENERAL OBSERVATIONS ABOUT DATA COLLECTION AND ANALYSIS

The following section presents observations about the data collection and analysis phases of the survey of regulatory standards.

Most jurisdictions regulated one or more of the variables. Ninety-four percent of the jurisdictions in the sample had standards for one or more of the study variables. More than three-quarters of the jurisdictions had standards for lot size, front setbacks, and off-street parking spaces. About one-fifth of the jurisdictions had standards for open space and floor area.

The population varied among jurisdictions. The size of jurisdictions within the sample varied substantially. They ranged in population from 9.5 million people to 132 people, from some of the largest cities and most densely developed counties in the U.S. to small rural towns. These differences presented challenges in analyzing the regulatory standards. We addressed these challenges by separating the sample into population quartiles and comparing regulatory standards among the quartiles.

Some of the variables had a broad range of values. This indicates that jurisdictions are applying a wide range of regulatory standards. The basic statistical analysis showed that several of the variables had substantial variation. The following variables had a large range of values and large standard deviation compared to their mean: lot size, lot width, front setback, side setback, and open space. For example, a rural jurisdiction is likely to have larger minimum requirements for lot size and lot width than an urban city We addressed these differences by separating the sample subcomponents and comparing regulatory standards within the subcomponent groupings. The subcomponents included government type, census region, membership in a Metropolitan Statistical Area (MSA), and central city.

Chapter 1 Introduction

This report presents a statistical analysis of regulatory data gathered from subdivision and zoning ordinances for the national Study of Subdivision Requirements as a Regulatory Barrier to Affordable Housing. It serves as a technical appendix to the main report that discusses the implications of regulation on housing cost in the U.S. This report begins with an overview of the study—the context and the research approach. It then describes characteristics of the sample of zoning and subdivision regulations from 469 local governments. The core of the report is a descriptive analysis of the 14 variables included as part of the sample. It discusses the implications of the sample in the context of the broader study. This report also includes a number of appendices that describe the sampling methods and procedures.

BACKGROUND

This study is designed to assess, on a nationwide scale, the occurrence and magnitude of land use controls as regulatory barriers to building affordable housing. To date there is only local and regional research available on the topic, much of which is outdated. Prior studies have focused on the effect of regulatory barriers to affordable housing from a broad perspective. For instance, *Not In My Backyard: Removing Barriers to Affordable Housing*, published by the President's Advisory Commission in 1991, found that exclusionary, discriminatory, and unnecessary regulations were significant barriers to affordable housing. According to that study, these barriers deter the development of housing within the means of lower-income, and increasingly middle-income "work force" families.

The regulations that this study focused on are generally found in subdivision and zoning ordinances. Subdivision and zoning regulations can increase the cost of housing through setting excessive standards for development, such as lot size or street width. Until now, there had been no nationwide study that explores the impact of these specific regulations on the affordability of housing.

Subdivision and zoning ordinances are used by jurisdictions to regulate development. The ordinances serve different purposes in the development process.

- **Subdivision ordinances** regulate the division of land for development, most frequently for residential purposes. Subdivision ordinances generally include two types of requirements: (1) administrative procedures and requirements for dividing land into smaller lots and (2) standards for developing shared infrastructure, such as streets and sidewalks, within the area of development.

- **Zoning ordinances** regulate development by dividing the jurisdiction into multiple zones, based on compatible uses. For example, a jurisdiction may have several different zones for residential development, each geared

towards different densities of residential development. Zoning ordinances include many types of regulation and requirements. This study focuses on the requirements found in the densest residential zone that permits development of detached single-family housing outright. This zone represents the "border" between multi-family housing and low-density single-family housing. The requirements for less land in this zone increase the likelihood of affordable housing being developed in this zone because land accounts for a substantial share of the costs of residential development.

- The United States Department of Housing and Urban Development (HUD) contracted with the National Association of Homebuilders (NAHB) Research Center to conduct this study. The NAHB assembled a Project Team to investigate this issue, which included the National Center for Smart Growth Research and Education at the University of Maryland and ECONorthwest. ECONorthwest contracted with the Community Planning Workshop (CPW) to conduct the data collection portion of the study. This technical appendix was written by CPW and ECONorthwest.

PURPOSE

The broader purpose of this study is to explore the connection between subdivision and zoning regulations and housing prices. The approach of the study is to investigate regulatory standards and requirements that raise the cost of residential development. This is done by examining regulatory standards that lend themselves to direct measurement and analysis of their cost implications.

The project has several distinct parts: (1) conducting review of literature available about the topic, (2) choosing regulatory variables and collecting data on them for a nationwide representative sample of jurisdictions, (3) determining excessive values for the variables and determining the associated costs, and (4) assessing the administrative and processing costs of the regulations.

This report documents the second part of the study, data collection for specific variables for a national sample of jurisdictions. The report presents the methodology for collecting the data, as well as a descriptive analysis of the variables. Specifically this report presents:

- Protocol and methods used to obtain the data
- Characteristics of the sample as compared to all jurisdictions in the U.S.
- Descriptive analysis of each variable included in the study
- Discussion of deviation among jurisdictions for each variable
- Comparisons of geographic regions, jurisdiction types, and population for selected variables

MEASURING REGULATORY STANDARDS

The Project Team worked together to design and execute the data collection portion of the study. This part of the study involved the following components:

- **Choosing the variables.** This involved creating a list of land use regulatory variables that contribute to construction costs and evaluating whether these variables are found in subdivision ordinances. During the design phase we found that some of the variables that contribute the most to residential development costs are found in zoning ordinances, rather than subdivision ordinances. As a result, we chose to expand the study to include these zoning standards. This process is summarized in Appendix 1.

- **Sampling methodology.** One goal of the study was to produce conclusions that can be applied to the entire U.S. An essential part of this task was to creating a representative nationwide sample of jurisdictions to include in the data collection portion of the study. The sampling method is summarized in Appendix 2.

- **Collecting ordinances.** Ordinance collection was an essential task for the study. Appendix 3 summarizes the protocols used for ordinance collection.

- **Ordinance review.** Ordinance review involved locating the variables in either the subdivision or zoning ordinance and choosing the minimum values for each variable. We focused on regulations impacting development of new single-family detached dwellings, especially development in subdivisions. Appendix 4 provides a description of the ordinance review procedures.

The steps above resulted in a sample of 469 local governments with the authority to adopt land use regulations.

ORGANIZATION OF THE REPORT

The remainder of this report is organized as follows:

Chapter 2: Characteristics of the sample presents information about the sample, including a summary of the sampling methods used to choose jurisdictions, variations among ordinances, and comparisons of the sample with all local governments in the U.S.

Chapter 3: Descriptive analysis of variables from sample jurisdictions presents analysis of the variables taken from the ordinances. The analysis includes lot standards, landscaping standards, open space standards, and street standards.

Chapter 4: Observations presents our general observations about the variables and study.

This report also contains several appendices:

Appendix 1: Choice of review variables summarizes the variables used in the project and the reasons for including each variable.

Appendix 2: Sampling methodology presents more detail on the sampling methodology used to choose the jurisdictions to include in the project.

Appendix 3: Ordinance collection gives details about the protocols that we followed for collecting ordinances.

Appendix 4: Ordinance review procedures presents the protocols that CPW used to review each ordinance.

Appendix 5: List of jurisdictions in the sample and substitute jurisdictions gives a list of the jurisdictions reviewed for the study, those in the sample that were not reviewed, and substitutes for jurisdictions for which we could not obtain ordinances.

Appendix 6: Data tables presents raw data from selected statistical processes used in the analysis.

Chapter 2

Characteristics of the Sample

The Project Team developed a sampling methodology to choose a nationwide representative sample of jurisdictions. This chapter contains a description of the sample and the methods used to draw the sample. The chapter is separated into the following sections: a summary of methods, a comparison of the sample against all jurisdictions in the U.S., and a description of the ordinances in the sample.

SUMMARY OF METHODS

This section provides short summaries of our sampling methods and our the method for choosing zoning districts for the study. Refer to Appendix 4 for more detail on our ordinance review procedures.

SAMPLING METHODS

This report is based on a sample of 469 local governments in the U.S. that have the authority to adopt land use regulations. The sampling challenge was to develop a methodology that resulted in a random sample that is representative of the population. The objective of this exercise was to develop a sample that was (1) geographically representative of jurisdictions across the nation, (2) reflected the national distribution of population (including jurisdiction size), (3) reflected both fast and slow growing jurisdictions, and (4) represented a range of government types.

According to the U.S. Census of Local Governments, 38,966 governmental entities existed in 2002 that had the authority to develop and adopt subdivision regulations. These local governments represent the population of interest in this study. The distribution of local governments is shown in Table 2-2 (Appendix 2). Further evaluation of the data indicates that local governments are far from being evenly distributed through the U.S. Moreover, the geographic distribution of local governments is significantly different than the geographic distribution of population. Thus, weighting the sample by the number of governmental entities would result in a sample that had a much higher proportion of small jurisdictions.

The methodology we used to draw the sample weighted the sample by population in states (e.g., the number of samples for each state is proportional to its population) and them by amount of population growth in each local government between 1996 and 2000. This methodology placed emphasis on the amount of population in each state, and ensured that both fast and slow growing governments were represented. The rationale for the sampling methodology is described in Appendix 2 to this report.

The sampling methodology originally intended to examine subdivision ordinances from 1,100 jurisdictions. When the Project Team began evaluating

which standards to measure, we found that many of the relevant standards were in zoning ordinances, rather than subdivision ordinances. After consultation with HUD, the Project Team decided to review zoning ordinances and subdivision ordinances and to reduce the sample size to 500 jurisdictions to reflect the increased work of gathering data from multiple ordinances. We chose the smaller sample of 500 jurisdictions from the previous sample of 1,100 jurisdictions. In cases where the ordinances could not be obtained from the jurisdiction, we used a substitution method to choose a different jurisdiction.

By the time we made the decision to reduce the number of jurisdictions in the study, we had already pulled a sample of 1,100 jurisdictions. We selected the 500 jurisdictions from the 1,100 jurisdictions. We separated the process of choosing jurisdictions into two parts: (1) we chose the two largest jurisdictions in each state to ensure that each state was represented in the study and (2) we chose the remaining 400 jurisdictions randomly from the remaining 1,000 jurisdictions.

In cases where we were unable to obtain the ordinances from the jurisdiction, we used a substitution method to choose a different jurisdiction. The protocol for choosing substitute jurisdictions is documented in Appendix 3. In short, we returned to the remainder of the sample of 1,100 jurisdictions and chose a new jurisdiction from the same state, with a similar size and government type if possible.

COMPARISON OF THE SAMPLE WITH ALL JURISDICTIONS IN THE U.S.

A comparison of the jurisdictions included in the sample provides an indication of whether the sample is representative of all governments in the U.S. If it is not representative, this comparison should show the ways that the sample is not representative. This section includes comparisons of the sample against the entire U.S. for the following: jurisdictions by type of government, jurisdictions by region, jurisdictions by state based on population, and jurisdictions' population by region.

It is worth reviewing the sampling priorities since they determined the characteristics of the sample. The sample was weighted by the following factors for each jurisdiction:

1. Population
2. Growth rate
3. Geographic representation (each state got at least 2 samples regardless of population)

Note that the key weighting criteria did *not* include the number of local governments. If we had used the number of local governments as a weighting criteria, then states such as North Dakota that have a lot of local governments would have had many more samples that states like California that have far fewer local governments. We focused on jurisdictions' population and growth rate

rather than the type of local government because the focus of the study is the cost of excessive regulation on new development, which occurs more frequently in areas with more population and higher growth rates.

Table 2-1 shows the total number of each government type in the U.S. and the study sample, as well as the percentage differences. The table shows that the study sample over-represents cities and under-represents townships. To a lesser degree, villages and towns are also underrepresented. The main reason that townships, towns, and villages are underrepresented in the sample is that our sampling methodology favored geographic diversity and population distribution over government type. This finding is consistent with the sampling methodology described above.

Table 2-1. Comparison between the number and proportion of the types of governments in the United States and the study sample

	U.S.		Study Sample		Percent
Government type	Number	Percent	Number	Percent	difference
Borough	1,233	3.2%	7	1.5%	-1.7%
Charter Township	126	0.3%	4	0.9%	0.5%
City	10,048	25.8%	258	55.0%	29.2%
City and Borough	3	0.0%	0	0.0%	0.0%
City and County	5	0.0%	3	0.6%	0.6%
City/Parish	2	0.0%	0	0.0%	0.0%
Civil Township	5	0.0%	0	0.0%	0.0%
Consolidated Government	3	0.0%	0	0.0%	0.0%
Corporation	2	0.0%	0	0.0%	0.0%
County	2,963	7.6%	47	10.0%	2.4%
Metropolitan Government	3	0.0%	1	0.2%	0.2%
Municipality	4	0.0%	1	0.2%	0.2%
Parish	60	0.2%	1	0.2%	0.1%
Plantation	35	0.1%	0	0.0%	-0.1%
Town	7,973	20.5%	77	16.4%	-4.0%
Township	12,759	32.7%	44	9.4%	-23.4%
Unified Government	2	0.0%	1	0.2%	0.2%
Urban County Government	1	0.0%	1	0.2%	0.2%
Village	3,740	9.6%	24	5.1%	-4.5%
Total	**38,967**	**100.0%**	**469**	**100.0%**	**0.0%**

Source: U.S. Census and Source: Survey of Regulatory Standards, CPW 2006

Note: The selection of the jurisdictions is not proportionate between different government types for the U.S. and the sample because our sampling methods placed a stronger emphasis on geography and jurisdiction size than government type.

Table 2-2 shows the number of jurisdictions in each Census region for the entire U.S. and the study sample. The South and West make up a higher proportion of jurisdictions in the study sample than in the entire U.S. The South has the greatest representation in the sample, with 164 jurisdictions. The Northeast has the least representation in the sample, with 84 jurisdictions. This is proportionate to the region's share of the total number of jurisdictions in the U.S. The Midwest has the greatest number of jurisdictions in the U.S. (56%), but its representation in the sample is proportionately smaller (23%). The selection of the

jurisdictions is not proportionate between different regions within the U.S. and the sample because our sampling methods placed a stronger emphasis on jurisdiction size than geographic distribution.

Table 2-2. Number and percentage of jurisdictions by region for the U.S. and the study sample

	U.S.		Sample	
	Number	Percent	Number	Percent
Northeast	6,440	17%	84	18%
South	7,898	20%	164	35%
Midwest	21,918	56%	109	23%
West	2,710	7%	112	24%
Total	**38,966**	**100%**	**469**	**100%**

Source: U.S. Census and Study of Subdivision Requirements as a Regulatory Barrier to Affordable Housing Descriptive Analysis, CPW 2006

Note: The selection of the jurisdictions is not proportionate between different regions within the U.S. and the sample because our sampling methods placed a stronger emphasis on jurisdiction size than geographic distribution.

The sampling methodology was designed to draw a sample of jurisdictions based on the states' populations, proportionate to the U.S. population. The exception was that, to ensure geographic diversity, we chose two jurisdictions from each state, regardless of population. Proportionate to each state's population, five states were under-represented by at least three jurisdictions in the sample: Florida, New York, Ohio, Pennsylvania, and Texas. One reason for this under-representation is the fact that some jurisdictions were not responsive to our attempts to obtain their ordinances.[1] Another explanation for the under-representation is that every state had a minimum of two jurisdictions in the sample, which redistributed jurisdictions from states with larger populations to states with small populations.

Table 2-3 shows the 2000 Census population and percentage by region for the U.S. and the study sample. The study sample represents 26% of the entire U.S. population. The region with greatest representation by population in the sample is the West, with 39% of the population in the sample. Population in the West is over represented in the sample and population in the South and Midwest are underrepresented in the sample. One explanation for this discrepancy is that six of the thirteen jurisdictions in the sample with greater than 1 million residents are located in the West, including Los Angeles County, which has approximately 9.5 million residents.

[1] We chose substitute jurisdictions to replace the unresponsive jurisdictions but were unable to contact some of the substitute jurisdictions. We stopped substituting jurisdictions near the end of data collection because there was not enough time to obtain and review ordinances for additional substitute jurisdictions.

Table 2-3. Number and percent of population per region for the U.S. and the study sample, 2000

	U.S.		Sample	
	Persons	**Percent**	**Persons**	**Percent**
Northeast	53,594,378	19%	12,843,013	17%
South	100,236,820	36%	19,937,361	27%
Midwest	64,392,776	23%	12,108,851	16%
West	63,197,932	22%	29,163,713	39%
Total	**281,421,906**	**100%**	**74,052,938**	**100%**

Source: U.S. Census and Study of Subdivision Requirements as a Regulatory Barrier to Affordable Housing Descriptive Analysis, CPW 2006

Note: The figures for the sample population in Table 2-3 are approximations because the sample had some instances where a county and a jurisdiction within the county were included in the sample. In those cases, we subtracted the population for the jurisdiction but counted the rest of the county's population.

CHARACTERISTICS OF THE ORDINANCES

The ordinances that we reviewed varied in a number of ways, including: whether the jurisdiction had both subdivision and zoning ordinances, the last date the ordinances were modified, the type of update, and the media the ordinance was available in. This section describes these differences among the ordinances.

Our sample included 500 jurisdictions, and CPW was able to perform ordinance reviews for 469 of them. We were unable to obtain ordinances for the remaining 31 jurisdictions, many of which were substitute jurisdictions. We chose to stop attempting to collect ordinances towards the end of the ordinance review process because it took several weeks to receive the requested ordinances. The main problem in obtaining ordinances was that some jurisdictions did not have their ordinances available on the Internet and were unresponsive to our attempts at contact. Appendix 5 includes a list of jurisdictions in the sample, jurisdictions that we were unable to contact, and substitute jurisdictions.

In some cases, staff at the jurisdictions that we contacted indicated that they did not have a subdivision and/or zoning ordinance. We included these jurisdictions in the review because the lack of regulation for particular standards could affect housing affordability.

Table 2-4 shows 83% of the jurisdictions had both ordinances. Six percent of the jurisdictions only had a zoning ordinance and 4% of the jurisdictions only had a subdivision ordinance. Twenty-seven (6%) had neither a subdivision nor a zoning ordinance.

Table 2-4. Jurisdictions with ordinances

	Number	Percent
Both ordinances	391	83%
Zoning only	30	6%
Subdivision only	21	4%
Neither ordinance	27	6%
Total jurisdictions	**469**	**100%**

Source: Survey of Regulatory Standards, CPW 2006

One indication that the ordinances are frequently used or that there has been development activity is the frequency of ordinance updates. Table 2-5 shows the date that the ordinances were last updated or adopted. The oldest zoning ordinance in our sample was last updated in June 1966. The most recently updated zoning ordinance was updated in November 2005. Most zoning ordinances in our sample have been updated since April 2003.

The subdivision ordinances were generally not updated as recently as the zoning ordinances. The oldest subdivision ordinance in our sample was updated in January 1950, and the most recent update was December 2005. Most subdivision ordinances in our sample have been updated since February 2001.

Table 2-5. Date that the ordinances were last updated or adopted

	Date
Zoning ordinances	
Date last updated	
Oldest	June 1966
Most recent	November 2005
Mean date	December 1999
Median date	April 2003
Subdivision ordinances	
Date last updated	
Oldest	January 1950
Most recent	December 2005
Mean date	April 1997
Median date	February 2001

Source: Survey of Regulatory Standards, CPW 2006

We also collected information about the type of ordinance update. If the ordinance has not been updated since adoption, we classified the ordinance as "adopted." If the ordinance had been updated since adoption, we classified the ordinance as "amended." In some cases, we were unable to determine the type of update and left this data blank. We experienced this problem most frequently in cases where the subdivision or zoning ordinances were a part of a larger ordinance, such as a unified development code. In these cases, we frequently only had the zoning and/or subdivision sections of the larger ordinance and could not determine the data of last update and/or the type of update.

Table 2-6 shows the most recent type of update for the ordinances. Forty-five percent of the zoning ordinances in the sample were amended, while 22% were

not updated since adoption. We were unable to determine the type of update for the remaining 33% of zoning ordinances. Thirty-eight percent of the subdivision ordinances were amended and 24% remained as adopted. We were unable to determine the type of update for the remaining 37% of subdivision ordinances.

Table 2-6. Ordinance last update

	Number	Percent	% of Total Sample
Zoning ordinances			
Adopted	101	32%	22%
Amended	211	68%	45%
Total	312		67%
Subdivision ordinances			
Adopted	114	39%	24%
Amended	180	61%	38%
Total	294		63%

Source: Survey of Regulatory Standards, CPW 2006

We collected electronic copies of the ordinances where possible. Table 2-7 shows the type of media for each ordinance, either electronic or paper. Of the jurisdictions with a zoning ordinance, 77% of the ordinances were available in electronic form and 23% were only available in paper form. Of the jurisdictions with a subdivision ordinance, 73% of the ordinances were available in electronic form and 27% were only available in paper form.

Table 2-7. Ordinance media

	Number	Percent	% of Total Sample
Zoning ordinances			
Electronic	326	77%	70%
Paper	95	23%	20%
Total	421		90%
Subdivision ordinances			
Electronic	294	73%	63%
Paper	109	27%	23%
Total	403		86%

Source: Survey of Regulatory Standards, CPW 2006

Note: The total for "% of Total Sample" does not equal 100% because not all jurisdictions in our sample had both ordinances, as noted previously.

In summary, the study sample was geographically diverse and represented at least two jurisdictions from each state. Cities were over-represented in the sample and villages, towns, and townships under-represented.

The study sample consisted of 469 jurisdictions, 83% of which had both a zoning and subdivision ordinance. More than half of the ordinances that gave the data of last update were last modified within the last five years. And about three-quarters of ordinances were in electronic form.

One final note: the researchers from the Community Planning Workshop at the University of Oregon found it surprisingly difficult and time consuming to obtain and compile ordinances for review. The initial hypothesis was that the majority of ordinances would be easy to find on-line. This was far from the case. Researchers considering such samples in the future are encouraged to provide plenty of time and budget for the seemingly simple process of finding and obtaining ordinances. In addition, not all ordinances available in electronic format are easy to work with. CPW found a surprising number of ordinances that were in html or pdf format and were published section-by-section, or page by page in separate files.

Chapter 3 Analysis of Variables

This chapter presents an analysis of the variables collected from zoning and subdivision ordinances. It represents the core of this report and the basis for the cost estimates that are the overarching objective of this study. The categories of variables in this study include: lot standards, landscaping standards, open space standards, sidewalk standards, and street standards.

ANALYTICAL FRAMEWORK

Our analytical approach focused on two types of analysis: (1) basic descriptive analysis, and (2) inferential statistics in the form of means testing. The basic descriptive analysis consisted of the following statistics: mean, median, mode, frequencies, range, and standard deviation. The means testing consisted of using chi-square and ANOVA tests.

The means tests showed statistically significant[2] differences among the jurisdictions. We separated the jurisdictions by certain characteristics, such as population size or whether the jurisdiction belonged to an MSA. These groupings, which represent subcomponents of the sample, allowed us to perform the means testing between the subcomponents of the sample, rather than the entire sample. This was helpful because the types of statistical tests we used work best when there is little variation within the sample and the descriptive analysis showed that the data had substantial variation. In other words, grouping the jurisdictions by subcomponents created more homogenous groups and allowed for comparisons of the standards within the subcomponents. The subcomponents included:

- **Government type**: We separated government types into six categories: county, city, town, township, village, and other government types. We combined counties and parishes because there are few parishes, and they serve a similar function as counties. We combined all the other government types presented in Table 2-1 because they made up less than 3% of the governments in the study.

- **Census region:** We grouped states into the four regions used by the U.S. Census: Northeast, Midwest, South, and West.[3]

- **Part of an MSA:** We grouped jurisdictions by whether they are a part of a Metropolitan Statistical Area (MSA), as defined by the U.S. Census. Jurisdictions belonging to a MSA are more likely to be located in an area where the population is densely distributed.

[2] For the remainder of the chapter, we refer to "statistically significant" results as "significant."

[3] The U.S. Census groups states by region in two ways. One grouping method is by four regions, which include: the Northeast, Midwest, South, and West. The other grouping method divides the four regions into nine divisions, which include: New England, Middle Atlantic, South Atlantic, East South Atlantic, West South Central, East North Central, West North Central, Mountain, and Pacific. This study uses the four regions to group states.

- **Central city:** We grouped jurisdictions based on whether they are a central city, as defined by the U.S. Census. A central city is the largest city of a Metropolitan Area (MA) and is a basis for establishment of an MA. Jurisdictions that are a central city are typically more densely populated than jurisdictions that are not a central city.

- **U.S. population:** We grouped the sample jurisdictions into quartiles based on their populations from the 2000 U.S. Census. The groups were as follows: fewer than 5,491 people; 5,492 to 25,176 people; 25,177 to 97,268 people, and more than 97,268 people.[4]

The means tests allowed us to determine if the variables varied in a significant pattern by class membership within certain subcomponents of our sample. In other words, the means testing indicated whether sample subcomponents, such as government type or Census region, make a difference in the standards that jurisdictions establish. For example, the means testing tells whether a variable such as lot size is likely to be different if the government is a city or county or if it is located in the east or west, etc. We used two forms of means testing: chi-square and ANOVA.

We performed chi-square tests on each variable using the five subcomponents of the sample. The chi-square indicated which variables had significant differences for the subcomponents of the sample. It is likely that significant[5] differences were caused by differences in the variables for the subcomponents. In other words, if the chi-square for lot size by government type is significant, then it is likely that lot size varied in a significant pattern by government type.

We then performed an ANOVA with a Bonferroni post-hoc test to identify which subcomponents had significant differences. This type of test required subcomponents with three or more categories. In our data, qualifying subcomponents included: government type, census region, and population. It also required continuous data in the variables. Where the chi-square test can indicate a significant difference among all of the subcomponents, the ANOVA with a Bonferroni post-hoc test can show the significant differences between each of the subcomponents. For example, this test might show that lot sizes are statistically different in cities than in counties.

In cases where we found standards for the variables in fewer than 100 jurisdictions, we did not perform any means testing because we had too little data to produce meaningful results.

[4] We created four quartiles for population of jurisdictions within the sample. Each quartile is comprised of 25% of the jurisdictions in the sample. The first quartile had jurisdictions with 5,491 or fewer residents. The second quartile had populations of 5,492 to 25,176. The third quartile had jurisdictions with populations of 25,177 to 97,268. And the fourth quartile had jurisdictions with 97,269 or more residents.

[5] When we use the term "significant" in the context of a statistical analysis, we mean "significant."

METHODS FOR CHOOSING ZONING DISTRICTS

Zoning ordinances presented some inherent challenges to the standards analysis. A typical zoning ordinance has three or more residential districts. The Project Team quickly concluded that reviewing every residential district for each jurisdiction in the sample would be infeasible. As a result, we developed a protocol for gathering ordinances that significantly reduced the data collection effort.

The review of each jurisdiction's zoning requirements was based on the standards from one zone in the zoning ordinance. The reason that we focused on one zoning ordinance is that most jurisdictions have three or more zoning districts that allow for single-family housing development, each with different requirements for the study variables. Collecting information about each of these zones was not practical because of the amount of time and resources involved in doing so. Instead, we focused our attention on the "border" zone between low-density single-family development and high-density multifamily development. The "border" zone generally allowed a mixture of high-density single-family dwellings with duplexes and multifamily dwellings.

We chose the "border" zone based on the following characteristics: it outright permitted detached single-family houses; it had the smallest minimum lot size and setbacks; and (where applicable) it allowed a mixture of detached single-family and duplexes or multifamily housing. In cases where it was unclear which zone to choose, we always selected the zone with the smallest minimum lot size that outright permitted detached single-family housing. We focused on the "border" zone because the land requirements are smaller, which should result in lower housing costs.

LOT STANDARDS

The Project Team collected seven lot-related variables, including minimums for: lot size, lot width, front yard setbacks, side yard setbacks, rear yard setbacks, floor area, and off-street parking. In all cases, we took standards from the densest zone that outright permitted detached single-family dwellings. Our assumption was that housing in this zone would be more affordable than zones with larger minimum lot size requirements because land cost is a large contributor to housing costs. We used standards for interior lots, rather than corner or other lot configurations. See Appendix 4 for more detail about our ordinance review procedures.

We found the lot variables in the zoning ordinance more than 90% of the time, with 10% of the lot variables coming from the subdivision ordinance. In most cases, the lot standards were single-point values, which we recorded in the database. In a few cases, one or more of the lot standards was given as a range or formula, which we could not record in the database. For example, several jurisdictions gave formula for calculating minimum side yard setbacks based on the lot width and other factors. In those cases, we did not record the side setbacks in the database but tracked them in a separate text document. These cases are not included in this analysis.

Table 3-1 presents summary statistics for each of the lot variables. The statistics are discussed in conjunction with each standard.

Table 3-1. Minimum lot variable summary statistics

	N	Mean	Median	Mode	Standard Deviation	Minimum	Maximum
Lot size	419	9,924	6,000	5,000	16,946	750	217,800
Lot width	342	62	60	50	25	20	250
Front yard	413	25	25	25	13	0	100
Side yard	417	8	8	5	5	0	30
Rear yard	404	21	20	25	9	0	65
Minimum floor area	86	1,060	1,000	1,000	359	500	2,500
Off-street parking	367	1.88	2.00	2.00	0.51	0.00	4.00

Source: Survey of Regulatory Standards, CPW 2006

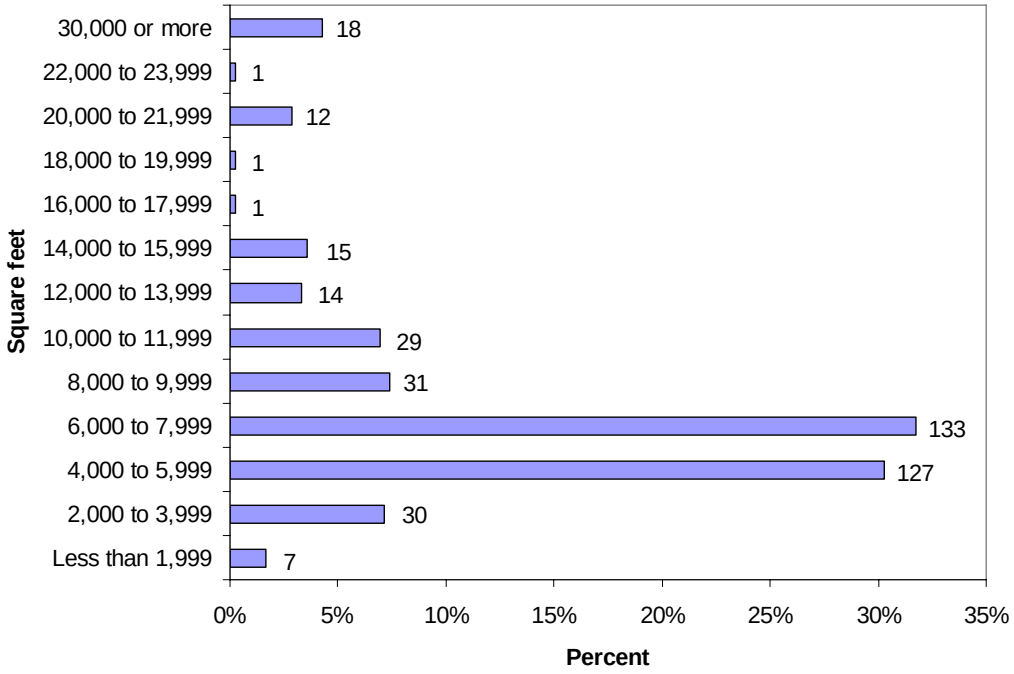
LOT SIZE

Lot size is one of the key variables in this study because the minimum lot size determines the amount of land required for a single-family detached dwelling. Most of the other lot variables are related to size and placement of the dwelling on the lot.

Lot size is the most commonly encountered standard in the study, and it has the greatest variation. We found lot size standards in 95% of the jurisdictions with zoning or subdivision ordinances. Table 3-1 shows that minimum lot size has a mean value of 9,924 square feet and a median of 6,000 square feet, with a standard deviation of 16,946 square feet. This shows that minimum lot sizes vary substantially. The smallest minimum lot size in the study was 750 square feet and the largest was 217,800 square feet (5 acres).

Figure 3-1 shows a breakdown of the minimum lot sizes, grouped in 2,000 square foot increments. About two-thirds of jurisdictions set their minimum lot sizes between 4,000 and 7,999 square feet. Only seven jurisdictions allow lots smaller than 2,000 square feet. Eighteen jurisdictions require lot sizes of at least 30,000 square feet or more.

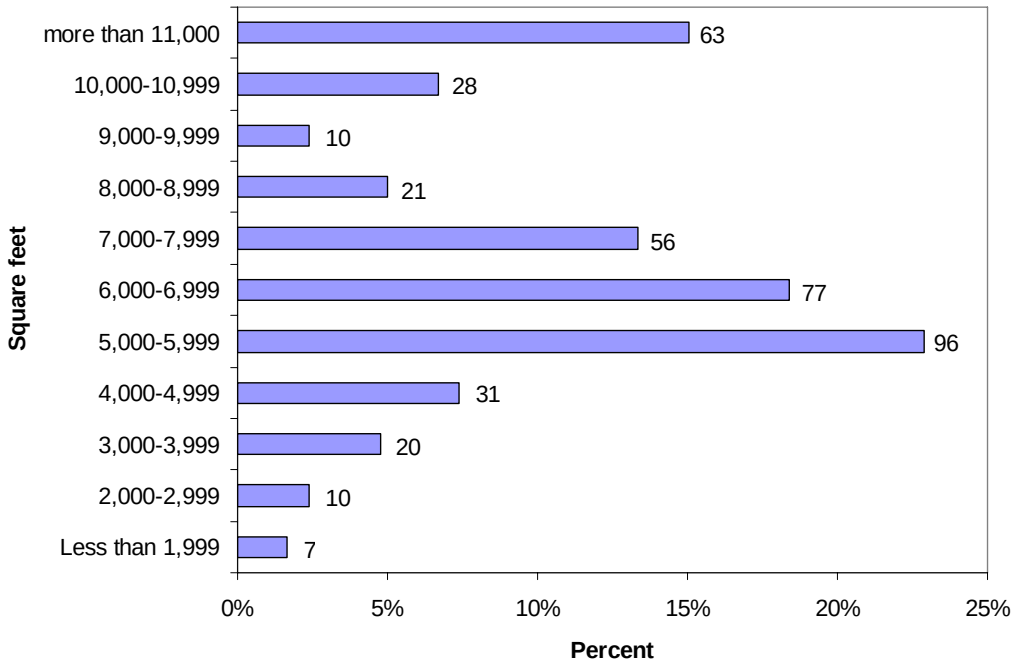
Figure 3-1. Minimum lot size requirements, percentage, and frequency, grouped by 2,000 square foot increments



Source: Survey of Regulatory Standards, CPW 2006

Figure 3-2 shows lot sizes grouped in 1,000 square foot increments. This closer examination of lot size requirements show that 23% of jurisdictions have minimum lot sizes between 5,000 and 5,999 square feet and an additional 18% of jurisdictions allow lots between 6,000 and 6,999 square feet.

Figure 3-2. Minimum lot size percentage and frequency, grouped by 1,000 square foot increments



Source: Survey of Regulatory Standards, CPW 2006

Table 3-2 shows the results of statistical analysis of lot size compared to the five subcomponents. The significance level column describes the statistical relationship between the variable and each subcomponent of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no." The analysis shows that lot size is statistically different for each subcomponent of the sample.

Table 3-2. Statistical comparisons of lot sizes for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.000
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.000
Central city / Not central city	Yes	0.000
U.S. Population grouped in quartiles	Yes	0.000

Source: Survey of Regulatory Standards, CPW 2006

Further statistical testing shows the differences in lot sizes among subcomponents of the sample.[6] The differences observed within both types of means testing reinforce the conclusion that statistical differences result from differences in lot size within the subcomponents. Lot size varies within each subcomponent in the following ways:

- **Government type** City lot sizes are significantly smaller than county, town, and township lot sizes.

- **Census region** Lot sizes in the Northeast are statistically larger than lot sizes in the other three regions.

- **U.S. population** Lot sizes in the first quartile, jurisdictions with the fewest people, are statistically larger than lot sizes in other quartiles.

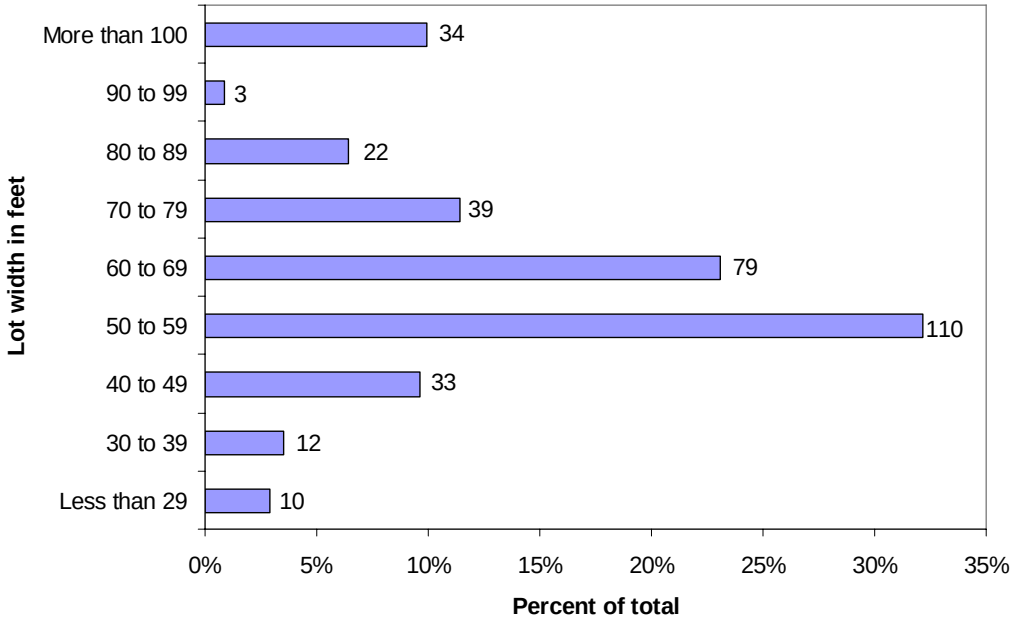
LOT WIDTH

Lot widths varied across jurisdictions but not as greatly as lot size. Table 3-1 shows that 342 or about 77% of jurisdictions with ordinances had minimum lot width standards. The mean lot width requirement was 62 feet and the median was 60 feet, with a standard deviation of 25 feet. The smallest lot width requirement was 20 feet and the largest was 250 feet.

Figure 3-3 shows lot widths in 10-foot increments. Most jurisdictions with minimum lot widths require lot widths of at least 50 to 69 feet. Thirty two percent of jurisdictions require minimum lot widths of 50 to 59 feet and 23% of jurisdictions require lot width minimums between 60 to 69 feet. Three percent of jurisdictions have minimum lot widths of less than 30 feet and 10% require lot widths of more than 100 feet.

[6] This form of statistical testing, an ANOVA with a Bonferroni post-hoc test, required a minimum of three groups within the subcomponent. We conducted this test for the following subcomponents: government type, census region, and U.S. population.

Figure 3-3. Minimum lot widths percentage and frequency, grouped in 10-foot increments



Source: Survey of Regulatory Standards, CPW 2006

Table 3-3 shows statistical comparisons between lot widths and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no." Like lot size, comparison of lot widths indicated significant differences within each of the five subcomponents of the sample.

Table 3-3. Statistical comparisons of lot widths for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.000
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.000
Central city / Not central city	Yes	0.000
U.S. Population grouped in quartiles	Yes	0.000

Source: Survey of Regulatory Standards, CPW 2006

Additional statistical testing using ANOVA shows the differences in minimum lot widths within subcomponents of the sample. These differences reinforce the conclusion that the statistical differences result from fundamental differences in lot widths within the subcomponents. Lot widths vary within each subcomponent in the following ways:

- **Government type** Lot widths are statistically different between the following groups: Cities have smaller average lot widths than villages, towns, or townships; and counties have larger average lot widths than towns or townships. The county regulations did not generally apply to the incorporated jurisdictions located within the county.

- **Census region.** Lot widths are statistically different between the Northeast and all other regions. The Northeast has larger average lot widths than any other region. Lot widths in the Midwest are statistically larger than those in the West.

- **U.S. population.** Lot widths are statistically different between the first population quartile, jurisdictions with the fewest people, and the other quartiles. The first quartile has larger average lot widths than the other quartiles. In addition, the second quartile has significantly larger lot widths than the fourth quartile.

SETBACKS

We examined three types of setbacks in this study: front, side, and rear setbacks. In each case, we examined setbacks for interior lots.

The front yard setback is the distance from the front of the dwelling unit to the property line or street. Table 3-1 shows that 93% or 413 of jurisdictions with ordinances had minimum standards for front yard setbacks. The mean and median front setback requirement was 25 feet, with a standard deviation of 13 feet. Minimum front setbacks ranged from zero to 100 feet.

Table 3-4 shows front yard setback requirements in 5-foot increments. The majority of jurisdictions had minimum setbacks between 20 and 29 feet. Twenty-five percent of jurisdictions had minimum setbacks between 20 and 24 feet and minimum 31% of jurisdictions had setbacks of 25 to 29 feet. One percent of jurisdictions had minimum setbacks less than 9 feet and 3% of jurisdictions had minimum setbacks of 55 feet or greater.

Table 3-4. Minimum front yard setbacks in 5-foot increments

	Frequency	Percent
Less than 9	4	1%
10 to 14	31	8%
15 to 19	45	11%
20 to 24	103	25%
25 to 29	126	31%
30 to 34	49	12%
35 to 39	16	4%
40 to 44	10	2%
45 to 49	4	1%
50 to 54	13	3%
More than 55	12	3%
Total	**413**	**100%**

Source: Survey of Regulatory Standards, CPW 2006

Table 3-5 shows statistical comparisons between front yard setbacks and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no." Differences in front yard setbacks were significant within each of the five subcomponents of the sample.

Table 3-5. Statistical comparisons of front yard setbacks with subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.000
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.000
Central city / Not central city	Yes	0.000
U.S. Population grouped in quartiles	Yes	0.000

Source: Survey of Regulatory Standards, CPW 2006

Additional ANOVA statistical testing shows the differences in front setbacks within subcomponents of the sample. The differences observed within both types of means testing reinforce the conclusion that the statistical differences result from fundamental differences front setbacks within the subcomponents. Front setbacks vary within each subcomponent in the following ways:

- **Government type** Front setbacks are statistically different for the following groups: Counties have smaller average front setbacks than townships; and cities have smaller average front setbacks than towns, townships, and villages.

- **Census region.** The West has statistically smaller average front setbacks than any other region. The South has statistically smaller average front setbacks than the Midwest and Northeast.

- **U.S. population.** Front setbacks are statistically different between the first population quartile (the fewest people per jurisdiction) and the other quartiles. The first quartile has larger average front setbacks than the other quartiles. In addition, the second quartile has statistically larger front setbacks than the fourth quartile.

We also examined side yard setbacks for interior lots. Table 3-1 shows that 417 or 94% of jurisdictions with ordinances had minimum side yard setback requirements. The mean and median side yard setback was eight feet per side, with a standard deviation of five feet. The smallest side yard setback requirement was zero feet and the largest was thirty feet per side.

Table 3-6 shows the side yard setbacks in five-foot increments. Fifty-eight percent of jurisdictions required minimum side yard setbacks of between five to nine feet. One-quarter of jurisdictions required side setbacks between ten to fourteen feet. Six percent required minimum side setbacks of less than five feet and 3% required setbacks of greater than twenty-five feet.

Table 3-6. Minimum side yard setbacks in 5-foot increments

	Frequency	Percent
Less than 5	27	6%
5 to 9	240	58%
10 to 14	104	25%
15 to 19	24	6%
20 to 24	10	2%
More than 25	12	3%
Total	**417**	**100%**

Source: Survey of Regulatory Standards, CPW 2006

Side yard setbacks consist of a setback for each side of the yard. Most ordinances present the setbacks for one side of the yard but some ordinances present a total size for both side setbacks. Seventeen percent of the jurisdictions with side yard setback requirements presented their minimum setbacks as a total number to be divided between the two sides. For example, a jurisdiction might require ten feet of side yard setbacks between the two sides but the minimum setback on either side might be four feet. The other setback would have to be at least six feet. In these cases, we divided the combined side setback in half and recorded that number. In our example, we would record five feet as the minimum side setback.

Table 3-7 shows statistical comparisons between side yard setbacks and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no." Differences in side yard setbacks were significant for each of the five subcomponents of the sample.

Table 3-7. Statistical comparisons of side yard setbacks for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.000
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.000
Central city / Not central city	Yes	0.000
U.S. Population grouped in quartiles	Yes	0.000

Source: Survey of Regulatory Standards, CPW 2006

Further statistical testing using ANOVA shows the differences in minimum side setbacks among subcomponents of the sample. The differences observed within both types of means testing reinforce the conclusion that the statistical differences result from fundamental differences side setbacks within the subcomponents. Side setbacks vary within each subcomponent in the following ways:

- **Government type** Side setbacks are statistically different for the following groups: Counties have smaller average front setbacks than towns and townships; and cities have smaller average front setbacks than towns, townships, and villages.

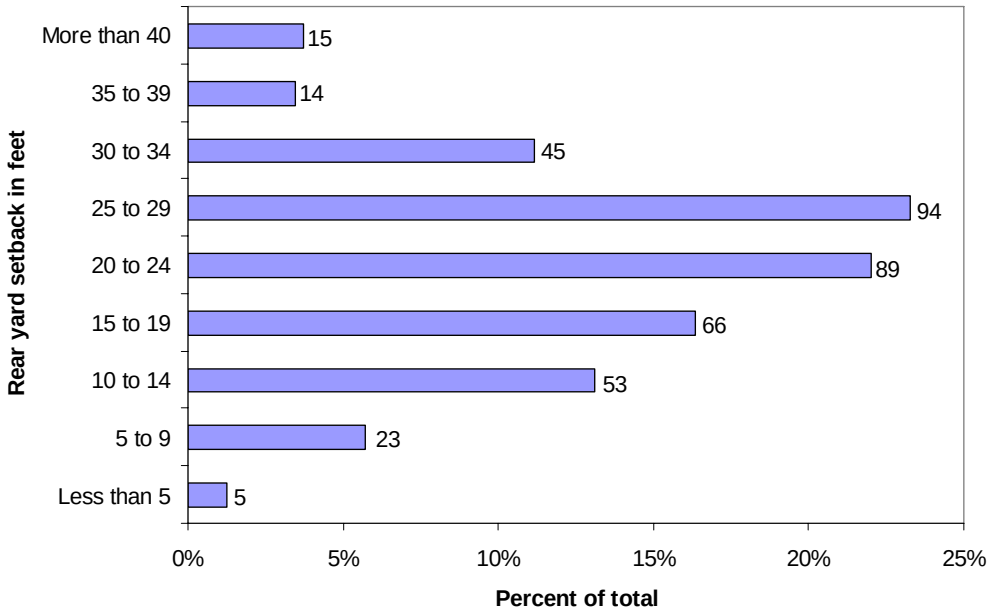
- **Census region** The Northeast has larger average side setbacks, a significant difference between the Northeast and the other regions. The West has smaller average side setbacks than any other region, which is also significant.

- **U.S. Population** The first population quartile, jurisdictions with the fewest people, have larger average side setbacks, which is significantly different from each other quartile. Likewise, the second population quartile has larger average side setbacks than the third and fourth quartiles, which is also significant.

The final type of setback was rear yard setbacks. Table 3-1 shows that 404 or 91% of jurisdictions with ordinances had minimum rear yard setback requirements. The mean rear setback was 21 feet and the median was 20 feet, with a standard deviation of 9 feet. The smallest requirement for a rear setback was zero feet and the largest was 65 feet.

Figure 3-4 shows the rear yard setback requirements in five-foot increments. The majority of rear yard setback minimums range from 15 feet to 29 feet. The most common minimum rear yard setbacks are between 20 to 24 feet (22% of jurisdictions) and 25 to 29 feet (23% of jurisdictions). One percent of jurisdictions have minimum rear setbacks of less than five feet and four percent of jurisdictions have minimum rear setbacks of greater than 40 feet.

Figure 3-4. Minimum rear yard setbacks percentage and frequency, grouped in 5-foot increments



Source: Survey of Regulatory Standards, CPW 2006

Table 3-8 shows statistical comparisons between rear setbacks and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

The differences were significant for each of the five subcomponents of the sample, except for the jurisdictions grouped by U.S. population. This means that rear setbacks are not statistically different based on the population quartile.

Table 3-8. Statistical comparisons of rear yard setbacks for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.007
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.001
Central city / Not central city	Yes	0.029
U.S. Population grouped in quartiles	No	0.055

Source: Survey of Regulatory Standards, CPW 2006

Additional statistical testing using ANOVA shows the differences in minimum rear setbacks within subcomponents of the sample. The differences observed reinforce the conclusion that the statistical differences result from

fundamental differences rear setbacks within the subcomponents. Rear setbacks vary within each subcomponent in the following ways:

- **Government type** Rear setbacks are on average smaller in counties than townships, a significant difference. Cities are statistically different than towns and townships, with smaller average rear setbacks.

- **Census region** The West has significantly different rear setbacks, which are generally smaller than the other regions. The South's rear setbacks are also statistically different from other regions. The South has larger rear setbacks than the West and smaller rear setbacks than the Northeast or Midwest.

- **U.S. Population** Jurisdictions in the fourth quartile of population (having the largest populations) have smaller average setbacks than any other quartile. This difference is significant between the fourth quartile and the first and second quartiles.

FLOOR AREA

The lot variables so far are related to the size of the lot and placement of the dwelling on the lot. The next lot variable, floor area, is related to the amount of living space within the dwelling unit, expressed as the minimum number of square feet of floor space within the dwelling.

Table 3-1 shows that 86 jurisdictions or 18% of jurisdictions with ordinances had requirements for floor area. The mean floor area requirement was 1,060 square feet and the median requirement was 1,000 square feet, with a standard deviation of 359 square feet. The smallest floor area requirement was 500 square feet per dwelling unit and the largest 2,500 square feet.

Table 3-9 shows the distribution of the floor area minimum requirements. Twenty-seven percent of jurisdictions with floor area requirements required no less than 800 to 999 square feet and 24% required no less than 1,000 to 1,199 square feet. Twenty percent of jurisdictions with floor area standards had minimums less than 800 square feet and 10% required more than 1,600 square feet.

Table 3-9. Minimum floor area in square feet

	Frequency	Percent
Less than 800	17	20%
800 to 999	23	27%
1,000 to 1,199	21	24%
1,200 to 1,399	12	14%
1,400 to 1,599	4	5%
More than 1,600	9	10%
Total	**86**	**100%**

Source: Survey of Regulatory Standards, CPW 2006

We did not do statistical analysis of floor area requirements based on the five subcomponents of the sample because the number of jurisdictions in the study with floor area requirements was so small that the statistical analysis would have little meaning.

OFF-STREET PARKING REQUIREMENTS

The final lot variable was requirement of off-street parking spaces. Table 3-1 shows that 367 or 83% of the jurisdictions had off-street parking requirements. The mean number of off-street parking spaces required was 1.88 and the median was two spaces. The standard deviation was 0.51 spaces. The fewest spaces required was zero and the most spaces required was four. Off-street parking requirements were found most frequently in the zoning ordinance.

Table 3-10 shows that more than three-quarters of jurisdictions with off-street parking standards require two spaces. Sixteen percent of jurisdictions require one off-street parking space. Four percent of jurisdictions require three or four off-street parking spaces.

Table 3-10. Minimum number of parking spaces per dwelling unit

	Frequency	Percent
1 per du	57	16%
1.5 per du	9	2%
2 per du	284	78%
2.25 per du	1	0%
2.3 per du	1	0%
3 per du	6	2%
4 per du	7	2%
Total	**365**	

Source: Survey of Regulatory Standards, CPW 2006

About 4% of the jurisdictions based their requirement on the number of bedrooms. In general, the more bedrooms, the greater the requirements for off-street parking. In half of these cases, the minimum number of off-street parking spaces was two. In the remaining cases, the minimum requirement was one or 1.5 spaces.

Table 3-11 shows statistical comparisons between off-street parking requirements within five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Differences were significant for the following subcomponents: central city and population quartiles. In other words, the number of off-street parking spaces required varies, depending on whether the jurisdiction is a central city and what the population quartile is. Additional ANOVA testing shows that jurisdictions in the fourth quartile of population (having the largest populations) require less off-street parking than jurisdictions in the second population quartile.

Table 3-11. Statistical comparisons of the number of off-street parking spaces for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.804
Census region	No	0.556
Part of MSA / Not part of MSA	No	0.622
Central city / Not central city	Yes	0.000
U.S. Population grouped in quartiles	Yes	0.011

Source: Survey of Regulatory Standards, CPW 2006

LANDSCAPING STANDARDS

Many jurisdictions include landscaping standards in their ordinances. Landscaping standards vary by jurisdiction and the type of development. We were concerned with landscaping standards related to residential subdivisions and residential zones, especially the residential zone we examined.

Landscaping requirements vary in several ways. First, landscaping requirements vary in the amount of landscaping required. Some jurisdictions require extensive landscaping and others require less landscaping. Secondly, ordinances vary in the level of detail about landscaping requirements. Some jurisdictions' ordinances have general language about landscaping requirements and its locations. Other ordinances have very specific requirements about the types, locations, and size of the plants in the landscaping. Finally, different types of landscaping may be required in different circumstances. For example, street trees may be required along streets and other types of landscaping may be required at the entrance to a subdivision.

Quantifying these standards would pose significant difficulties. As a result, we chose to track whether ordinances contain landscaping standards for development of residential subdivisions or development in the zoning district that we reviewed. Table 3-12 shows that 42% of the jurisdictions in the study had landscaping requirements.

Table 3-12. Requirements of landscaping

	Frequency	Percent
Required standards	195	42%
No standards required*	274	58%

Source: Survey of Regulatory Standards, CPW 2006

*Note: We found no landscaping standards for these jurisdictions in the ordinances we reviewed but they may have required landscaping standards in other ordinances.

Table 3-13 shows that we found landscaping standards in both subdivision and zoning ordinances. The total number of ordinances that we found landscaping standards in is larger than the total number of jurisdictions that required

landscaping because some ordinances said that landscaping *may* be required under some circumstances, such as trees along certain streets or in parking lots, in swales or other drainage areas, or at the entrance to the subdivision.

Table 3-13. Ordinances that specified landscaping standards

	Frequency	Percent
Subdivision	122	47%
Zoning	83	32%
Both	53	21%
Total	**258**	

Source: Survey of Regulatory Standards, CPW 2006

Table 3-14 shows statistical comparisons on whether jurisdictions require landscaping within the five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Differences in landscaping requirements were significant for Census regions, whether the jurisdiction is part of an MSA, and the jurisdiction's population. We did not perform an ANOVA test for landscaping because landscaping had two possible values (yes or no) and the ANOVA requires three or more possible values (i.e. yes, no, or maybe).

Table 3-14. Statistical comparisons of landscaping requirements for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.054
Census region	Yes	0.002
Part of MSA / Not part of MSA	Yes	0.018
Central city / Not central city	No	0.783
U.S. Population grouped in quartiles	Yes	0.000

Source: Survey of Regulatory Standards, CPW 2006

The following are some examples of landscaping requirements, quoted from several different ordinances. The examples are fragments of the landscaping standard, related to one type of development.

1. All lots shall be planted with grass or other suitable ground cover approved by the Planning Board, from the roadside edge of the unpaved right-of-way back to a distance of 25 feet behind the principal residence on the lot.[7]

[7] Millbrook Village, NY subdivision ordinance, p 21.

2. A minimum of two (2) trees shall be required per single or two-family residential lot. The trees shall be placed in the front yard area at least ten (10) feet from the curb line. On corner lots and cul-de-sac lots, one of the trees may be placed in the side yard area. All remaining lot area not used for structures, parking area, or driveway shall be landscaped with turf grass, native grasses, ground cover, or other perennial flowering plants, vines, shrubs, or trees.[8]

3. All single-family developments will have one tree per 40 lineal feet, or fraction thereof. These trees will be located in the swale (green) area in between the roads edge and the sidewalks. Trees that are located in swales that are six to eight foot in width will require the use of a root barrier to protect the sidewalk from root damage. The root barrier will be installed per the manufacturer's recommendation. In right-of-ways with less than a six-foot swale area the street trees will be located in the front yard five feet from the sidewalk and a root barrier will be used along the sidewalk adjacent to the tree.[9]

4. Single-family residential landscaping requirements.

    a. These standards shall apply to all detached and attached single-family residential districts. These standards may be met by saving existing trees on the site or planting new trees from the approved list. Lot size designations shall apply to the zoning classification(s) of the subdivision rather than to each individual lot.

    b. One shade tree (2.5" caliper minimum) shall be provided for all single-family residential lots less than 6,000 square feet.

    c. Two shade trees (2.5" caliper minimum) shall be provided for all single-family residential lots of 6,000 square feet to less than 9,000 square feet.

    d. Three shade trees (2.5" caliper minimum) shall be provided for all single-family residential lots of 9,000 square feet or more.

    e. All required trees must be planted prior to request for final building inspection of dwelling units. [10]

OPEN SPACE STANDARDS

Open space standards refer to land that is undeveloped and devoted to public uses, such as parkland. About 28% or 133 of the jurisdictions in the sample had regulations requiring dedication of land for open space uses. Of these

[8] Faribault, MN subdivision ordinance, chapter 4.

[9] Pembroke Pines, FL code of ordinances Title XV, Section 153, Section 153.19.

[10] Lewisville, TX General Development Ordinance Chapter 6, Article VI, Section 6-122.

jurisdictions, 59% or 78 jurisdictions allowed payments (fee-in-lieu) of land dedications. These requirements were most often found in the subdivision ordinance.

While open space requirements do not vary as much as landscaping standards, the types of open space requirements do vary substantially. We found three common standards for dedicating land to open space in new development: a percentage of the total land in a subdivision, a number of square feet per dwelling unit, and a number of square feet per person. Ninety-nine of the 133 jurisdictions that with open space requirements used one of these three methods for specifying the amount of open space required. Table 3-15 provides a statistical summary of these standards, which we will discuss below.

Table 3-15. Statistical summary of different standards for requiring open space

Open space standard	N	Mean	Median	Mode	Standard deviation	Minimum	Maximum
Percent of total land in subdivision	47	13	10	10	9.0	3	50
Number of square feet per dwelling unit	18	1,562	795	871	3,446.9	310	15,246
Number of square feet per person	34	229	218	218	112.0	87	436

Source: Survey of Regulatory Standards, CPW 2006

The most common method for establishing the amount of open space for new residential development is requiring dedication of a percentage of land within the subdivision for open space. Table 3-15 shows that 47 or 47% of jurisdictions with open space standards use this method of calculating open space requirements. The mean percentage of total land required for open space in a new subdivision is 13% and the median is 10%, with a standard deviation of 9%. The smallest requirement is 3% and the greatest requirement is for 50% of the land in a subdivision.

Table 3-16 shows a breakdown of the amount of land required for open space. Sixty percent of the jurisdictions using this method require between 10% and 19% of the land in the subdivision for open space. Twenty-one percent of jurisdictions require dedications of 20% or more of the land in the subdivision for open space. Nineteen percent of jurisdictions require that a minimum of 9% or less of the land in the subdivision is dedicated to open space.

Table 3-16. Percent of land in a subdivision required for open space

	Frequency	% of jurisdictions	Percent of all jurisdictions
9% of land or less	9	19%	2%
10% to 19% of land	28	60%	6%
20% or more of land	10	21%	2%
Total	**47**	**100%**	**10%**

Source: Survey of Regulatory Standards, CPW 2006

Another method for calculating the amount of land to dedicate to open space is based on the number of dwelling units in the subdivision, with requirements for

a specific amount of land for open space per dwelling unit. Table 3-15 shows that 18 jurisdictions use this method of calculation. The mean number of square feet of land per dwelling unit is 1,562, and the median amount is 795 square feet of land per dwelling unit, with a standard deviation of 3,447 square feet of land per dwelling unit. The smallest amount of land is 310 square feet and the largest is 15,246 square feet per dwelling unit.

Table 3-17 presents a breakdown by percent of jurisdictions of the number of square feet of land per dwelling unit required for open space. It shows the variability in the amount of land required per dwelling unit. Forty-four percent of jurisdictions require a minimum of 500 or fewer square feet per dwelling unit. An equal number of jurisdictions require 500 to 999 square feet per dwelling unit or more than 1,000 square feet per dwelling unit.

Table 3-17. Number of square feet per dwelling unit required for open space

	Frequency	% of jurisdictions	Percent of all jurisdictions
Fewer than 500 square feet per du	8	44%	2%
500 to 999 square feet per du	5	28%	1%
More than 1,000 square feet per du	5	28%	1%
Total	**18**	**100%**	**4%**

Source: Survey of Regulatory Standards, CPW 2006

The third method for calculating open space requirements is based on the number residents in the subdivision, with dedications of a certain number of square feet per resident. Table 3-15 shows that 34 jurisdictions, 34% of the jurisdictions who require open space, use this method. The mean amount of land required in this method is 229 square feet per person, and the median is 218 square feet per person, with a standard deviation of 112 square feet per person. The smallest amount of land required is 87 square feet per person, and the largest is 436 square feet per person.

Table 3-18 shows a breakdown of the amount of land required for open space per resident. Seventy-six percent of jurisdictions require either fewer than 200 square feet of land per person or 200 to 299 square feet of land per person.

Table 3-18. Number of square feet per person required for open space

	Frequency	% of jurisdictions	Percent of all jurisdictions
Fewer than 200 square feet per person	13	38%	3%
200 to 299 square feet per person	13	38%	3%
300 to 399 square feet per person	3	9%	1%
More than 400 square feet per person	5	15%	1%
Total	**34**	**100%**	**7%**

Source: Survey of Regulatory Standards, CPW 2006

One-hundred thirty-three of the jurisdictions in the sample had open space requirements. Table 3-19 shows statistical comparisons on whether jurisdictions require open space within the five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Differences in landscaping requirements were significant for Census regions. We did not perform an ANOVA test for requiring open space because requiring open space had two possible values (yes or no) and the ANOVA requires three or more possible values (i.e. yes, no, or maybe).

Table 3-19. Statistical comparisons of landscaping requirements for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.216
Census region	Yes	0.003
Part of MSA / Not part of MSA	No	0.058
Central city / Not central city	No	0.460
U.S. Population grouped in quartiles	No	0.200

Source: Survey of Regulatory Standards, CPW 2006

SIDEWALK STANDARDS

One of the most commonly required improvements in new residential development is sidewalks. This section includes information collected in the study about sidewalks, planting strips, and curbs.

In our review, we kept track of the jurisdictions that explicitly require sidewalks in either their subdivision or zoning ordinances. A number of other jurisdictions implied that sidewalks might be required or stated that they would be required under certain circumstances. We did not count these jurisdictions as requiring sidewalks, even though it is possible that they do.

Fifty-one percent of the jurisdictions in the study explicitly require sidewalks. These requirements are most frequently found in the subdivision ordinances.

Table 3-20 shows that sidewalks are required on both sides of the street in 51% of the jurisdictions with sidewalk standards. Fourteen percent of jurisdictions with sidewalk standards require them on one side of the street and the remaining jurisdictions do not specify where sidewalks are required.

Table 3-20. Where sidewalks are required

	Frequency	% of jurisdictions	Percent of all jurisdictions
One side	33	14%	7%
Both sides	123	51%	26%
Unspecified	85	35%	18%
Not required	228	N/A	49%

Source: Survey of Regulatory Standards, CPW 2006

Table 3-21 provides a summary of required sidewalk width and planting strip width. Thirty-three percent of jurisdictions in the study had a minimum sidewalk width. The mean and median sidewalk width is four feet, with a standard deviation of one foot. The smallest requirement is three feet and the largest requirement is 10 feet.

Table 3-21. Summary of statistical standards for sidewalks, in feet

Street standard	N	Mean	Median	Mode	Standard deviation	Minimum	Maximum
Sidewalk width	153	4	4	4	1	3	10
Planting strip width	37	5	5	5	1	2	8

Source: Survey of Regulatory Standards, CPW 2006

Table 3-22 shows a distribution of sidewalk widths. It shows that 59% of jurisdictions with sidewalk width standards require sidewalks of at least four feet wide. Thirty-one percent require sidewalks at least five feet wide.

Table 3-22. Minimum required sidewalk width

	Frequency	% of jurisdictions	Percent of all jurisdictions
3 ft.	2	1%	0%
4 ft.	91	59%	19%
4.5 ft.	4	3%	1%
5 ft.	48	31%	10%
6 ft.	4	3%	1%
More than 6 ft.	4	3%	1%
Total	**153**	**100%**	**33%**

Source: Survey of Regulatory Standards, CPW 2006

Table 3-23 shows statistical comparisons between whether sidewalks are required and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Differences were significant for government type, whether the jurisdiction is part of an MSA, and the jurisdiction's population. Sidewalk requirements were not significantly different for jurisdictions grouped by region or whether the jurisdiction is a central city.

Table 3-23. Statistical comparisons of whether sidewalks are required for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.007
Census region	No	0.096
Part of MSA / Not part of MSA	Yes	0.000
Central city / Not central city	No	0.143
U.S. Population grouped in quartiles	Yes	0.001

Source: Survey of Regulatory Standards, CPW 2006

Table 3-24 shows statistical comparisons between sidewalk widths and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Differences in sidewalk widths are not significant for any of the five groupings of jurisdictions. This means that sidewalk width does not vary significantly based on these subcomponents of the sample.

Table 3-24. Statistical comparisons of sidewalk widths for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.841
Census region	No	0.060
Part of MSA / Not part of MSA	No	0.565
Central city / Not central city	No	0.156
U.S. Population grouped in quartiles	No	0.251

Source: Survey of Regulatory Standards, CPW 2006

Table 3-25 shows statistical comparisons between the number of sides of the street that sidewalks are required on and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Statistical comparison sidewalk widths is not significant for groupings of jurisdictions, except for region. The ANOVA test shows that there is no significant difference in sidewalk widths within the subcomponents of the sample.

Table 3-25. Statistical comparisons of the number of sides of the street that sidewalk are required on for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.856
Census region	Yes	0.040
Part of MSA / Not part of MSA	No	0.638
Central city / Not central city	No	0.400
U.S. Population grouped in quartiles	No	0.831

Source: Survey of Regulatory Standards, CPW 2006

Table 3-21 shows that 37 (8%) jurisdictions in the study have requirements for planting strips, a grassy buffer between the sidewalk and the curb The mean and median width of the strip was five feet, with a one-foot standard deviation. The smallest width requirement was two feet and the largest was eight feet.

Table 3-26 shows the distribution of planting strip minimum widths. Of the jurisdictions with planting strip width standards, 30% required five foot wide planting strips and 19% of jurisdictions required either four foot or six foot planting strips.

Table 3-26. Minimum width for planting strip

	Frequency	% of jurisdictions	Percent of all jurisdictions
2 ft.	4	11%	1%
3 ft.	4	11%	1%
3.5 ft.	1	3%	0%
4 ft.	7	19%	1%
5 ft.	11	30%	2%
6 ft.	7	19%	1%
7 ft.	2	5%	0%
8 ft.	1	3%	0%
Total	**37**	**100%**	**8%**

Source: Survey of Regulatory Standards, CPW 2006

Another commonly required improvement in new residential development is curbs and gutters. Like sidewalks, we recorded the jurisdictions that explicitly require curbs and gutters in either their subdivision or zoning ordinances. A number of jurisdictions implied that curbs and gutters were required improvements or may be required. We did not count these jurisdictions as requiring curbs and gutters, even though it is possible that they do.

Curbs and gutters were required by 234 or 50% of the jurisdictions in the study. We found most of the requirements in the subdivision ordinance.

STREET VARIABLES

Streets are an essential improvement in residential development. In this study we collected information about minimum pavement width and minimum street right-of-way width. When we found these standards they were in the subdivision ordinances 92% of the time.

Table 3-27 provides a summary of pavement and right-of-way widths. Forty-one percent of the jurisdictions in the study had minimum pavement widths in their subdivision or zoning ordinances. The mean and median minimum pavement width was 28 feet, with a standard deviation of six feet. The smallest minimum pavement width was 16 feet and the largest minimum pavement width was 45 feet.

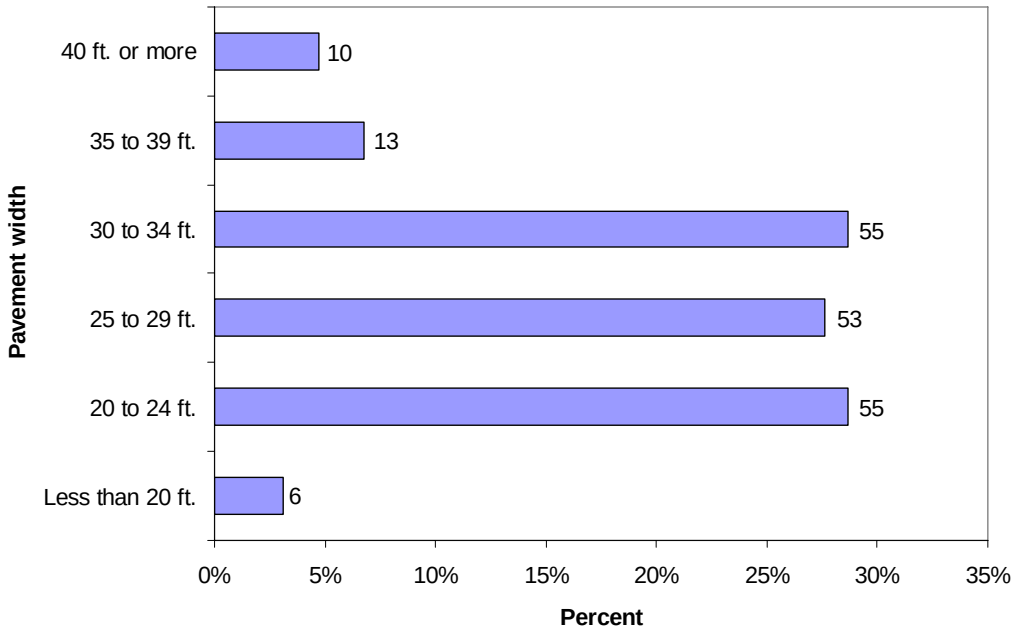
Table 3-27. Statistical summary of minimum street pavement and right-of-way widths

Street standard	N	Mean	Median	Mode	Standard deviation	Minimum	Maximum
Street pavement width	192	28	28	30	6	16	45
Street right-of-way width	262	52	50	50	8	20	80

Source: Survey of Regulatory Standards, CPW 2006

Figure 3-5 shows minimum pavement width, grouped in increments of five feet. The majority of jurisdictions' standards were divided between 20 to 24 feet wide, 25 to 29 feet wide, and 30 to 34 feet wide. Three percent of jurisdictions with this standard allowed streets in new residential development that are less than 20 feet wide and 6% required pavement widths of 40 feet or greater.

Figure 3-5. Minimum pavement width percentage and frequency, grouped in 5-foot increments



Source: Survey of Regulatory Standards, CPW 2006

Table 3-28 shows statistical comparisons between pavement width and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no." Differences in pavement width were significant for each of the five subcomponents of the sample.

Table 3-28. Statistical comparisons of pavement widths for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	Yes	0.001
Census region	Yes	0.000
Part of MSA / Not part of MSA	Yes	0.050
Central city / Not central city	Yes	0.046
U.S. Population grouped in quartiles	Yes	0.021

Source: Survey of Regulatory Standards, CPW 2006

Additional statistical testing showed the differences in pavement widths within subcomponents of the sample. The tests showed differences within government type and census region, indicating that pavement widths vary significantly by government type and Census region. Although the chi-square statistical test indicated that pavement width are statistically different by population quartiles, additional post-hoc statistical testing indicates that there are

no significant differences in pavement widths for population quartiles. Pavement widths vary within each subcomponent in the following ways:

- **Government type.** Cities have the largest average pavement widths of any government type. This difference in pavement widths is significant between cities and towns.

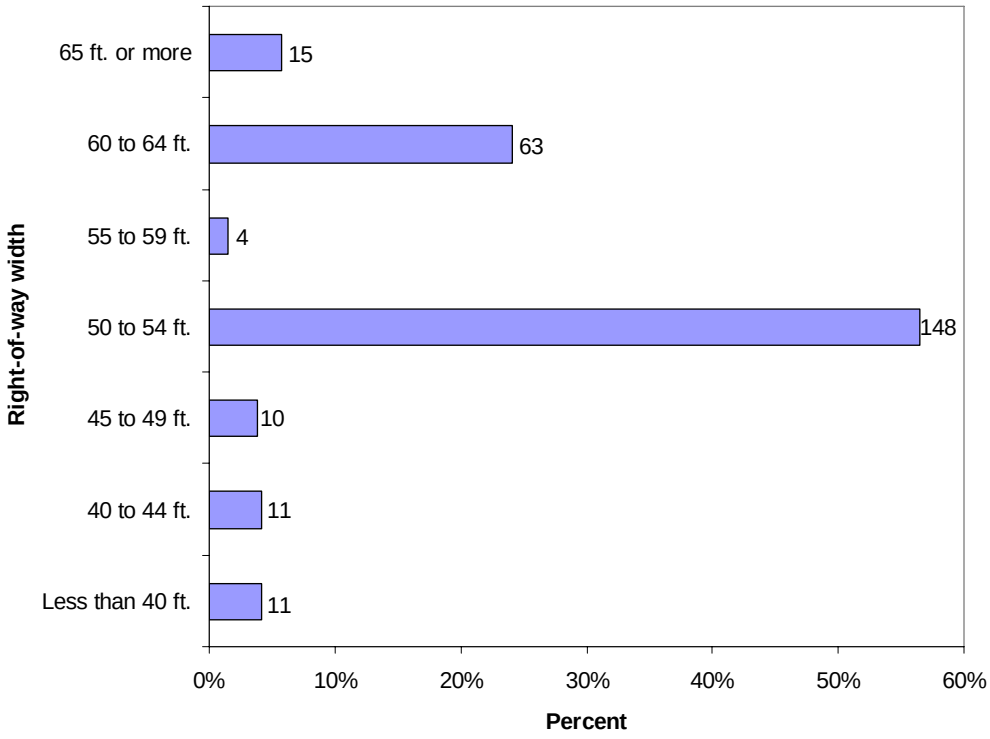
- **Census region.** Pavement widths are statistically different between the West and the Northeast and South. The West has larger average pavement widths.

- **U.S. Population.** There are no significant differences in pavement widths when analyzed by population quartiles.

Table 3-27 shows that 262 or 56% of jurisdictions had minimum right-of-way widths in their ordinances. The mean right-of-way was 52 feet and the median was 50 feet, with a standard deviation of 8 feet. The smallest right-of-way width was 20 feet and the largest was 80 feet.

Figure 3-6 shows the distribution of street right-of-way widths in five-foot increments. Fifty-six percent of jurisdictions with this standard require right-of-ways no smaller than 50 to 54 feet, and 24% of jurisdictions require right-of-ways at least 60 to 64 feet wide. Four percent of jurisdictions' minimum right-of-way width is less than 40 feet, and 6% have a minimum of 65 feet or more.

Figure 3-6. Minimum right-of-way width percentage and frequency, grouped in 5-foot increments



Source: Survey of Regulatory Standards, CPW 2006

Table 3-29 shows statistical comparisons between street right-of-way widths and five subcomponents of the sample. A significance level of less than 0.05 is considered significant. If the significance level is less than 0.05, we have entered "yes" in the "statistically significant difference" column, and if it is greater than 0.05, we have entered "no."

Statistical comparisons of right-of-way widths were significant for jurisdictions grouped by region. Street right-of-way widths did not vary significantly based on government type, whether the jurisdiction is part of an MSA, whether the jurisdiction is a central city, or the jurisdiction's population.

Table 3-29. Statistical comparisons of street right-of-way width for jurisdictions grouped by subcomponents of the sample

	Statistically significant difference	Significance level
Government type	No	0.903
Census region	Yes	0.000
Part of MSA / Not part of MSA	No	0.233
Central city / Not central city	No	0.323
U.S. Population grouped in quartiles	No	0.387

Source: Survey of Regulatory Standards, CPW 2006

Additional statistical testing shows that street right-of-way widths are statistically different between the Midwest and all other regions. The Midwest has larger average right-of-way widths than the other regions. This reinforces the conclusion that right-of-way width varied significantly by region.

Chapter 4

Observations

This chapter presents a few observations about the data collection phase of the study. The focus of this phase of the study was gathering data and presenting a descriptive analysis of the data. This majority of the conclusions from the study will come from the cost analysis portion of the study. Our observations about the data and data collection are as follows.

Most jurisdictions regulated one or more of the variables. Ninety-four percent of the jurisdictions in the sample had standards for one or more of the study variables. More than three-quarters of the jurisdictions had standards for lot size, front setbacks, and off-street parking spaces. About one-fifth of the jurisdictions had standards for open space and floor area.

The population varied among jurisdictions. The size of jurisdictions within the sample varied substantially. They ranged in population from 9.5 million people to 132 people, from some of the largest cities and most densely developed counties in the U.S. to small rural towns. These differences presented challenges in analyzing the regulatory standards. We addressed these challenges by separating the sample into population quartiles and comparing regulatory standards among the quartiles.

Some of the variables had a broad range of values. The basic statistical analysis showed that several of the variables had substantial variation. The following variables had a large range of values and large standard deviation compared to their mean: lot size, lot width, front setback, side setback, and open space. For example, a rural jurisdiction is likely to have larger minimum requirements for lot size and lot width than an urban city We addressed these differences by separating the sample subcomponents and comparing regulatory standards within the subcomponent groupings. The subcomponents included government type, census region, membership in a Metropolitan Statistical Area (MSA), and central city.

Difficulty in obtaining ordinances. Obtaining ordinances was difficult, especially with smaller jurisdictions. Some jurisdictions made their ordinances available via the Internet, making it easy to get their ordinances. Where the ordinance was only available directly from the jurisdiction, we were more likely to have problems getting the ordinances. Some jurisdictions were unresponsive to our phone calls and requests for ordinances, resulting in their exclusion from the sample.

Appendix 1

Choice of Review Variables

This appendix summarizes the process for choosing variables for the database. It includes our reasoning for choosing particular variables, as well as the list of variables for the study.

PROCESS FOR CHOOSING VARIABLES

The entire team participated in choosing the variables for reviewing the ordinances, including representatives from the NAHB, ECONorthwest, and CPW. This process took several weeks and was documented in several memorandums, which are summarized in this appendix.

We began the project with a list of about 75 variables that we considered including in this study. We narrowed the list of variables by reviewing ordinances from ten jurisdictions to assess whether subdivision ordinances commonly contained the standards in our list. We found that many of site-specific variables in our original list were not in the initial ten ordinances.

At that point, we began considering expanding the scope of the project to include some variables from zoning ordinances because our research indicated that these variables, especially those related to lot size, have substantial impact on housing costs. As a result of the decision to include variables from zoning ordinances, we reduced our sample size from 1,100 jurisdictions to 400 jurisdictions[11].

We reduced the number of variables to about fifteen and conducted a second review of ten jurisdictions' subdivision and zoning ordinances to determine how frequently these variables occurred in the ordinances. This review showed that the variables in our list were frequently found.

We finalized our list of variables, based on the following criteria:

- **Likelihood and ease of finding the variables within a zoning or subdivision ordinance.** A number of the variables that we were originally interested in measuring were not generally found in either of these ordinances. For example, the minimum diameter of a sewer lateral or street pavement surface thickness were not often found in either the zoning or subdivision ordinances.

- **Ease of measuring the variables.** Some of the variables that we considered were difficult to measure. For example, landscaping standards

[11] Ordinance review and collection took less resources than we initially thought, and we were able to increase the sample size. We ultimately reviewed 469 ordinances.

vary substantially among ordinances. We were unable to find a way to quantify such diverse standards. Instead, we chose to collect whether or not each jurisdiction had landscaping requirements in their zoning or subdivision ordinances.

- **Expected impact of the variable on housing cost.** Some of the variables that we had originally considered including in the study probably had minimal impact on the cost of housing. For example, many of the jurisdictions in our preliminary review contained standards for the angle of street intersections but the angle of an intersection probably has little impact on the cost of housing in a subdivision.

The variables that we selected for review included:

- Lot-width minimums
- Lot-size minimums
- Yard setback minimums (front yard, side yards, rear yard)
- Floor area minimums
- Off-street parking requirements
- Curb and gutter requirements
- Minimum street right-of-way width
- Minimum pavement width
- Sidewalk requirements
- Open space requirements
- Landscaping requirements

As we began ordinance review, we added several variables to address administrative concerns. These variables gave us information about the ordinances themselves and allowed for certain types of comparison between ordinances. They include:

- The type(s) of ordinance: zoning and/or subdivision
- Last update for each ordinance
- Type of update (adopted or amended)
- Ordinance media (electronic or paper)
- Name of the zoning district used for review

- Type of quality assurance review (short check or long check)

The next step was quantifying each variable and building the data collection database, which is documented in Appendix 4.

Appendix 2 Sampling Methodology

This Appendix describes issues related to developing a sampling plan that results in a representative sample of jurisdictions for the analysis. It begins with a description of issues related to sampling given the population. It then describes the sampling methodology, and concludes with a comparison of the sample to the population.

PROCESS FOR CHOOSING THE INITIAL SAMPLE

The methodology we used to draw the sample initially weighted the sample by population in states (e.g., the number of samples for each state is proportional to its population) and then by amount of population growth in each local government between 1996 and 2000.[12] This methodology places emphasis on the amount of population in each state, and ensures that both fast and slow growing governments are represented. The rationale for the sampling methodology is described below.

The requirement for **geographic diversity** is met, at least at the state level, by the initial population weighting. Moreover, weighting the sample by population is an intuitive method that ensures that states with more population (and more housing) are better represented in the sample.

An additional factor that we think is germane to the sampling methodology is the **amount of development activity** in local governments. In short, if the study is concerned with the impact of subdivision regulation on housing affordability, then weighting the sample so it includes more samples in regions where growth is occurring makes sense because growing areas are where housing development is occurring. We deem **Population growth at the government level** as a reliable proxy for development. The measure of the amount (not the rate) of development activity should be highly correlated (though not identical) with population size, so using this measure should allow us to select jurisdictions roughly in proportion to population.

Finally, we divided governments in each state into quartiles based on population. This method weights the sample by population and generally gives larger governments a higher probability of being selected (because of the smaller number of large governments).

Steps

1. *Stratify the sample by state population*. Using Census data, we calculated the percentage of total U.S. population in each state. We then multiplied the percentage by the total sample size (1,100) to calculate the number of

[12] To establish the absolute amount of population in counties and boroughs, the Team subtracted population in incorporated cities from the total county or borough population.

samples for each state. The number of samples for each state is shown in the fifth column of Table 2-2.

2. *Calculate the amount of population growth for each government between 1996 and 2000.* Using data from the 1997 and 2002 Census of Governments, we matched each governmental entity and found the difference in population between 1996 and 2000.[13]

3. *Sort the database by state, then by amount of population growth*. This resulted in a list of governments in each state rank ordered from highest to lowest amount of population growth between 1996 and 2000.

4. *Calculate the percentage of total state population for each jurisdiction*. Using the rank ordered list, we divided each government's population by total state population.

5. *Calculate the cumulative percentage of population.* We added each government's percentage of population to the previous one's to calculate a cumulative percentage that sums to 100%.

6. *Divide the jurisdictions into quartiles based on percentage of population.* Using the cumulative percentages code each jurisdiction based on quartiles.

7. *Assign a random number to each government*.

8. *Sort the list by state, then quartile, then random number*. This step randomly sorts governments in each quartile.

9. *Select the sample*. We selected the first *n* (the number of samples) governments in each quartile corresponding to the number of samples per quartile. In instances where a state did not have a number of samples divisible by four, we assigned more samples to the higher growth rate governments.

ISSUES AND REFINEMENT

Originally, the study was designed to examine subdivision ordinances from 1,100 jurisdictions. When we began choosing the standards from the ordinances to measure, we found that many of the relevant standards were in the zoning ordinance, rather than the subdivision ordinance. As a result we decided to review zoning ordinances and subdivision ordinances and reduced our sample size to 500 jurisdictions.

By the time we made the decision to reduce the number of jurisdictions in the study, we had already pulled a sample of 1,100 jurisdictions for the study. These jurisdictions were chosen based on the following criteria: weighing the sample by

[13] We removed cities from county population to obtain an estimate of population that is solely under counties' jurisdiction.

population in states and the amount of growth in each local government between 1996 and 2000. This methodology placed emphasis on the amount of population in each state, and ensured that both fast and slow growing governments were represented.

We chose the smaller sample of 500 jurisdictions from the previous sample of 1,100 jurisdictions. We separated the process of choosing jurisdictions into two parts. First, we chose the two largest jurisdictions in each state, which ensured that each state was represented in the study. We chose the remaining 400 jurisdictions systematically from the remainder of the 1,100 sample by sorting the remaining sample by jurisdiction size and choosing every n^{th} record.

CHARACTERISTICS OF THE SAMPLE

This sampling methodology did not include other variables of interest such as government type. Simple comparisons of the sample to all governments on variables such as population, number of governments, and type of government are useful to ensure the sample is representative of the population.

Table 2-1 shows a comparison between the U.S. population and the sample population by state. Overall, the sample includes about 31% of the U.S. population.

Table 2-2 shows the distribution of governments by type for the U.S. and for the sample.

Table 2-1. Sample as a proportion of U.S. population, by state

State	U.S. Population		Population in Sample			Percent difference in population between sample and U.S.
	Number	Percent	Number	Percent	% of the state's population	
Alabama	4,447,100	2%	560,618	1%	13%	-1%
Alaska	626,932	0%	260,283	0%	42%	0%
Arizona	5,130,632	2%	3,318,051	4%	65%	2%
Arkansas	2,673,400	1%	311,516	0%	12%	-1%
California	33,871,648	12%	19,005,063	22%	56%	10%
Colorado	4,301,261	2%	2,004,781	2%	47%	1%
Connecticut	3,405,565	1%	416,627	0%	12%	-1%
Delaware	783,600	0%	78,825	0%	10%	0%
Florida	15,982,378	6%	5,607,421	6%	35%	1%
Georgia	8,186,453	3%	1,258,284	1%	15%	-1%
Hawaii	1,211,537	0%	1,211,390	1%	100%	1%
Idaho	1,293,953	0%	238,777	0%	18%	0%
Illinois	12,419,293	4%	4,718,997	5%	38%	1%
Indiana	6,080,485	2%	574,038	1%	9%	-2%
Iowa	2,926,324	1%	234,484	0%	8%	-1%
Kansas	2,688,418	1%	932,996	1%	35%	0%
Kentucky	4,041,769	1%	401,158	0%	10%	-1%
Louisiana	4,468,976	2%	1,320,402	2%	30%	0%
Maine	1,274,923	0%	35,509	0%	3%	0%
Maryland	5,296,486	2%	337,095	0%	6%	-1%
Massachusetts	6,349,097	2%	1,326,896	2%	21%	-1%
Michigan	9,938,444	4%	3,268,066	4%	33%	0%
Minnesota	4,919,479	2%	1,667,372	2%	34%	0%
Mississippi	2,844,658	1%	152,915	0%	5%	-1%
Missouri	5,595,211	2%	546,635	1%	10%	-1%
Montana	902,195	0%	75,298	0%	8%	0%
Nebraska	1,711,263	1%	405,302	0%	24%	0%
Nevada	1,998,257	1%	1,040,484	1%	52%	0%
New Hampshire	1,235,786	0%	104,927	0%	8%	0%
New Jersey	8,414,350	3%	933,791	1%	11%	-2%
New Mexico	1,819,046	1%	520,919	1%	29%	0%
New York	18,976,457	7%	10,837,788	13%	57%	6%
North Carolina	8,049,313	3%	985,515	1%	12%	-2%
North Dakota	642,200	0%	90,820	0%	14%	0%
Ohio	11,353,140	4%	1,043,974	1%	9%	-3%
Oklahoma	3,450,654	1%	1,978,203	2%	57%	1%
Oregon	3,421,399	1%	1,017,661	1%	30%	0%
Pennsylvania	12,281,054	4%	1,337,994	2%	11%	-3%
Rhode Island	1,048,319	0%	307,134	0%	29%	0%
South Carolina	4,012,012	1%	675,895	1%	17%	-1%
South Dakota	754,844	0%	138,449	0%	18%	0%
Tennessee	5,689,283	2%	1,666,774	2%	29%	0%
Texas	20,851,820	7%	10,687,673	12%	51%	5%
Utah	2,233,169	1%	286,067	0%	13%	0%
Vermont	608,827	0%	19,579	0%	3%	0%
Virginia	7,078,515	3%	1,208,235	1%	17%	-1%
Washington	5,894,121	2%	772,306	1%	13%	-1%
West Virginia	1,808,344	1%	43,521	0%	2%	-1%
Wisconsin	5,363,675	2%	410,260	0%	8%	-1%
Wyoming	493,782	0%	28,293	0%	6%	0%
US Total	**280,849,847**	**100%**	**86,405,061**	**100%**	**31%**	**0%**

Source: 2000 Census,

Table 2-2. Comparison of governments by type, U.S. and survey sample

State	All Governments				Percent of All Governments			Sample		
	County	City	Township	Total	County	City	Township	County	City	Township
Alabama	67	451	-	518	13%	87%	0%	35%	65%	0%
Alaska	12	149	-	161	7%	93%	0%	50%	50%	0%
Arizona	15	87	-	102	15%	85%	0%	15%	85%	0%
Arkansas	75	499	-	574	13%	87%	0%	60%	40%	0%
California	57	475	-	532	11%	89%	0%	8%	92%	0%
Colorado	62	270	-	332	19%	81%	0%	6%	94%	0%
Connecticut	-	30	149	179	0%	17%	83%	0%	23%	77%
Delaware	3	57	-	60	5%	95%	0%	33%	67%	0%
Florida	66	403	1	470	14%	86%	0%	5%	95%	0%
Georgia	156	531	-	687	23%	77%	0%	9%	91%	0%
Hawaii	3	1	-	4	75%	25%	0%	75%	25%	0%
Idaho	44	200	-	244	18%	82%	0%	20%	80%	0%
Illinois	102	1,291	1,431	2,824	4%	46%	51%	8%	47%	45%
Indiana	91	567	1,008	1,666	5%	34%	61%	17%	46%	38%
Iowa	99	948	-	1,047	9%	91%	0%	18%	82%	0%
Kansas	104	627	1,299	2,030	5%	31%	64%	9%	64%	27%
Kentucky	119	424	-	543	22%	78%	0%	0%	100%	0%
Louisiana	60	302	-	362	17%	83%	0%	6%	94%	0%
Maine	16	22	467	505	3%	4%	92%	0%	20%	80%
Maryland	23	157	-	180	13%	87%	0%	5%	95%	0%
Massachusetts	5	45	306	356	1%	13%	86%	0%	32%	68%
Michigan	83	533	1,242	1,858	4%	29%	67%	5%	38%	56%
Minnesota	87	854	1,793	2,734	3%	31%	66%	5%	79%	16%
Mississippi	82	296	-	378	22%	78%	0%	9%	91%	0%
Missouri	114	946	312	1,372	8%	69%	23%	9%	86%	5%
Montana	54	129	-	183	30%	70%	0%	25%	75%	0%
Nebraska	93	531	446	1,070	9%	50%	42%	17%	33%	50%
Nevada	16	19	-	35	46%	54%	0%	13%	88%	0%
New Hampshire	10	13	221	244	4%	5%	91%	0%	20%	80%
New Jersey	21	324	242	587	4%	55%	41%	3%	39%	58%
New Mexico	33	100	1	134	25%	75%	1%	17%	83%	0%
New York	57	616	929	1,602	4%	38%	58%	7%	31%	63%
North Carolina	100	536	5	641	16%	84%	1%	3%	97%	0%
North Dakota	53	360	1,332	1,745	3%	21%	76%	0%	33%	67%
Ohio	88	942	1,308	2,338	4%	40%	56%	5%	27%	68%
Oklahoma	77	589	1	667	12%	88%	0%	7%	93%	0%
Oregon	36	240	-	276	13%	87%	0%	8%	92%	0%
Pennsylvania	66	1,018	1,546	2,630	3%	39%	59%	2%	35%	63%
Rhode Island	-	8	31	39	0%	21%	79%	0%	75%	25%
South Carolina	46	268	1	315	15%	85%	0%	6%	88%	6%
South Dakota	66	308	940	1,314	5%	23%	72%	0%	100%	0%
Tennessee	92	349	-	441	21%	79%	0%	0%	100%	0%
Texas	254	1,195	1	1,450	18%	82%	0%	5%	95%	0%
Utah	29	235	1	265	11%	89%	0%	11%	89%	0%
Vermont	14	47	237	298	5%	16%	80%	0%	50%	50%
Virginia	95	229	-	324	29%	71%	0%	7%	93%	0%
Washington	39	279	-	318	12%	88%	0%	4%	96%	0%
West Virginia	55	234	-	289	19%	81%	0%	14%	86%	0%
Wisconsin	72	585	1,265	1,922	4%	30%	66%	5%	43%	52%
Wyoming	23	98	-	121	19%	81%	0%	0%	100%	0%
US Total	**3,034**	**19,417**	**16,515**	**38,966**	**8%**	**50%**	**42%**	**8%**	**71%**	**22%**

Source: 2000 Census of Governments, Subdivision sample

Appendix 3 Ordinance Collection Procedures

This appendix presents the protocol for collecting ordinances, our substitution methodology, and some problems we encountered in ordinance collection.

PROTOCOL FOR COLLECTING ORDINANCES

CPW was predominantly responsible for collecting zoning and subdivision ordinances, with some assistance from NAHB in collecting ordinances in special circumstances. The following is the step-by-step process that CPW followed for collecting ordinances.

1. Search for ordinance on the web from the following publicly available ordinance repositories
    a. Municode (www.municode.com)
    b. General Code (www.generalcode.com)
    c. Code Publishing (www.codepublishing.com/municodes.html)
    d. General Code E-Code (www.e-codes.generalcode.com/globalsearch.asp)
    e. Lexis Nexis Municipal Codes (municipalcodes.lexisnexis.com/)
    f. American Legal Publishing (www.amlegal.com/library)
2. Search the jurisdiction's web site
3. Contact the jurisdiction
    a. Contact staff at jurisdiction
        i. Planning department
        ii. Town clerk
    b. Contact method
        i. Telephone
        ii. E-mail

c. Attempt a minimum of three contacts on two different days

4. If contact is unsuccessful, give jurisdiction name to NAHB

    a. NAHB will contact local HBA office to try to obtain ordinance

5. If obtaining ordinance through local HBA office is unsuccessful, substitute another jurisdiction from the sample of 1,100 jurisdictions

In practice, CPW made some changes to the methods above. First, searching the jurisdiction's web site before searching on-line code repositories was an easier and faster way to find ordinances. Many jurisdictions included links to on-line code databases. In addition, we rarely used email to initiate contact with a jurisdiction because it was easier and more efficient to speak to staff at the jurisdiction via the telephone. Finally, CPW often made more than three phone calls to each jurisdiction.

SUBSTITUTION METHODOLOGY

In cases where CPW was unable to obtain an ordinance using the methodology above, we removed the jurisdiction from the sample. Reasons for substitutions include: unresponsive jurisdictions after three or more calls and jurisdictions that charge more than $50 for both ordinances. A list of substitute jurisdictions and the reasons for substitution are documented in Appendix 5. The majority of the jurisdictions that required substitution were unresponsive. We replaced the jurisdiction with another jurisdiction from the original 1,100 sample, using the following methodology.

1. Find the unresponsive jurisdiction in the original 1,100 sample

    Note: Jurisdictions in the original sample were sorted by state and population size

2. Choose the closest jurisdiction that fits the following criteria:

    a. It is in the same state as the original jurisdiction

    b. It is the same government type (i.e. county or town) as the original jurisdiction

    c. It had a similar population size as the original jurisdiction

    Note: It was not always possible to match the jurisdiction's government type and size. In those cases, we matched the jurisdiction's state and size.

We made a distinction between jurisdictions that we were able to contact but did not have one or both ordinances, and jurisdictions that we were unable to

obtain ordinances from. We only used the substitution methodology for jurisdictions that were unresponsive or charge more than $50 for their ordinances. We kept the jurisdictions that did not have one or both ordinances in the sample because the lack of ordinances represents valid information.

DIFFICULTIES IN COLLECTING ORDINANCES

Collecting zoning and subdivision ordinances was not always straightforward for several reasons:

Zoning and subdivision ordinances may not be distinguished from each other. Some jurisdictions, especially smaller jurisdictions, did not clearly distinguish between these ordinances. Sometimes the subdivision ordinance was contained in the same document as the (generally larger) zoning ordinance.

Zoning and subdivision ordinances may be part of a larger development ordinance. They were sometimes found in the jurisdictions code of ordinances or unified development code. It was not always clear which part of the larger code could be called the "zoning" or the "subdivision" ordinances. In some cases, we collected the entire code and in other cases we collected the parts relevant to subdivision and zoning only.

Zoning and subdivision ordinances often have different names. Some jurisdictions referred to these ordinances as development ordinances, rules and regulations, codes, and other names. This may seem a small issue, but many of the people that we contacted, especially at smaller jurisdictions, were not necessarily familiar with these ordinances and what they might be called.

Some jurisdictions do not have one or both ordinances. Some jurisdictions have either a subdivision or a zoning ordinance but not both. Other jurisdictions have neither ordinance. In some cases, we were able to collect one of the ordinances but were not able to verify whether the jurisdiction had the other ordinance. In these cases, we did not include the jurisdiction in the review.

Appendix 4

Ordinance Review Procedures

This appendix presents the procedures for reviewing ordinances. It includes the steps in ordinance review, operational definitions for each variable, the database collection structure, and the measures we took to assure consistent reviews.

REVIEW PROCEDURES

We approached ordinance review as a series of discrete steps. Below are the six basic steps for ordinance review.

Step 1

Choose the residential zoning district to use for the review based on the following criteria:

1. Evaluate which zone allows for the densest residential development and outright permits detached single-family houses. This will often be a zone that allows duplexes and/or multifamily housing.

2. Compare the lot sizes for the potential zones and determine which zone has the smallest minimum lot size.

3. Evaluate the stated purpose of the zone, looking for whether the purpose of the zone is more for housing like detached single-family and duplexes or multifamily housing.

Choose the zone that outright permits detached single-family houses and has the smallest minimum lot size. In cases where the minimum lot size is the same for 2 districts, look at the other variables, including: lot width and setbacks. Choose the district with the smaller minimum requirements.

If it is still unclear which zone to choose, choose one with a purpose that is focused more on single-family and duplex housing, rather than multifamily housing (or commercial). **But always choose the one with the smallest minimum lot size where detached single-family homes are outright permitted.**

Step 2

Gather information from the zoning ordinance about the chosen zoning district, such as lot width, lot size, floor area, and setbacks. In some cases landscaping or off-street parking requirements are found in the zoning ordinance.

Note: Setbacks for side yards sometimes are presented a minimum combined number. For example, the side yard minimum setback might be a total of 15 feet, with a minimum of 5 feet on a side. We are using half of the total minimum setback, 7.5 feet in this example, as the minimum setback. The database has a checkbox field, which should be used to indicate when an ordinance presents side setbacks in this way.

Step 3

Search for the following information in the subdivision ordinance: sidewalk requirements, street width standards, open space requirements, curb and gutter requirements, landscaping, and off-street parking* requirements.

Note: Some of these requirements may vary, based on the zoning district chosen in Step 1.

Note: Some ordinances base the number of parking spaces on the number of bedrooms in the dwelling unit. If this is the case, choose the minimum number of off-street parking spaces and check the "scale based on # of bedrooms" box. For example, if the ordinance said that dwelling units with 1 to 2 bedrooms were required to have 1 off-street parking space and dwelling units with 3 to 4 bedrooms were required to have 2 off-street parking spaces…Record "1" off-street parking space and check the "scale based…" checkbox.*

Step 4

Search the zoning ordinance for any information not found in Step 3. If both ordinances contain standards for the variables, choose the standards found in the subdivision ordinance.

Step 5

Provide information on administrative issues, such as the last update and type of update for each ordinance. If the jurisdiction is lacking one or both ordinances, indicate this in the variable that asks whether the jurisdiction has an ordinance.

Note: The information we are collecting for the date the ordinance was last updated is an approximation. This information will be used for loose comparisons. It is okay if it is not the absolutely most accurate date of most recent update. If the ordinance gives the date of last update in the beginning or end of the ordinance, use this date. If not, use the date of last update associated with the section(s) of the ordinance that contain the variables used in the database.

Step 6

For variables where no standards can be found, choose "no" to indicate that they are not required. If that is not an option in the database, leave the variable blank.

OPERATIONAL DEFINITIONS

This section presents the operational definitions that CPW used in reviewing each ordinance.

- **Detached single-family house:** A single-family house is a residence designed for one family or household, which does not share a wall with another dwelling. This does not include modular houses, manufactured houses, or mobile homes (Rohse, 1987).

- **Residential zone of interest:** We are interested in examining standards for single-family houses in the densest residential zone that outright permits single-family houses. This zone is likely to be medium density and will probably permit uses like duplexes or multifamily housing.

  All data specific to housing from the zoning ordinance should be taken from the standards for this zone. This includes: lot width, setbacks, and floor area minimum. It may include requirements for parking, street width, and sidewalks.

- **Lot width minimum:** A lot is a parcel of land on which 1 detached single-family house is built. The lot width minimum is the minimum width allowed for an interior lot in the chosen single-family residential zone. It is measured in feet.

- **Setbacks:** A setback is the distance that the building(s) on the lot are from the property line or road. Zoning ordinances often use the word "yard" as a synonym for setback (Rohse, 1987).

- **Front yard:** The front yard setback is the minimum setback for the front yard of interior lots. It is measured in feet.

- **Side yard:** The side yard setback is the minimum setback for the side yard of interior lots. It is measured in feet.

- **Rear yard:** The rear yard setback is the minimum setback for the rear yard of interior lots. It is measured in feet.

- **Floor area minimum:** It is the minimum amount of floor area for a detached single-family residence, expressed in square feet.

- **Off-street parking:** Off-street parking requirements are the number of off-street parking spaces required for a single family detached house. Where specified, this number should be specific to the chosen residential zone. Otherwise, it should be specific to a single-family house.

- **Curb and gutter:** The curb and gutter are located at the edge of the road. One of their purposes is to channel storm water runoff away from the street and into drainage areas.

- **Street pavement width:** This is the minimum pavement width for local streets, measured in feet. Local streets are minor streets that are likely to be found in residential subdivisions.

- **Street right-of-way width:** This is the minimum right-of-way width for local streets, measured in feet. The right-of-way may include sidewalks, planting strips, and easements for future road expansion. Local streets are minor streets that are likely to be found in residential subdivisions.

- **Sidewalk:** A sidewalk is a paved area next to the street, which is used predominantly by pedestrians. Its width is measured in feet.

- **Planting strip:** A planting strip is an area located between the street or curb and the edge of the sidewalk. It is often grassy and may have trees in it. Its width is measured in feet.

- **Open space:** Open space is undeveloped land that is expected to remain undeveloped indefinitely. It refers to open spaces that are available for public use, such as parks, playgrounds, or wetlands (Rohse, 1987).

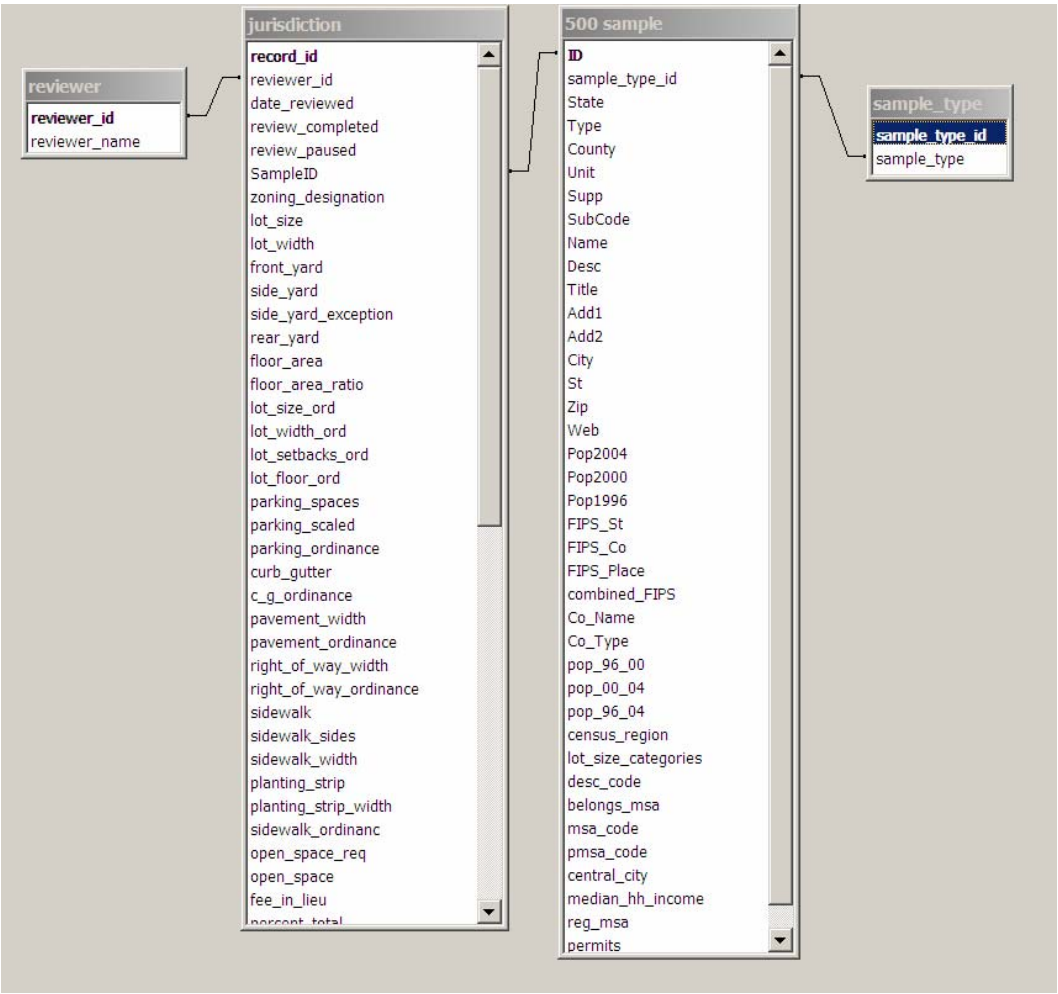
- **Percent of total land required for open space:** This is the percent of land in the subdivision that must be set aside or devoted to open space.

- **Fee in lieu of dedication:** This is a fee that a developer of a subdivision can pay instead of setting aside land for open space.

DATABASE STRUCTURE

CPW used Microsoft Access 2000 to collect and store data for each review. The database had two main tables. The first, called "500 sample," contained data pulled from the U.S. Census. The second table contained the information that CPW gathered for each jurisdiction. The other tables were look-up tables. The sample type table recorded whether the jurisdiction was part of the original sample, a subsequent add-on to the sample, or a substitution. The reviewer table contained reviewers' names.

Figure 4-1. The relationships between the tables in the database



Source: Survey of Regulatory Standards, CPW 2006.

Table 4-1 presents a list of the fields in each table within the database, including the type of variable and its purpose in the database. All fields for each of the four tables in the database are shown in Table D.1.

Table 4-1. Fields in each database table

Table Name: Jurisdiction		
Field Name	**Variable Type**	**Purpose**
record_id	Autonumber	Record ID for Access
reviewer_id	Number	Name of the person who reviewed the jurisdiction's ordinances.
date_reviewed	Date/Time	Date the ordinances were reviewed
review_completed	Yes/No	Indication of whether the review of the jurisdiction's ordinances has been completed.
review_paused	Yes/No	Indication that the jurisdiction's review is waiting more information.
SampleID	Number	Key field in the sample table

zoning_designation	Text	Residential zoning designation used for zoning standards
lot_size	Number	Minimum size of an interior lot for a single-family house
lot_width	Number	Minimum lot width for 1 detached single-family house
front_yard	Number	Minimum front yard setback for an interior detached single-family house
side_yard	Number	Minimum side yard setback for an interior detached single-family house
side_yard_exception	Yes/No	Exception for side yard when the ordinance give a total for both sides and we have divide that total in half.
rear_yard	Number	Minimum rear yard setback for an interior detached single-family house
floor_area	Number	Minimum floor area for a detached single-family house
floor_area_ratio	Number	Ratio of the floor area
lot_size_ord	Text	Which ordinance are lot size standards found in?
lot_width_ord	Text	Which ordinance are lot width standards found in?
lot_setbacks_ord	Text	Which ordinance are lot setback standards found in?
lot_floor_ord	Text	Which ordinance are floor area standards found in?
parking_spaces	Number	Minimum number of off-street parking spaces for detached single-family house
parking_scaled	Yes/No	Is the number of parking spaces scaled, dependent on the number of bedrooms?
parking_ordinance	Text	Which ordinance was the parking requirement found in?
curb_gutter	Text	Is there a requirement for curb and gutter?
c_g_ordinance	Text	Which ordinance was the curb and gutter requirement found in?
pavement_width	Number	Width of the pavement for local streets
pavement_ordinance	Text	Width of the pavement for local streets
right_of_way_width	Number	Width of the right-of-way for local streets
right_of_way_ordinance	Text	Which ordinance was the right-of-way requirement found in?
sidewalk	Text	Is there a requirement for sidewalks?
sidewalk_sides	Text	Is the sidewalk required on 1 or both sides of the street?
sidewalk_width	Number	Minimum width of the sidewalk
planting_strip	Text	Are planting strips required?
planting_strip_width	Number	Minimum width for planting strips
sidewalk_ordinance	Text	Which ordinance were sidewalk requirements found in?
open_space_req	Text	Is open space required in the subdivision ordinance?
open_space	Text	Total amount of open space required - open ended

		summary
fee_in_lieu	Yes/No	Is fee-in-lieu of dedication allowed to fulfil open space requirements?
percent_total	Number	Percent of total land required in a subdivision for open space
sq_ft	Number	Number of square feet per dwelling unit (DU) for open space
sq_ft_du	Number	Number of du for the sq_ft of open space
acres	Number	Number of acres per du for open space
acres_measure	Text	This is to allow for acres or square feet for "acres"
acres_du	Number	Number of du for the acres of open space
acres_person	Number	Number of acres per person of open space
acres_person_measure	Text	This is to allow for acres or square feet for "acres_person"
acres_person_du	Number	Number of people for the acres of open space
os_min_stand	Text	Is this the minimum standard allowable for open space
os_lots	Text	Is this standard based on the number of lots or acres in the subdivision?
os_lots_number	Number	If it is based on os_lots, how many lots
os_lots_acres	Number	If it is based on os_lots, how many acres
landscaping	Text	Does the subdivision have requirements for landscaping?
landscaping_ord	Text	Which ordinance are landscaping standards found in?
open_space_ordinance	Text	Which ordinance were open space requirements found in?
zoning_ord	Text	Does the jurisdiction have a zoning ordinance?
subdivision_ord	Text	Does the jurisdiction have a subdivision ordinance?
zo_updated	Date/Time	Last update of the zoning ordinance.
zo_update_type	Text	Type of update of the zoning ordinance.
sd_updated	Date/Time	Last update of the subdivision ordinance.
sd_update_type	Text	Type of update of the subdivision ordinance.
zo_media	Text	Is the zoning ord in paper or electronic form?
sd_media	Text	Is the subdivision ord in paper or electronic form?
long_check	Yes/No	Quality Assurance - Did we do a complete check of the ordinance review.
short_check	Yes/No	Quality Assurance - Did we check the zoning district choice and/or other standards.

Table Name: 500 sample

Field Name	Variable Type	Purpose
ID	Number	Record id for access
Sample_type_id	Number	Which sample is the jurisdiction from
State	Text	Census code

Type	Text	Census code
County	Text	Census code
Unit	Text	Census code
Supp	Text	Census code
SubCode	Text	Census code
Name	Text	Jurisdiction Name
Desc	Text	Jurisdiction's government type
Title	Text	Title for jurisdiction contact person
Add1	Text	Contact address for jurisdiction
Add2	Text	Contact address for jurisdiction
City	Text	Contact address for jurisdiction
St	Text	Contact address for jurisdiction
Zip	Text	Contact address for jurisdiction
Web	Text	Contact address for jurisdiction
Pop2004	Number	Jurisdiction's population - according to the Census
Pop2000	Number	Jurisdiction's population - according to the Census
Pop1996	Number	Jurisdiction's population - according to the Census
FIPS_St	Text	Census State FIPS code
FIPS_Co		Census County FIPS code
FIPS_Place		Census Place FIPS code
Co_Name	Text	County Name
Co_type	Text	County type
ORD_Downloaded	Text	Has the ord been downloaded (unused)
Ord_URL	Text	Ordinance URL (unused)
Date_ord_downloaded	Text	Date ordnance downloaded (unused)

Table Name: Reviewer

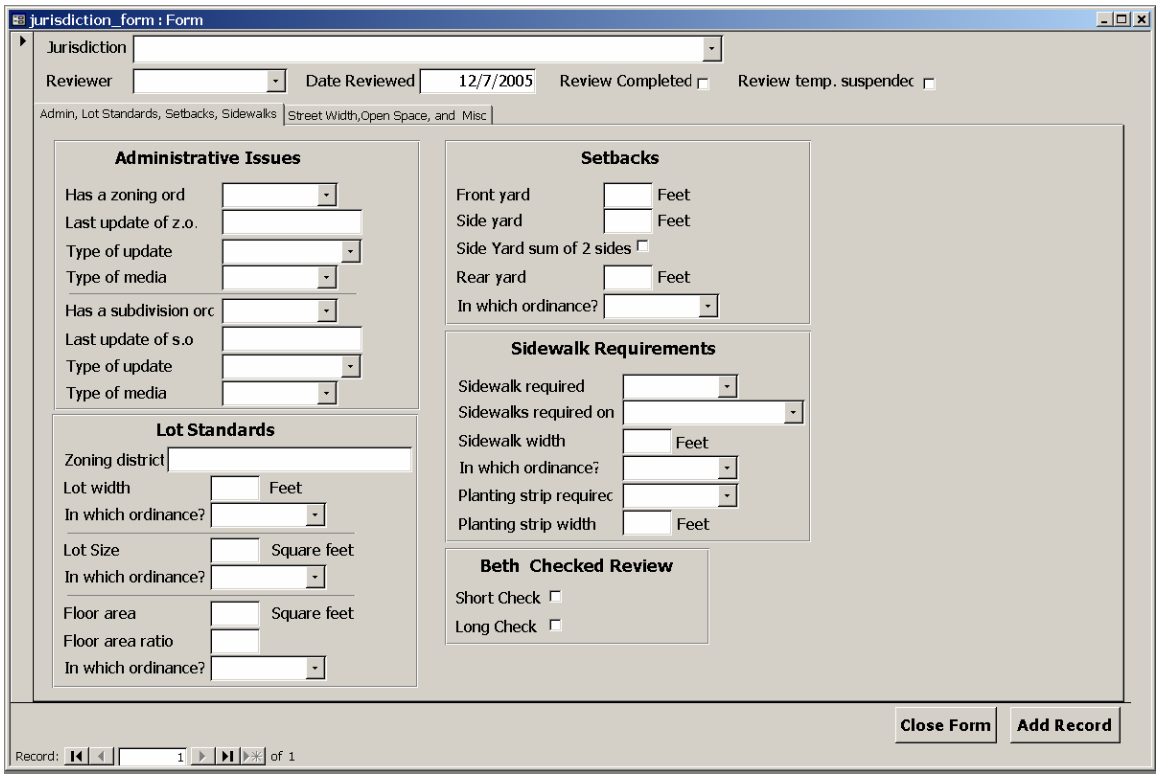
Field Name	Variable Type	Purpose
reviewer_id	Autonumber	Access primary key
reviewer_name	Text	Reviewer's name

Table Name: Sample Type

Field Name	Variable Type	Purpose
sample_type_id	Autonumber	Access primary key
sample_type	Text	Is the sample from the original 400, an expansion, or a substitution?

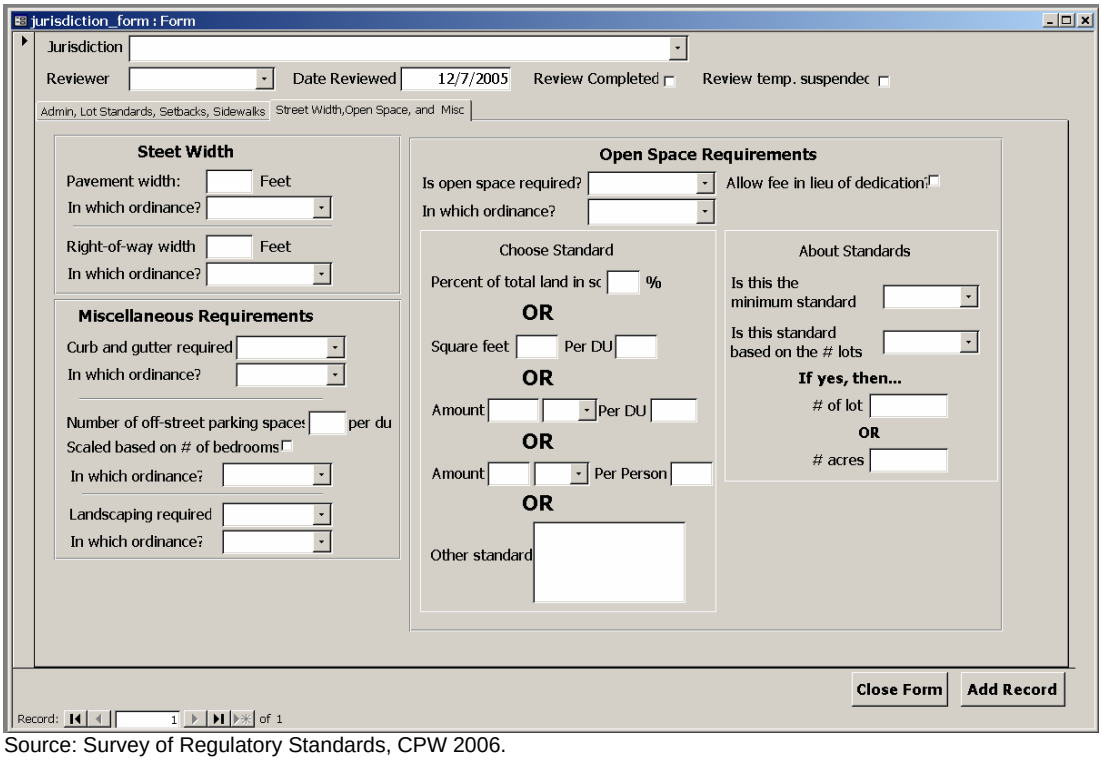
Figures 4-2 and 4-3 show the data entry form used in the database for collecting information.

Figure 4-2. The database form used to collect administrative information, lot standards, setbacks, and sidewalk standards



Source: Survey of Regulatory Standards, CPW 2006.

Figure 4-3. The database form used to collect street width, open space requirements, and miscellaneous requirements



Source: Survey of Regulatory Standards, CPW 2006.

QUALITY ASSURANCE MEASURES

We had several ways to assure accuracy in the ordinance review process, including: using drop down fields where possible and conducting reviews of some records.

Drop down fields. The database included drop down fields where possible. The fields with drop downs and their values are shown in Table 4-2 below.

Table 4-2. Fields with drop down menus

Field Name	Drop down choices
Jurisdiction	All jurisdictions, their state, and government type
Reviewer	Reviewer names
zoning_ord	Yes/No
zo_update_type	Adopted/Amended
zo_media	Electronic/Paper
subdivision_ord	Yes/No
sd_update_type	Adopted/Amended
sd_media	Electronic/Paper
lot_width_ord	Subdivision/Zoning

Field Name	Drop down choices
lot_size_ord	Subdivision/Zoning
lot_floor_ord	Subdivision/Zoning
lot_setbacks	Subdivision/Zoning
sidewalk	Yes/No
sidewalk_sides	One side of the street/Both sides of the street
sidewalk_ord	Subdivision/Zoning
Planting_strip	Yes/No
pavement_ordinance	Subdivision/Zoning
right_of_way_ordinance	Subdivision/Zoning
curb_gutter	Yes/No
c_g_ordinance	Subdivision/Zoning
Parking_ordinance	Subdivision/Zoning
landscaping	Yes/No
landscaping_ord	Subdivision/Zoning
open_space_req	Yes/No
open_space_ordinance	Subdivision/Zoning
acres_measure	Acres/Sq Ft
acres_person_measure	Acres/Sq Ft
os_min_stand	Yes/No
os_lots	Yes/No

Reviewing records. We conducted quality assurance reviews of 175 (37%) of the jurisdictions in the database. Two people conducted reviews: the project manager and one researcher. We reviewed a selection of records for each reviewer. We focused our quality assurance checks on jurisdictions with electronic ordinances because we found that jurisdictions with paper ordinances generally had simpler ordinances. That said, we also did reviews on some jurisdictions with paper ordinances.

The quality assurance reviews took two forms: short reviews and full reviews. Where we found problems, we instructed the original researcher to fix the problem and double-checked that they had done so.

Short reviews. The most difficult and important step was choosing the residential zoning district. We conducted brief reviews on 143 (30%) of the jurisdictions. The short reviews focused primarily on the choice of zoning district. In addition, we periodically conducted a series of queries to identify suspicious and outlying data points for some fields. We examined the questionable data points and checked the zoning district for each jurisdiction in these queries.

Full reviews. We conducted full reviews on 32 (7%) of the records in the database. We chose jurisdictions semi-randomly from each reviewer for the long

reviews. The full review was essentially a second complete review of the jurisdiction's ordinances.

Appendix 5

List of Sample Jurisdictions

This appendix presents summaries of the jurisdictions reviewed in this study, the jurisdictions in the sample that were not included in the review, and the substitute jurisdictions.

JURISDICTIONS INCLUDED IN THE STUDY

Table 5-1 lists all the jurisdictions that were reviewed in the study, including their name, state, the type of jurisdiction, which ordinances the jurisdiction has, and their Federal Information Processing Standards (FIPS) code from the U.S. Census.

Table 5-1. Jurisdictions in the study

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
ANCHORAGE	AK	MUNICIPALITY	yes	yes	03000
MATANUSKA-SUSITNA	AK	BOROUGH	yes	yes	170
BRENT	AL	CITY	none	none	09136
ELMORE	AL	COUNTY	none	none	051
FLORENCE	AL	CITY	yes	yes	26896
FOLEY	AL	CITY	yes	yes	26992
HUNTSVILLE	AL	CITY	yes	yes	37000
MONTGOMERY	AL	CITY	yes	yes	51000
PINE RIDGE	AL	TOWN	none	none	60372
TUSCALOOSA	AL	COUNTY	none	yes	125
CHEROKEE VILLAGE	AR	CITY	yes	none	13472
LITTLE ROCK	AR	CITY	yes	yes	41000
LONOKE	AR	COUNTY	none	yes	085
SHARP	AR	COUNTY	none	none	135
WASHINGTON	AR	COUNTY	none	yes	143
AVONDALE	AZ	CITY	yes	yes	04720
CHANDLER	AZ	CITY	yes	yes	12000
GILBERT	AZ	TOWN	yes	yes	27400
MARICOPA	AZ	COUNTY	yes	yes	013
MESA	AZ	CITY	yes	yes	46000
PHOENIX	AZ	CITY	yes	yes	55000
SEDONA	AZ	CITY	yes	yes	65350
SOUTH TUCSON	AZ	CITY	yes	yes	68850
WICKENBURG	AZ	TOWN	yes	yes	82740
ANAHEIM	CA	CITY	yes	yes	02000
BELMONT	CA	CITY	yes	yes	05108
BRENTWOOD	CA	CITY	yes	yes	08142
CALAVERAS	CA	COUNTY	yes	yes	009

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
CHICO	CA	CITY	yes	yes	13014
CHULA VISTA	CA	CITY	yes	yes	13392
COLFAX	CA	CITY	yes	yes	14498
COSTA MESA	CA	CITY	yes	yes	16532
DIXON	CA	CITY	yes	yes	19402
ELK GROVE	CA	CITY	yes	yes	067
FAIRFIELD	CA	CITY	yes	yes	23182
FOLSOM	CA	CITY	yes	yes	24638
FRESNO	CA	CITY	yes	yes	27000
GALT	CA	CITY	yes	yes	28112
GUSTINE	CA	CITY	yes	yes	31568
HAYWARD	CA	CITY	yes	yes	33000
HUNTINGTON PARK	CA	CITY	yes	yes	36056
IRVINE	CA	CITY	yes	yes	36770
KERMAN	CA	CITY	yes	yes	38226
KINGS	CA	COUNTY	yes	yes	031
LAGUNA NIGUEL	CA	CITY	yes	yes	39248
LODI	CA	CITY	yes	yes	42202
LOS ANGELES	CA	COUNTY	yes	yes	037
LOYALTON	CA	CITY	yes	yes	44364
LYNWOOD	CA	CITY	yes	yes	44574
MADERA	CA	CITY	yes	yes	45022
MALIBU	CA	CITY	yes	yes	45246
MCFARLAND	CA	CITY	yes	yes	44826
MODESTO	CA	CITY	yes	yes	48354
MONTE SERENO	CA	CITY	yes	yes	48956
MURRIETA	CA	CITY	yes	yes	50076
OCEANSIDE	CA	CITY	yes	yes	53322
PALMDALE	CA	CITY	yes	yes	55156
RANCHO CUCAMONGA	CA	CITY	yes	yes	59451
REDWOOD	CA	CITY	yes	yes	60102
RIVERSIDE	CA	COUNTY	yes	yes	065
ROCKLIN	CA	CITY	yes	yes	62364
SACRAMENTO	CA	CITY	yes	yes	64000
SALINAS	CA	CITY	yes	yes	64224
SAN DIEGO	CA	COUNTY	yes	yes	073
SAN FRANCISCO	CA	CITY AND COUNTY	yes	yes	67000
SAN JOSE	CA	CITY	yes	yes	68000
SAN LEANDRO	CA	CITY	yes	yes	68084
SAN MARINO	CA	CITY	yes	yes	68224
SAN MATEO	CA	CITY	yes	yes	68252
SANTA MARIA	CA	CITY	yes	yes	69196
SANTA PAULA	CA	CITY	yes	yes	70042
SEBASTOPOL	CA	CITY	yes	yes	70770
STOCKTON	CA	CITY	yes	yes	75000
UNION CITY	CA	CITY	yes	yes	81204

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
VACAVILLE	CA	CITY	yes	yes	81554
VISTA	CA	CITY	yes	yes	82996
WINDSOR	CA	TOWN	yes	yes	85922
WOODLAKE	CA	CITY	yes	yes	86300
WOODLAND	CA	CITY	yes	yes	86328
COLORADO SPRINGS	CO	CITY	yes	yes	16000
DENVER	CO	CITY AND COUNTY	yes	yes	20000
FORT COLLINS	CO	CITY	yes	yes	27425
GREELEY	CO	CITY	yes	yes	32155
OURAY	CO	CITY	yes	yes	56420
PARKER	CO	TOWN	yes	yes	57630
THORNTON	CO	CITY	yes	yes	77290
BOZRAH	CT	TOWN	yes	yes	06820
BRIDGEPORT	CT	CITY	yes	none	08000
CHESHIRE	CT	TOWN	yes	yes	14160
COLCHESTER	CT	TOWN	yes	yes	15910
DANBURY	CT	CITY	yes	yes	18430
GLASTONBURY	CT	TOWN	yes	yes	31240
ELSMERE	DE	TOWN	yes	yes	24540
NEW CASTLE	DE	COUNTY	yes	yes	003
WILMINGTON	DE	CITY	yes	yes	77580
AVENTURA	FL	CITY	yes	yes	02681
BAL HARBOUR	FL	VILLAGE	yes	none	03275
CAPE CORAL	FL	CITY	yes	yes	10275
COCONUT CREEK	FL	CITY	yes	yes	13275
DAVIE	FL	TOWN	yes	yes	16475
DEERFIELD BEACH	FL	CITY	yes	none	16725
EDGEWOOD	FL	CITY	yes	yes	19900
GAINESVILLE	FL	CITY	yes	yes	25175
HIALEAH	FL	CITY	yes	none	30000
HYPOLUXO	FL	TOWN	yes	none	33150
JUPITER	FL	TOWN	yes	yes	35875
MARCO ISLAND	FL	CITY	yes	yes	43075
MELBOURNE	FL	CITY	yes	yes	43975
MIAMI-DADE	FL	COUNTY	yes	yes	086
NORTH BAY VILLAGE	FL	CITY	yes	none	49225
NORTH LAUDERDALE	FL	CITY	yes	yes	49425
NORTH MIAMI	FL	CITY	yes	none	49450
NORTH PORT	FL	CITY	yes	yes	49675
ORANGE	FL	COUNTY	yes	yes	095
ORANGE CITY	FL	CITY	yes	yes	51825
ORMOND BEACH	FL	CITY	yes	yes	53150
PEMBROKE PINES	FL	CITY	yes	yes	55775
ROYAL PALM BEACH	FL	VILLAGE	yes	yes	62100
ST PETE BEACH	FL	CITY	yes	yes	62885

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
ATHENS-CLARKE COUNTY	GA	UNIFIED GOVERNMENT	yes	yes	03436
ATLANTA	GA	CITY	yes	yes	04000
BERLIN	GA	CITY	yes	yes	07304
CALHOUN	GA	CITY	yes	none	12456
CHATHAM	GA	COUNTY	yes	yes	051
DALLAS	GA	CITY	yes	yes	21324
DEKALB	GA	COUNTY	yes	yes	089
HELENA	GA	CITY	yes	none	37816
HINESVILLE	GA	CITY	yes	yes	38964
KENNESAW	GA	CITY	yes	yes	43192
MORGAN	GA	CITY	yes	yes	52696
POOLER	GA	CITY	yes	yes	62104
ROME	GA	CITY	yes	yes	66668
SMYRNA	GA	CITY	yes	yes	71492
HAWAII	HI	COUNTY	yes	yes	001
HONOLULU	HI	CITY AND COUNTY	yes	yes	17000
KAUAI	HI	COUNTY	yes	yes	007
DAVENPORT	IA	CITY	yes	yes	19000
MARION	IA	CITY	yes	yes	49485
PETERSON	IA	CITY	none	none	62625
ROBINS	IA	CITY	yes	yes	67800
URBANDALE	IA	CITY	yes	yes	79950
WATERLOO	IA	CITY	yes	none	82425
BOISE	ID	CITY	yes	yes	08830
BONNER	ID	COUNTY	yes	yes	017
BOLINGBROOK	IL	VILLAGE	yes	none	07133
CHICAGO	IL	CITY	yes	yes	14000
DE KALB	IL	CITY	yes	yes	19161
ELGIN	IL	TOWNSHIP	yes	yes	23087
FOSTER	IL	TOWNSHIP	yes	yes	27182
GRAYSLAKE	IL	VILLAGE	yes	yes	31121
GURNEE	IL	VILLAGE	yes	yes	32018
LA SALLE	IL	COUNTY	yes	yes	099
MASSAC	IL	COUNTY	none	none	127
MILLSTADT	IL	TOWNSHIP	yes	yes	49399
MOUNT PROSPECT	IL	VILLAGE	yes	yes	51089
PALATINE	IL	TOWNSHIP	yes	yes	57238
ROCKFORD	IL	CITY	yes	yes	65000
SCHAUMBURG	IL	VILLAGE	yes	yes	68003
SHILOH	IL	VILLAGE	yes	yes	69524
VILLA GROVE	IL	CITY	yes	yes	77941
WAUCONDA	IL	VILLAGE	yes	yes	79267
WHEELING	IL	TOWNSHIP	yes	yes	81100
WINDSOR	IL	CITY	yes	none	82322
BROWNSBURG	IN	TOWN	yes	yes	08416

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
CARROLL	IN	COUNTY	yes	yes	015
CLARKSVILLE	IN	TOWN	yes	yes	12934
FISHERS	IN	TOWN	yes	yes	23278
HUNTINGTON	IN	COUNTY	yes	yes	069
MIDDLETOWN	IN	TOWN	yes	yes	49014
PLEASANT	IN	TOWNSHIP	yes	yes	60426
WASHINGTON	IN	COUNTY	none	yes	175
WAYNE	IN	TOWNSHIP	yes	yes	81800
WEST LAFAYETTE	IN	CITY	yes	yes	82862
DODGE CITY	KS	CITY	yes	yes	18250
JEFFERSON	KS	TOWNSHIP	yes	yes	35200
JOHNSON	KS	COUNTY	yes	yes	091
MANHATTAN	KS	CITY	yes	yes	44250
WICHITA	KS	CITY	yes	yes	79000
FLATWOODS	KY	CITY	yes	yes	27802
FORT THOMAS	KY	CITY	yes	yes	28594
FORT WRIGHT	KY	CITY	yes	yes	28612
LEXINGTON-FAYETTE	KY	URBAN COUNTY GOVERNMENT	yes	yes	46027
OWENSBORO	KY	CITY	yes	yes	58620
OWINGSVILLE	KY	CITY	yes	none	58710
ASCENSION	LA	PARISH	yes	yes	005
BALL	LA	TOWN	yes	yes	04055
COVINGTON	LA	CITY	yes	yes	18125
GRAMERCY	LA	TOWN	yes	none	30550
HALL SUMMIT	LA	VILLAGE	none	none	32650
OPELOUSAS	LA	CITY	none	yes	58045
SHREVEPORT	LA	CITY	yes	yes	70000
WOODWORTH	LA	VILLAGE	none	none	83125
YOUNGSVILLE	LA	TOWN	none	yes	83335
BEVERLY	MA	CITY	yes	yes	05595
BOSTON	MA	CITY	yes	yes	07000
CAMBRIDGE	MA	CITY	yes	none	11000
CHELSEA	MA	CITY	yes	yes	13205
GRAFTON	MA	TOWN	yes	yes	26430
MONTEREY	MA	TOWN	yes	yes	42460
NANTUCKET	MA	TOWN	yes	yes	43790
TAUNTON	MA	CITY	yes	yes	69170
TISBURY	MA	TOWN	yes	yes	69940
WEST TISBURY	MA	TOWN	yes	yes	78235
WORCESTER	MA	CITY	yes	yes	82000
BOWIE	MD	CITY	yes	yes	08775
FREDERICK	MD	CITY	yes	yes	30325
HAGERSTOWN	MD	CITY	yes	yes	36075
HAVRE DE GRACE	MD	CITY	yes	yes	37600
THURMONT	MD	TOWN	yes	yes	77825

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
UNION BRIDGE	MD	TOWN	yes	yes	79350
WESTMINSTER	MD	CITY	yes	yes	83100
KITTERY	ME	TOWN	yes	yes	37270
OTISFIELD	ME	TOWN	yes	yes	55960
SOUTH PORTLAND	ME	CITY	yes	yes	71990
ALLENDALE	MI	CHARTER TOWNSHIP	yes	none	01360
BALDWIN	MI	TOWNSHIP	yes	yes	04920
COMMERCE	MI	CHARTER TOWNSHIP	yes	yes	17640
EAGLE HARBOR	MI	TOWNSHIP	none	yes	23620
FLINT	MI	CITY	yes	none	29000
HILLSDALE	MI	CITY	yes	yes	38460
INDEPENDENCE	MI	CHARTER TOWNSHIP	yes	yes	40400
LIVONIA	MI	CITY	yes	yes	49000
MACOMB	MI	COUNTY	none	yes	099
MAYFIELD	MI	TOWNSHIP	yes	none	52500
NORTH BRANCH	MI	VILLAGE	yes	yes	58080
PLEASANTON	MI	TOWNSHIP	yes	yes	64860
RICHFIELD	MI	TOWNSHIP	yes	none	68180
SHELBY	MI	CHARTER TOWNSHIP	yes	yes	72820
WAVERLY	MI	TOWNSHIP	yes	yes	84820
WAYNE	MI	COUNTY	yes	yes	163
YPSILANTI	MI	CITY	yes	yes	89140
CARVER	MN	CITY	yes	yes	10144
EAGAN	MN	CITY	yes	yes	17288
FARIBAULT	MN	CITY	yes	yes	20546
HENNEPIN	MN	COUNTY	none	none	053
INVER GROVE HEIGHTS	MN	CITY	yes	yes	31076
MINNEWASKA	MN	TOWNSHIP	yes	yes	43342
SANBORN	MN	CITY	none	none	58306
ST PAUL	MN	CITY	yes	yes	58000
WACONIA	MN	CITY	yes	yes	67432
WATERTOWN	MN	CITY	yes	yes	68548
BELLERIVE ACRES	MO	VILLAGE	none	none	04240
BETHANY	MO	TOWNSHIP	yes	yes	05086
COLUMBIA	MO	CITY	yes	yes	15670
LEES SUMMIT	MO	CITY	yes	yes	41348
LEWISTOWN	MO	CITY	none	none	41852
RAYMORE	MO	CITY	yes	yes	60752
RAYTOWN	MO	CITY	yes	yes	60788
SPRINGFIELD	MO	CITY	yes	yes	70000
SUMNER	MO	CITY	none	none	71620
WEBB CITY	MO	CITY	yes	yes	78118
BILOXI	MS	CITY	yes	yes	06220

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
LOUIN	MS	TOWN	none	none	42200
SALTILLO	MS	TOWN	yes	yes	64840
SENATOBIA	MS	CITY	yes	yes	66440
BELT	MT	TOWN	none	none	05275
KALISPELL	MT	CITY	yes	yes	40075
MISSOULA	MT	CITY	yes	yes	50200
CONCORD	NC	CITY	yes	yes	14100
DENTON	NC	TOWN	yes	yes	16980
DURHAM	NC	CITY	yes	yes	19000
FLAT ROCK	NC	VILLAGE	yes	yes	23600
FREMONT	NC	TOWN	yes	yes	24900
HOLLY SPRINGS	NC	TOWN	yes	yes	32260
HUNTERSVILLE	NC	TOWN	yes	yes	33120
JOHNSTON	NC	COUNTY	yes	yes	101
KERNERSVILLE	NC	TOWN	yes	yes	35600
LUMBERTON	NC	CITY	yes	yes	39700
NEWTON	NC	CITY	yes	yes	47000
PLEASANT GARDEN	NC	TOWN	yes	yes	52760
SUMMERFIELD	NC	TOWN	yes	yes	65580
WINSTON SALEM	NC	CITY	yes	yes	75000
FARGO	ND	CITY	yes	yes	25700
MISSOURI	ND	TOWNSHIP	yes	yes	53620
COLUMBUS	NE	TOWNSHIP	yes	yes	10145
DAWSON	NE	COUNTY	yes	none	047
OMAHA	NE	CITY	yes	yes	37000
HOOKSETT	NH	TOWN	yes	yes	37300
NASHUA	NH	CITY	yes	yes	50260
TUFTONBORO	NH	TOWN	yes	yes	77620
BOONTON	NJ	TOWN	yes	yes	06610
CAMDEN	NJ	COUNTY	none	none	007
GALLOWAY	NJ	TOWNSHIP	yes	yes	25560
IRVINGTON	NJ	TOWNSHIP	yes	yes	34450
MAPLEWOOD	NJ	TOWNSHIP	yes	yes	43800
RARITAN	NJ	TOWNSHIP	yes	yes	61920
RUTHERFORD	NJ	BOROUGH	yes	yes	65280
SPRINGFIELD	NJ	TOWNSHIP	yes	yes	69990
UNION CITY	NJ	CITY	yes	yes	74630
VINELAND	NJ	CITY	yes	yes	76070
WANTAGE	NJ	TOWNSHIP	yes	yes	76790
WASHINGTON	NJ	TOWNSHIP	yes	yes	77180
ALBUQUERQUE	NM	CITY	yes	yes	02000
DONA ANA	NM	COUNTY	yes	yes	013
RIO RANCHO	NM	CITY	yes	yes	63460
CLARK	NV	COUNTY	yes	yes	003
LAS VEGAS	NV	CITY	yes	yes	40000
MESQUITE	NV	CITY	yes	yes	46000

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
NORTH LAS VEGAS	NV	CITY	yes	yes	51800
RENO	NV	CITY	yes	yes	60600
BERKSHIRE	NY	TOWN	none	yes	06145
BINGHAMTON	NY	CITY	yes	yes	06607
BLACK BROOK	NY	TOWN	yes	yes	06761
CAMILLUS	NY	TOWN	yes	yes	11913
CARMEL	NY	TOWN	yes	yes	12529
COOPERSTOWN	NY	VILLAGE	yes	yes	18047
HANNIBAL	NY	TOWN	yes	yes	32028
HEMPSTEAD	NY	TOWN	yes	none	34000
JEFFERSON	NY	TOWN	none	yes	38440
LODI	NY	VILLAGE	none	none	43214
MADISON	NY	COUNTY	none	none	053
MILLBROOK	NY	VILLAGE	yes	yes	47273
MORAVIA	NY	TOWN	none	yes	48307
NEW YORK	NY	CITY	yes	yes	51000
NYACK	NY	VILLAGE	yes	yes	54100
OSWEGO	NY	COUNTY	none	none	075
RAMAPO	NY	TOWN	yes	none	60510
RENSSELAER	NY	CITY	yes	none	61148
SINCLAIRVILLE	NY	VILLAGE	yes	none	67488
TONAWANDA	NY	CITY	yes	yes	74166
TURIN	NY	TOWN	yes	yes	75693
WALES	NY	TOWN	yes	yes	77871
WARRENSBURG	NY	TOWN	yes	yes	78300
WOODBURY	NY	TOWN	yes	yes	82755
WOODSBURGH	NY	VILLAGE	yes	yes	82986
BUCKEYE LAKE	OH	VILLAGE	yes	yes	09890
BURTON	OH	VILLAGE	yes	yes	10436
CINCINNATI	OH	CITY	yes	yes	15000
DAYTON	OH	CITY	yes	yes	21000
DEERFIELD	OH	TOWNSHIP	yes	yes	21238
HAMILTON	OH	TOWNSHIP	yes	yes	33068
HENRY	OH	TOWNSHIP	yes	yes	34986
JACKSON	OH	TOWNSHIP	yes	yes	37800
JEFFERSON	OH	COUNTY	none	yes	081
LIBERTY	OH	TOWNSHIP	yes	yes	43106
NORTH BALTIMORE	OH	VILLAGE	yes	yes	56154
OXFORD	OH	CITY	yes	yes	59234
PLEASANT	OH	TOWNSHIP	yes	yes	63240
VENICE	OH	TOWNSHIP	none	yes	79674
WASHINGTON	OH	TOWNSHIP	yes	yes	81494
CYRIL	OK	TOWN	none	none	19000
KELLYVILLE	OK	TOWN	none	none	39000
LAWTON	OK	CITY	yes	yes	41850
OKLAHOMA	OK	CITY	yes	yes	109

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
OKLAHOMA	OK	COUNTY	yes	yes	55000
OWASSO	OK	CITY	yes	yes	56650
TULSA	OK	CITY	yes	yes	75000
ALBANY	OR	CITY	yes	yes	01000
GRESHAM	OR	CITY	yes	yes	31250
JACKSON	OR	COUNTY	yes	yes	029
NORTH PLAINS	OR	CITY	yes	yes	53150
PORTLAND	OR	CITY	yes	yes	59000
WINSTON	OR	CITY	yes	yes	83400
AVALON	PA	BOROUGH	yes	none	03608
CLARK	PA	BOROUGH	yes	yes	13832
CLINTON	PA	TOWNSHIP	yes	yes	14320
ERIE	PA	CITY	yes	yes	24000
EXETER	PA	TOWNSHIP	yes	yes	24384
LOWER MERION	PA	TOWNSHIP	yes	yes	44976
MANOR	PA	TOWNSHIP	none	yes	46976
MONTGOMERY	PA	COUNTY	none	none	091
MONTROSE	PA	BOROUGH	yes	yes	50736
NEW GARDEN	PA	TOWNSHIP	yes	yes	53608
PALMYRA	PA	BOROUGH	yes	yes	57720
PENN	PA	TOWNSHIP	yes	yes	58888
ROSS	PA	TOWNSHIP	yes	yes	66280
SHIPPENSBURG	PA	BOROUGH	yes	yes	70352
SKIPPACK	PA	TOWNSHIP	yes	yes	71016
SPRINGETTSBURY	PA	TOWNSHIP	yes	yes	72992
TUNKHANNOCK	PA	TOWNSHIP	yes	yes	77776
WEST PIKELAND	PA	TOWNSHIP	yes	yes	83832
MIDDLETOWN	RI	TOWN	yes	yes	45460
PAWTUCKET	RI	CITY	yes	yes	54640
PROVIDENCE	RI	CITY	yes	none	59000
WOONSOCKET	RI	CITY	yes	yes	80780
BEAUFORT	SC	CITY	yes	yes	04690
BLUFFTON	SC	TOWN	yes	yes	07210
COLUMBIA	SC	CITY	yes	yes	16000
FOREST ACRES	SC	CITY	yes	yes	26305
GOOSE CREEK	SC	CITY	yes	yes	29815
GREENVILLE	SC	COUNTY	yes	yes	045
YORK	SC	CITY	yes	yes	79630
PIERRE	SD	CITY	yes	yes	49600
SIOUX FALLS	SD	CITY	yes	yes	59020
WHITE RIVER	SD	CITY	none	none	71340
CHATTANOOGA	TN	CITY	yes	yes	14000
COLLIERVILLE	TN	TOWN	yes	yes	16420
DICKSON	TN	CITY	yes	yes	20620
ESTILL SPRINGS	TN	TOWN	yes	none	24440
GERMANTOWN	TN	CITY	yes	yes	28960

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
HARROGATE	TN	CITY	yes	yes	32650
MEMPHIS	TN	CITY	yes	yes	48000
NASHVILLE AND DAVIDSON COUNTY	TN	METROPOLITAN GOVERNMENT	yes	yes	52004
PIKEVILLE	TN	CITY	none	none	58120
ARLINGTON	TX	CITY	yes	none	04000
AUSTIN	TX	CITY	yes	yes	05000
BAY CITY	TX	CITY	none	none	05984
BEAUMONT	TX	CITY	yes	yes	07000
CEDAR PARK	TX	CITY	yes	yes	13552
DALLAS	TX	COUNTY	none	yes	113
FRISCO	TX	CITY	yes	yes	27684
GARRISON	TX	CITY	none	none	29060
HIDALGO	TX	CITY	yes	yes	33560
HIGHLAND PARK	TX	CITY	yes	yes	33824
HOUSTON	TX	CITY	none	yes	35000
INDIAN LAKE	TX	TOWN	none	yes	35918
JACKSBORO	TX	CITY	yes	yes	37168
LAKEWAY	TX	CITY	yes	yes	40984
LEAGUE CITY	TX	CITY	yes	yes	41980
LEWISVILLE	TX	CITY	yes	yes	42508
LIBERTY HILL	TX	CITY	yes	yes	42664
LOCKHART	TX	CITY	yes	yes	43240
LOS FRESNOS	TX	CITY	yes	yes	44116
LUBBOCK	TX	CITY	yes	yes	45000
MESQUITE	TX	CITY	yes	yes	47892
MONTGOMERY	TX	COUNTY	none	yes	339
MURPHY	TX	CITY	yes	yes	50100
PALMVIEW	TX	CITY	none	yes	54804
PFLUGERVILLE	TX	CITY	yes	yes	57176
ROARING SPRINGS	TX	CITY	none	none	62528
SCHERTZ	TX	CITY	yes	yes	66128
SUGAR LAND	TX	CITY	yes	yes	70808
TEXARKANA	TX	CITY	yes	yes	72368
TYLER	TX	CITY	yes	yes	74144
WALLER	TX	TOWN	none	yes	76228
WAXAHACHIE	TX	CITY	yes	yes	76816
AMERICAN FORK	UT	CITY	yes	yes	01310
SOUTH JORDAN	UT	CITY	yes	yes	70850
TAYLORSVILLE	UT	CITY	yes	yes	75360
TOQUERVILLE	UT	TOWN	yes	yes	76900
WEST VALLEY	UT	CITY	yes	yes	83470
ALEXANDRIA	VA	CITY	yes	yes	01000
BLACKSTONE	VA	TOWN	yes	yes	07832
CHATHAM	VA	TOWN	yes	yes	15000
CHESAPEAKE	VA	CITY	yes	yes	16000

Jurisdiction Name	State	Jurisdiction Type	Ordinances		FIPS*
			Subdivision	Zoning	
DAYTON	VA	TOWN	yes	yes	21648
FAIRFAX	VA	COUNTY	yes	yes	059
HARRISONBURG	VA	CITY	yes	yes	35624
HENRICO	VA	COUNTY	yes	yes	087
HERNDON	VA	TOWN	yes	yes	36648
NORFOLK	VA	CITY	yes	yes	57000
SALEM	VA	CITY	yes	yes	70000
VINTON	VA	TOWN	yes	yes	81280
WOODSTOCK	VA	TOWN	yes	yes	87712
ESSEX	VT	TOWN	yes	yes	24175
SOUTH BURLINGTON	VT	CITY	yes	yes	66175
CASTLE ROCK	WA	CITY	yes	yes	10565
CATHLAMET	WA	TOWN	yes	none	10635
EPHRATA	WA	CITY	yes	yes	22080
GRAYS HARBOR	WA	COUNTY	yes	yes	027
LEAVENWORTH	WA	CITY	yes	yes	38845
PUYALLUP	WA	CITY	yes	yes	56695
SEATAC	WA	CITY	yes	yes	62288
SHORELINE	WA	CITY	yes	yes	63960
TACOMA	WA	CITY	yes	yes	70000
VANCOUVER	WA	CITY	yes	yes	74060
ALGOMA	WI	TOWN	yes	yes	01025
ANDERSON	WI	TOWN	yes	yes	01900
BROWN	WI	COUNTY	none	yes	009
CALEDONIA	WI	TOWN	yes	yes	12000
FULTON	WI	TOWN	yes	yes	28075
KAUKAUNA	WI	CITY	yes	yes	38800
MADISON	WI	CITY	yes	yes	48000
ONALASKA	WI	CITY	yes	yes	59925
PLEASANT PRARIE	WI	VILLAGE	yes	yes	63300
HARDY	WV	COUNTY	yes	yes	031
OAK HILL	WV	CITY	yes	yes	60028
GILLETTE	WY	CITY	yes	yes	31855
JACKSON	WY	TOWN	yes	yes	40120

Source: Survey of Regulatory Standards, CPW 2006.

*Note: For all jurisdictions except for counties, we have used the FIPS place code. For counties, we have used the FIPS county code.

JURISDICTIONS NOT INCLUDED IN THE STUDY

At the end of the time allotted for data collection, there were 31 jurisdictions in the sample that we were unable to obtain ordinances from. Table 5-2 lists the jurisdictions in our sample that were not included in the study. They were kept in the sample because we were trying to contact the jurisdiction to obtain their ordinances but we ran out of time for ordinance collection (as the data collection phase of the project ended) before we could get their ordinance. In most cases,

these jurisdictions were substitutes for jurisdictions we removed from the sample because we could not obtain their ordinances. We did not review these jurisdictions' ordinances for various reasons, including:

1. We were unable to find contact information for the jurisdiction, such as a phone number, email address, or web site.

2. Some jurisdictions were not responsive to our attempts at contact. Some jurisdictions did not answer their phones or return our messages.

3. Some jurisdictions did not send us a copy of their ordinances when we requested, and sometimes paid, for them. In some cases, we received one ordinance but not the other.

4. We were able to find one ordinance but not the other, and we were unable to verify whether the jurisdiction had both ordinances.

Table 5-2. Jurisdictions in the sample but not included in data collection

Jurisdiction Name	State	Jurisdiction Type
BALDWIN	FL	TOWN
WELLINGTON	FL	VILLAGE
CHATHAM	IL	TOWNSHIP
HUDSON	IL	TOWNSHIP
DUNKIRK	IN	CITY
FALL CREEK	IN	TOWNSHIP
LA CROSSE	KS	CITY
WEST PLAINS	KS	TOWNSHIP
HILLVIEW	KY	CITY
HAMPSTEAD	MD	TOWN
OXFORD	MD	TOWN
COLUMBUS	MS	CITY
GRENADA	MS	CITY
WOODLAWN	ND	TOWNSHIP
ALEXANDRIA	NJ	TOWNSHIP
NEW BRUNSWICK	NJ	CITY
EDMESTON	NY	TOWN
KENT	NY	TOWN
NEWBURGH	NY	CITY
NORTH HEMPSTEAD	NY	TOWN
OTTO	NY	TOWN
CHESTER	OH	TOWNSHIP
EATON	OH	TOWNSHIP
MILLCREEK	OH	TOWNSHIP
PERRY	OH	TOWNSHIP
CHRISTIANA	PA	BOROUGH
CLARKS SUMMIT	PA	BOROUGH
THREE WAY	TN	CITY
GUN BARREL	TX	CITY
ITALY	TX	TOWN

RICE	TX	CITY
BLOOMFIELD	WI	TOWN
CHETEK	WI	TOWN
KEYSTONE	WV	CITY
MONTGOMERY	WV	CITY

Source: Survey of Regulatory Standards, CPW 2006

SUBSTITUTE JURISDICTIONS

Table 5-3 lists the jurisdictions that we originally included in our sample that we had to choose a substitute jurisdiction for. The table lists the reason for the substitution, the original jurisdiction name and type of government, and the substitute jurisdiction name and type of government.

Appendix 3 gives details about the methodology we used to choose substitute jurisdictions. The reasons leading to substitution were similar to the reasons for not including a jurisdiction in the review process. In most cases, the jurisdiction was unresponsive to our requests for the subdivision and zoning ordinances. In a few cases, the jurisdictions charged more than $50 for both ordinances, the maximum amount we were prepared to pay for a jurisdiction's ordinances. We also chose substitute jurisdictions for jurisdictions that we needed ordinances for if they were located in the Gulf Coast region, because of the disruptions caused by the hurricanes.

Table 5-3. Substitute jurisdictions

Reason for substitution	State	Original Jurisdiction	Jurisdiction Type	Substitute Jurisdiction	Jurisdiction Type
Disruption from hurricanes	AL	PRICHARD	CITY	FLORENCE	CITY
Unresponsive	AR	GREENWOOD	CITY	CHEROKEE VILLAGE	CITY
Unresponsive	CA	CATHEDRAL	CITY	MADERA	CITY
Unresponsive	CA	LOS ANGELES	CITY	SAN FRANCISCO	CITY AND COUNTY
Unresponsive	CA	MENDOTA	CITY	WOODLAKE	CITY
Unresponsive	DE	MIDDLETOWN	TOWN	ELSMERE	Town
Unresponsive	FL	LEE	TOWN	HYPOLUXO	TOWN
Unable to contact	FL	ST MARKS	CITY	BALDWIN	TOWN
Unable to contact	FL	SUNNY ISLES BEACH	CITY	MARCO ISLAND	CITY
Unresponsive	GA	DAMASCUS	CITY	MORGAN	CITY
Unable to contact	GA	GWINNETT	COUNTY	CHATHAM	COUNTY
Unresponsive	IA	HEPBURN	CITY	PETERSON	CITY
Unresponsive	IA	MINGO	CITY	MARION	CITY
Unresponsive	IL	BALDWIN	VILLAGE	WAUCONDA	VILLAGE
Unable to contact	IL	COOK	COUNTY	LA SALLE	COUNTY

Reason for substitution	State	Original Jurisdiction	Jurisdiction Type	Substitute Jurisdiction	Jurisdiction Type
Unable to contact	IL	HONEY CREEK	TOWNSHIP	HUDSON	TOWNSHIP
Unresponsive	IL	MEACHAM	TOWNSHIP	FOSTER	TOWNSHIP
Unresponsive	IL	MILTON	TOWNSHIP	WHEELING	TOWNSHIP
Unable to contact	IL	WALSHVILLE	TOWNSHIP	CHATHAM	TOWNSHIP
Too Expensive	IN	FAIRMONT	TOWNSHIP	FALL CREEK	TOWNSHIP
Unable to contact	IN	GREEN	TOWNSHIP	PLEASANT	TOWNSHIP
Unresponsive	IN	RISING SUN	CITY	WEST LAFAYETTE	CITY
Unresponsive	IN	ST JOSEPH	COUNTY	HUNTINGTON	COUNTY
Unresponsive	IN	ST JOSEPH	COUNTY	CARROLL	COUNTY
Unable to contact	KS	CLEVELAND	TOWNSHIP	LA CROSSE	CITY
Unresponsive	KY	OAK GROVE	CITY	HILLVIEW	CITY
Disruption from hurricanes	LA	BATON ROUGE-EAST BATON ROUGE	CITY-PARISH	COVINGTON	CITY
Disruption from hurricanes	LA	MANDEVILLE	CITY	BALL	TOWN
Disruption from hurricanes	LA	NEW ORLEANS	CITY	ASCENSION	PARISH
Disruption from hurricanes	LA	TERREBONNE PARISH	CONSOLIDATED GOVERNMENT	OPELOUSAS	CITY
Unable to contact	MD	CHURCH CREEK	TOWN	VIENNA	TOWN
Unresponsive	MD	VIENNA	TOWN	OXFORD	TOWN
Unresponsive	MI	GRANT	TOWNSHIP	BALDWIN	TOWNSHIP
Too Expensive	MI	OCEOLA	TOWNSHIP	RICHFIELD	TOWNSHIP
Unable to contact	MI	SPRINGDALE	TOWNSHIP	EAGLE HABOR	TOWNSHIP
Unable to contact	MN	TENNEY	CITY	WATERTOWN	CITY
Disruption from hurricanes	MS	BAY ST LOUIS	CITY	COLUMBUS	CITY
Disruption from hurricanes	MS	PEARL RIVER	COUNTY	SENATOBIA	CITY
Unresponsive	NC	LEWISVILLE	TOWN	HOLLY SPRINGS	TOWN
Unresponsive	NE	SUMMIT	TOWNSHIP	COLUMBUS	TOWNSHIP
Unresponsive	NH	WAKEFIELD	TOWN	TUFTONBORO	TOWN
Too Expensive	NJ	KEANSBURG	BOROUGH	WANTAGE	TOWNSHIP
Too Expensive	NJ	NEWTON	TOWN	BOONTON	TOWN
Too Expensive	NM	SUNLAND PARK	CITY	RIO RANCHO	CITY
Unresponsive	NY	DUNKIRK	CITY	KENT	TOWN
Too Expensive	NY	ISLIP	TOWN	NORTH HEMPSTEAD	TOWN

Reason for substitution	State	Original Jurisdiction	Jurisdiction Type	Substitute Jurisdiction	Jurisdiction Type
Unresponsive	NY	SODUS	TOWN	RENSSELAER	CITY
Unresponsive	NY	WELLS	TOWN	OTTO	TOWN
Unresponsive	OH	COVENTRY	TOWNSHIP	EATON	TOWNSHIP
Unresponsive	OH	ERIE	TOWNSHIP	CHESTER	TOWNSHIP
Unable to contact	OH	SOMERFORD	TOWNSHIP	HAMILTON	TOWNSHIP
Unresponsive	PA	KNOX	TOWNSHIP	CHRISTIANA	BOROUGH
Unresponsive	PA	NORTH CHARLEROI	BOROUGH	CLARKS SUMMIT	BOROUGH
Unresponsive	PA	NORTHERN CAMBRIA	BOROUGH	AVALON	BOROUGH
Unable to contact	PA	RAINSBURG	BOROUGH	CLARK	BOROUGH
Unable to contact	PA	ROUSEVILLE	BOROUGH	SHIPPENSBURG	BOROUGH
Unable to contact	PA	WARRIORS MARK	TOWNSHIP	MONTROSE	BOROUGH
Unable to contact	SC	PERRY	TOWN	BLUFFTON	TOWN
Unresponsive	TN	SPRING CITY	TOWN	ESTILL SPRINGS	TOWN
Unresponsive	TN	TRIMBLE	TOWN	THREE WAY	CITY
Unable to contact	TX	BAILEY'S PRAIRIE	VILLAGE	RICE	CITY
Unable to contact	TX	LACY LAKEVIEW	CITY	GUN BARREL	CITY
Unresponsive	VA	BURKEVILLE	TOWN	BLACKSTONE	TOWN
Unable to contact	VT	FAIRFAX	TOWN	Essex	Town
Unable to contact	WI	BRIGHTON	TOWN	CHETEK	TOWN
Unresponsive	WI	BRIGHTON	TOWN	BLOOMFIELD	TOWN
Unable to contact	WI	CONRATH	VILLAGE	ANDERSON	TOWN
Unresponsive	WV	MABSCOTT	TOWN	KEYSTONE	CITY
Unresponsive	WV	WEIRTON	CITY	MONTGOMERY	CITY

Source: Survey of Regulatory Standards, CPW 2006.

Appendix 6 Additional Statistical Data

The following pages present a range of statistical data used in analysis of the sample.