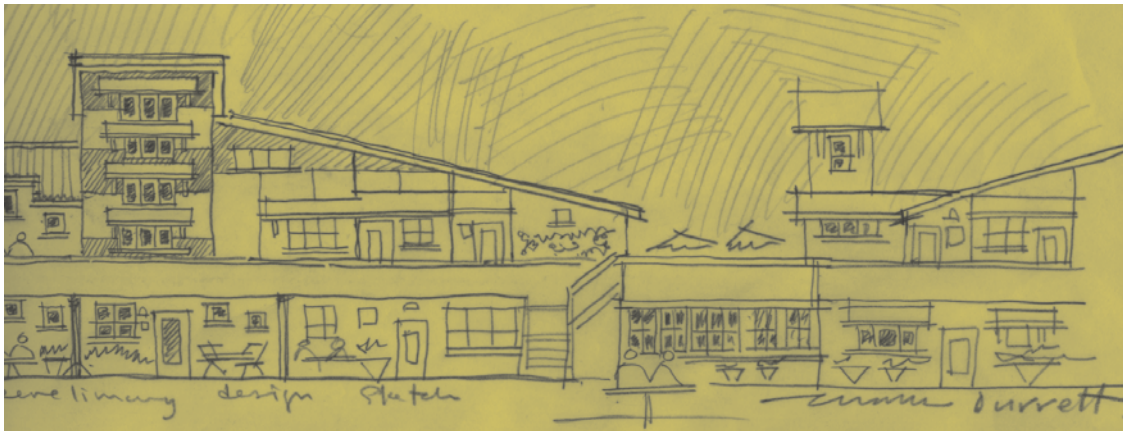
Insights and Innovations
The State of Senior Housing



Insights and Innovations
The State of Senior Housing

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INTRODUCTION

INTRODUCTION

For over fifteen years the Design for Aging Review has demonstrated architectural design trends, recognized excellence, and served as a reference for many professionals in this growing market.

About the Awards

The mission of the AIA|Design for Aging Knowledge Community (DFA) is to foster design innovation and disseminate knowledge necessary to enhance the built environment and quality of life for an aging society.[1] Research on the characteristics of innovative design for aging includes a biennial competition, the Design for Aging Review (DFAR), which showcases facilities that improve quality of life for the aging while exhibiting innovation in their design and execution.[2]

The DFAR program, a joint effort between the American Institute of Architects (AIA) and the American Association of Homes and Services for the Aging (AAHSA), began in 1992 and includes a juried exhibition, a companion book, and educational programs. With over 300 domestic and international facilities participating, the program has demonstrated architectural design trends, has recognized excellence, and has served as a reference for providers, developers, users, advocates, architects, and other design professionals in this growing market.[2]

In the summer of 2009, DFA conducted its second web-based submission process, for the tenth DFAR design competition (DFAR10). Over 90 applications were received from architects and providers, in four categories: Building, Planning/Concept Design, Affordable, and Research/POE (see Appendix A for a list of all 92 submissions). The data collected through DFAR10 adds to the information that has been gathered by the nine previous cycles that have been conducted since 1992.

About the Submission Process

In 2009, applicants were required to complete an online submission form, in any of the four submission categories[3]:

- **Building category** submissions could be stand-alone projects or part of larger projects, including interior and/or outdoor spaces; and included new construction, renovations, and/or additions.
- **Planning/Concept Design category** submissions were required to be in the planning phase only; and could have been community or campus plans, including master plans or re-positioning plans. Also, building projects that were currently in early concept stages of design, which demonstrate significant ideas or innovations, could be submitted under this category.
- **Affordable category** submissions could consist of a Building or Planning/Concept Design submission that fits the definition of affordability (e.g. for a household to pay no more than 30% of its adjusted gross income on housing). This category was a new addition to this DFAR cycle; and allowed these projects to enter the design competition at a reduced fee.
- **Research/POE category** submissions included studies that emphasized the link between research and practice in the field of design for aging, including the relationship between people and the environment and how the built environment can lead to better quality places and quality of life.

For this cycle, the design competition introduced a two-phase process. Phase One was used by the jury to decide the award winners and published projects. This phase was comprised of an online submission form, which had to be completed by all applicants to all four of the submission categories. The applicants to the Research/POE category, however, received a different set of questions than those applying under the Building, Planning/Concept Design, or Affordable categories—which shared the same set of questions.

Phase One also required applicants to submit images that illustrated the project. Building projects were to submit color photographs of the interior and exterior of the building, as well as perspective drawings, site and floor plans, elevations, and any other design elements deemed appropriate.

Planning/Concept Design projects were to be illustrated with perspective drawings, site and floor plans, elevations, and any other design elements that were appropriate. If available, photographs of models should also have been submitted.

Affordable projects were to follow the appropriate image guidelines set forth for the Building or Planning/Concept Design submissions. Research/POE projects were not required to submit images, though were welcome to if appropriate (e.g. plans, photographs, diagrams, etc.).[3]

Phase Two of the DFAR10 process was required only for those Building, Planning/Concept Design, and Affordable category submissions that were chosen to receive an award and/or that were to be published. Phase Two consisted of an additional set of questions that provided more detailed information about the projects for the DFAR book, as well as for more in-depth data analysis.

The Phase Two questionnaire included two sets of questions: one for the designer of the project to complete and another for the owner/sponsor of the project. The designer's questions included basic project metrics (e.g. a breakdown of project square footage) and delved more deeply into what was the intent behind the design goals and what about the project was unique or innovative. The provider's questions were intended to gather information about how the project is operating.[3]

DFAR9 vs. DFAR10 Comparison

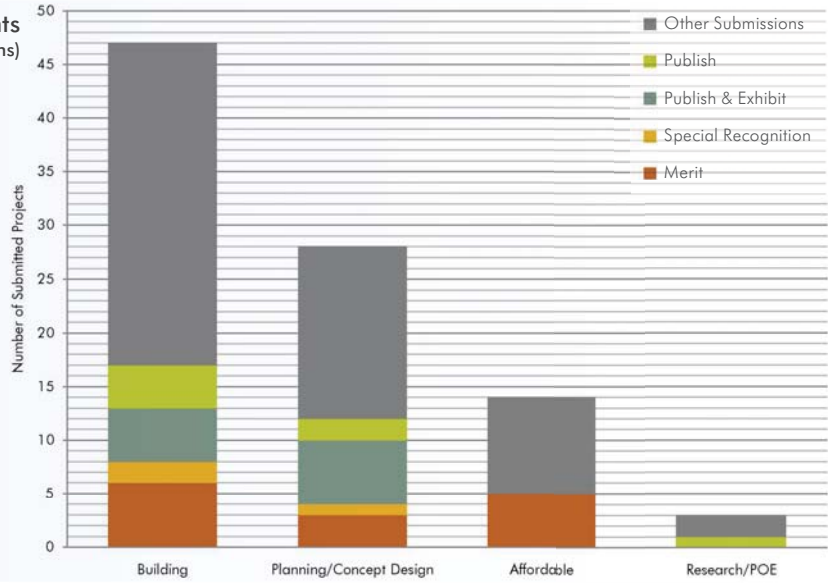
The ninth biennial DFAR awards competition received 72 submissions, with 36 projects receiving awards. DFAR10 received 92 submissions and recognized 35 projects with awards. Thus, the DFAR10 cycle received 28% more submissions than the previous cycle, suggesting that architects and their clients have an additional or renewed interest in the design competition—even though economic conditions have been difficult and people have less time and resources to expend on extraneous efforts, like the DFAR submittal process.

About the Submissions

In total, there were 92 submissions to the tenth biennial DFAR design competition, 35 of which were award recipients. Award categories include Merit—the highest level of recognition (for projects that represent advanced design concept, research, and solutions sensitive to the needs of an aging population), Special Recognition, Publish and Exhibit, and Publish.[3]

The Building category received 47 submissions, with 17 winners. There were 28 submissions in the Planning/Concept Design category, with 12 winners. The Affordable category submissions, which consisted of both Building and Planning/Concept Design projects, received 14 submissions, five of which were recognized with awards. The Research/POE category received three submissions, with one study recognized with an award.

DFAR10 Submissions and Award Recipients
(92 out of 92 submissions)



About the Study

In January 2010, DFA submitted a grant request to the AIA for the organization and analysis of the data collected from the DFAR10 design competition (see Appendix B). In May 2010, the AIA generously provided the necessary funds, which were matched by Perkins Eastman; and data analysis, performed by the Perkins Eastman Research Collaborative, began immediately.

The DFAR10 Insights Study supports the AIA's goal of promoting best practices in the industry by going beyond typical post-occupancy evaluations that focus on one building or design concept. By analyzing data from over 90 projects, this study investigates many sites across the nation and multiple design objectives—presenting a more thorough explanation of state-of-the-art design solutions to help designers and providers improve the quality of design and the industry as a whole.

The purpose of the DFAR10 Insights Study is to provide a more comprehensive look at statistics, patterns, and innovations impacting the senior living industry and design community; and share the findings with architects and providers who want to know the current state of practice.

In addition to identifying best practices and emerging ideas in senior living design, this study provides a benchmark from leading-edge, state-of-the-art design solutions to help architects and their clients "raise the bar" on the quality of design provided to the industry as a whole. There is also an opportunity to compare DFAR10 data with the findings from the DFAR9 data analysis.

The report generated by this study is meant to be a companion to the *Design for Aging Review 10* book, which is the latest edition in the series produced by the AIA|DFA. Whereas the book highlights the design competition's award-winning submissions with detailed descriptions (including photographs, plans, and project statistics), the DFAR10 Insights Study report addresses all of the submitted projects, in addition to the winners. The study also goes beyond the typical awards process for design excellence or outstanding professional achievement by describing what about the award-winning projects makes them unique and what can be learned about the state of the industry, now and as we look to the future.

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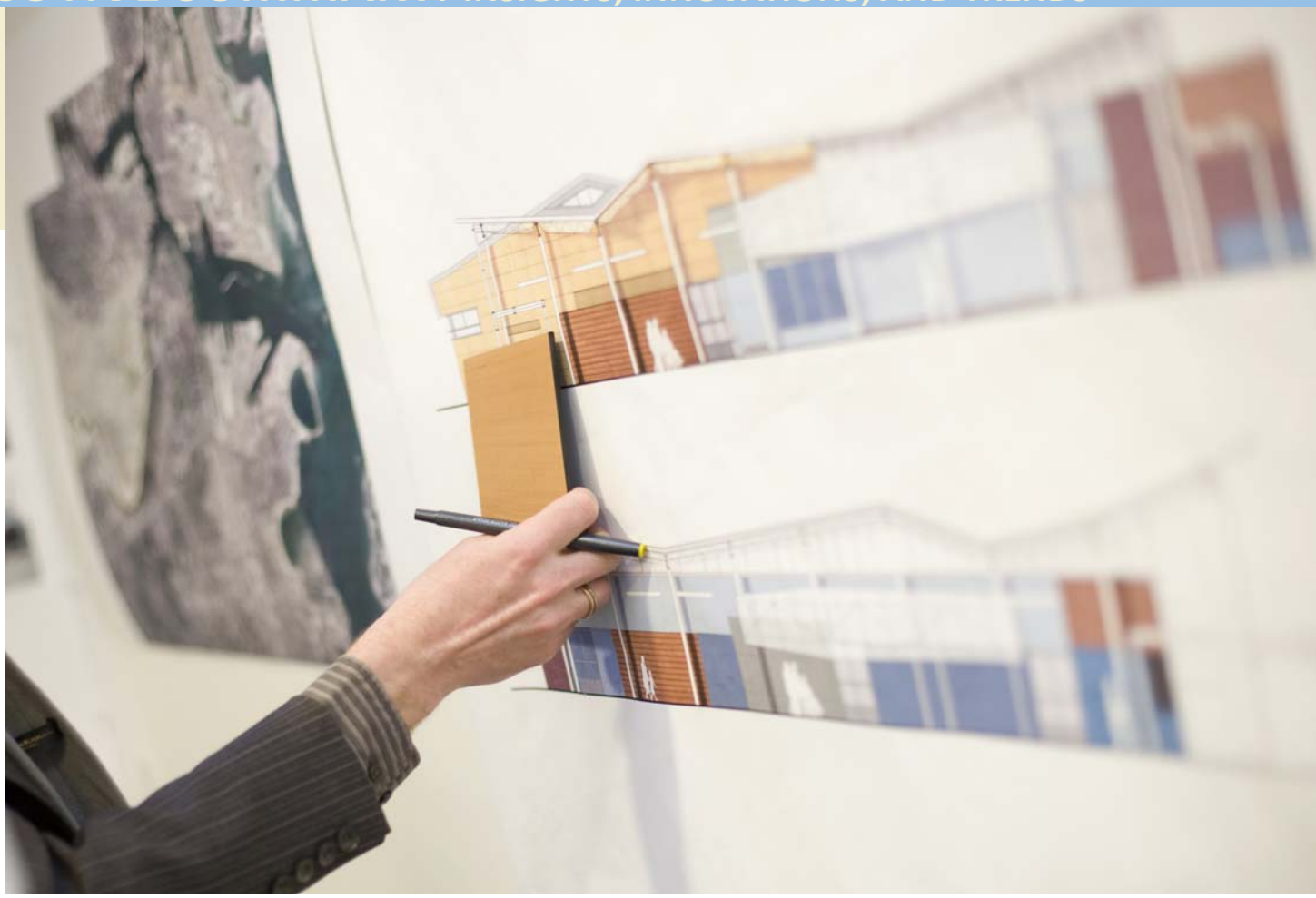
Executive Summary

EXECUTIVE SUMMARY: INSIGHTS, INNOVATIONS, AND TRENDS



The DFAR10 Insights Study looks at what the best new projects can tell us about the patterns and innovations impacting the senior living industry and design community. Unlike conventional research, the study did not impose the structure of pre-determined questions (i.e. hypotheses), but rather elicited questions from the available data, itself—offering insights into underlying patterns and evolving trends.

Recognizing that the design competition provides a uniquely valuable glimpse into the ideas that are shaping the future of senior living, the Insights Study tries to identify commonalities that reflect larger-scale trends and unique features that challenge those trends. In addition, the study compared DFAR10 data to DFAR9 submissions, though it is too early to begin to identify industry trends.

The data provided in the DFAR10 submissions reflect the changing demands and emerging concepts that are re-shaping today's senior living industry.

The data set consists of information from the 92 submissions to the tenth DFAR design competition, in four categories: Building (47 submissions); Planning/Concept Design (28); Affordable (14); and Research/POE (3). DFAR10 received 28% more submissions than the previous ninth cycle, suggesting an additional or renewed interest in the design competition—even though economic conditions have been difficult and people have less time and resources to expend on extraneous efforts, like the DFAR submittal process.

The data set was further expanded by a second round of questions provided to the 34 award winners in the categories of Building (17 winners), Planning/Concept Design (12), and Affordable (5). This more detailed set of questions collected additional information for the *Design for Aging Review 10* book and was used for more in-depth data analysis.

About the Submissions

The projects submitted to the DFAR10 design competition include nine building types: Independent Living (a component in 53% of the submissions), Assisted Living (in 39% of the submissions), Skilled Nursing (in 44% of the submissions), Dementia/Memory Support (in 35% of the submissions), Hospice (in 9% of the submissions), Wellness/Fitness Center (in 36% of the submissions), Senior Community Center (in 30% of the submissions), Other Medical Services Care Facility (in 11% of the submissions), and Other (in 20% of the submissions). There were individual project differences in the data provided by each of the submissions, though several meaningful patterns did emerge.

The DFAR10 submissions represent a broad cross-section of the senior living industry in terms of type of facility, context, and geographic location.

Common reasons why a project was undertaken included:

- Replacing, updating, and/or expanding an outdated facility;
- Being a part of a culture change initiative, including the adoption of the neighborhood/household model;
- Creating additional common spaces/amenities; and
- Using the project to create a network of services/community activities.

Popular features incorporated by the submitted projects to attract their targeted market included providing:

- Physical and/or visual connections to nature;
- Abundant common spaces;
- Desirable features/amenities within the residential units;
- Wellness/fitness spaces; and
- Green/sustainable design features, particularly abundant daylighting and good indoor air quality.

Excluding the Research/POE category submissions, there were 89 projects. 84 were located in the United States and were evenly distributed across the country. However, there were slightly more Affordable category projects located in the Midwestern and Western regions of the country. Five projects were located outside the United States: three in Canada and two in Japan.

A majority of the submitted projects are not-for-profit communities; and most target a mixed or middle/upper middle income market. Projects that target an upper income market were less prevalent in DFAR10 than in the DFAR9 design competition. Likewise, low income/subsidized projects were more common. The number of urban projects also increased since the previous design competition. When compared to DFAR9, DFAR10 had the same percentage of new construction projects, but more submissions with a renovation/modernization or an addition.

The recent economic downturn may be reflected by the DFAR10 submissions' greater emphasis on targeting middle and lower income markets, as opposed to upper income markets; and focusing on expanding and/or modifying existing facilities, rather than building new.

The projects range in size, from small chapels to large continuing care retirement communities. Total project costs averaged about $28 million, though there were projects as small as $800,000 and one as large as $189 million. Almost three-quarters of the submissions included new construction (averaging $31 million in total construction costs); one-third included a renovation/modernization (averaging $5 million); and just over one-quarter included an addition (averaging $14 million).

In terms of the award-winning Building, Planning/Concept Design, and Affordable category submissions, several common and often interrelated project themes were identified, even though the projects are quite diverse. These include:

- Connecting to nature;
- Responding to the site and local conditions;
- Connecting to the neighborhood;
- Intergenerational developments;
- Family/visitor support spaces;
- Staff support spaces/features;
- Holistic wellness;
- Aging-in-place;
- Neighborhood/household model and person-centered care;
- Promoting resident sense of community;
- Offering daily choice through extensive amenities, including multiple dining options;
- Hospitality/resort feel;
- Home-like environments;
- Repositioning to appeal to the market;
- Green/sustainable design;
- Collaboration during design development; and
- Focusing on affordability.

In addition, similarities within the award-winning projects' descriptions and goals allowed the submissions to be compiled into several sub-groups, permitting space and residential unit comparisons. These conclusions add to the data bank that, in time, will offer the opportunity for "longitudinal" perspectives in the future. Particular interest may be trends in the size of resident rooms, how public space programs change over time, and the proportions between public and private space within a given building type.

For the three Research/POE submissions, each study had a different area of interest. One study, "Impact of Aging in Place on AL and CCRCs," was interested in Assisted Living and its relationship to the provision of care in CCRCs; and looked at how Assisted Living has been programmed and designed in master plans for the past 30 years.

The second study, "Data Mining Findings," was the summary report generated from the analysis conducted on the previous cycle of the Design for Aging awards; and looked at a broad cross-section of the senior living industry, with data from over 70 projects in nine building types.

The third Research/POE category submission, "Post-Occupancy Evaluations and Design Guidelines," described a study that allowed an organization to understand how lessons learned from their existing facilities could inform future developments.

All three submissions concentrated on environments for seniors located within the United States, though two of the studies also included some information about senior living environments located within other countries (with references to Japan, Europe, and the Far East). The studies were performed not only to describe current conditions at senior living facilities, but to also relate how this information might be used to create innovations in future developments. Findings were summarized in reports intended for an audience of both providers and designers; and included illustrations to graphically explain the results.

The themes and patterns seen in the DFAR10 submissions can inform both architects and providers. However, as can be seen by the initial comparisons to the DFAR9 data, the value of the Insights Study is going to be truly realized only as data analysis is conducted over time. The greatest advantage of this research process will be seen when the findings can be compared to other years, which will enable DFA to start tracking trends. Also, the addition of other years' submissions will increase the pool of projects being compared, which will improve the validity of the findings.

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Insights and Innovations

INSIGHTS AND INNOVATIONS FROM THE AWARD-WINNING PROJECTS

NewBridge on the Charles
Rendering courtesy of: Perkins Eastman

Going beyond identifying common themes, analyzing the award winners also provided an opportunity to uncover broader insights about the state of senior living and to recognize innovations incorporated into the submitted projects.

The following insights and innovations add to the synopsis of award-winning project themes and space breakdowns included in this report to identify the industry's best practices and emerging ideas. Together, the project themes, space breakdowns, insights, and innovations, also provide a benchmark from leading-edge, state-of-the-art design submissions—enabling the DFAR10 Insights Study to help the design community "raise the bar" on the quality of design solutions provided to the industry as a whole.

The household model has become the dominant approach for long-term care environments

Until about 20 years ago, housing for the elderly—especially frail elderly needing long-term care, was provided in traditional, institutional facilities. The approaches to care and the physical environment did not support providing personalized care. More recently, however, a new industry perspective has brought about significant change in both models of care and the way physical environments support staff, residents, and family of residents.

In fact, it was the 1991 opening of Presbyterian Senior Care's Woodside Place (located in Oakmont, PA and designed by Perkins Eastman) that has been credited with sparking an entirely new movement in nursing home design. Following Woodside Place, designers around the country began to study and re-evaluate design criteria for residential care environments, leading to a wave of new facilities incorporating the household model.

Woodside Place, with its three households, sparked a movement—both in philosophy of care and the design of physical environments to support residents, staff, and families—that has become a mainstream.

Woodside Place
Photograph courtesy of: Robert Ruschak

The household model has been refined over the years, moving from Dementia/Memory Support facilities, like Woodside Place, to Skilled Nursing and even Assisted Living neighborhoods (i.e. groups of households). Organizations, such as NCB Capital Impact and their Green House Project®, have developed entire philosophies and businesses around the concept. Other groups are taking incremental, yet strategic steps to incorporate culture change in their communities.

The award-winning Building, Planning/Concept Design, and Affordable category projects are further evidence that this trend has become mainstream and is not limited to Dementia/Memory Support. Household environments are just as prevalent in Skilled Nursing and Assisted Living facilities. In fact, the greatest area of household growth seems to be in Skilled Nursing.

Culture change and/or the household model were expressly described by almost two-thirds of the award-winning projects with a Skilled Nursing, Assisted Living, Dementia/Memory Support, and/or Hospice component. Within these submissions, the sizes of spaces varied widely, but the components of the households were fairly consistent, each with 10-16 private resident rooms, including full bathrooms; a residential-style kitchen (often called a Country Kitchen); a small dining area—just for the residents of that household; and a living room space.

Some households also include a separate activity area; and several have a small, quiet room for residents needing a calm atmosphere and/or for private meetings. Typically, staff support spaces are incorporated directly into the residents' household spaces, such as locked cabinetry in the Country Kitchen or resident room. Advances in technology, such as electronic record keeping, has had a large role in making this possible since staff no longer need traditional office space to access or modify medical files.

NewBridge on the Charles (located in Dedham, MA) includes Skilled Nursing households with lockable cabinetry in the Country Kitchens, allowing staff to safely and confidentially store items like files, medications, and equipment.

NewBridge on the Charles
Photograph courtesy of: Chris Cooper

Projects offer either a traditional residential character, or a contemporary/modern feel (often couched in a hospitality approach)

About one third of the award-winning Building, Planning/Concept Design, and Affordable category projects were easily classified as having a traditional residential appearance (e.g. with crown molding, wood details, residential-style furniture, and other home-like characteristics). Slightly more projects were labeled as contemporary (e.g. with cleaner lines and more modern furnishings). The remaining projects could not be classified due to a lack of suitable imagery and project descriptions.

Compared to the contemporary submissions, the traditional projects tend to be stand-alone (i.e. not a CCRC or part of a CCRC); smaller (with an average of 66 residential units, versus an average of 228); and include fewer facility types—typically just one or two; whereas the contemporary projects, which are mostly CCRCs, include multiple facility types.

The traditional-style and contemporary projects, however, are similar in terms of their locations—with a fairly analogous distribution of rural, suburban, and urban sites. Likewise, the projects' target markets are similar, though slightly more contemporary projects target residents with a higher income level.

Examples of traditional, residential-style projects:

Left to right from top: The Ridge and Boulders of RiverWoods at Exeter (JSA, Inc.); Mennonite Home Skilled Care Reinvention (Larry Lefever Photography); Sharon S. Richardson Community Hospice (Daniel Kabara); Porter Hills Green House® Homes (Jason Reiffer); Hospice of Lancaster County (Larry Lefever Photography).

Examples of contemporary/modern-style projects:










Left to right from top: SKY55 (Solomon Cordwell Buenz); DeVries Place Senior Apartments (Misha Bruk); Montgomery Place (Barry Rustin Photography); Sun City Palace Tsukaguchi (Steve Hall/Hedrick Blessing); The Legacy at Willow Bend (Charles Davis Smith); The Sterling of Pasadena (Mike Kowalski); Lenbrook (Kim Sargent); NewBridge on the Charles (Chris Cooper); Fox Hill (Chris Eden and Maxwell MacKenzie); The Point at C. C. Young (Chris Cooper).

Industry trends sometimes start with the littlest of innovations

Rarely does a shift in industry perspectives start with a conscious, large-scale endeavor. More often, it is through small, incremental developments than new philosophies emerge and coalesce into something that can be formalized with a name (e.g. the previously described household movement). With this in mind, it's important to recognize little innovations—and the concepts behind them. The following are examples of such small-scale innovations described by some of the award-winning Building, Planning/Concept Design, and Affordable category submissions.

Casework to hide medical equipment

The Sharon S. Richardson Community Hospice (located in Sheboygan Falls, WI) includes headwall cabinetry that hides medical gases in the resident rooms—focusing the environment on the person, as opposed to a medical model.

Sharon S. Richardson Community Hospice
Photograph courtesy of: Andrew L. Alden

Radiant heat flooring for residents who wander barefoot

The Three Links Care Center Lodging Facility (located in Northfield, MN) carefully considers ways the Dementia/Memory Support residents can be supported—both through grander gestures like the glass conservatory that allows building occupants to experience nature without having to go out in harsh winter weather, as well as subtler features like a warm floor for residents who don't remember to put their shoes on.

Adjustable fixtures and accessibility devices in Skilled Nursing bathrooms

Using a rail system, the private bathrooms in every Skilled Nursing resident room at NewBridge on the Charles (located in Dedham, MA) can be personalized to suit the needs of each resident, in terms of ability/strengths, anthropometrics, and individual preference.

NewBridge on the Charles
Photograph courtesy of: Perkins Eastman

Perforated metal grids that minimize disorienting ladder-like shadows

On the rooftop garden at Montgomery Place (located in Chicago, IL), pergolas are fitted with metal grids (instead of more traditional slatted forms) to provide shade while subtly supporting older adults with vision problems and/or dementia, who may perceive shadows as physical barriers.

Montgomery Place
Photograph courtesy of: Barry Rustin Photography

Working with the climate to extend living spaces

Westminster Village Town Center (located in Scottsdale, AZ) embraces its southwestern setting by providing multiple common spaces that either open up to or are located outdoors. By maximizing connections to outdoor spaces and providing appropriate shading to protect residents from the harsh desert sun, residents can take advantage of true indoor-outdoor living.

Westminster Village Town Center
Photograph courtesy of: Chris Cooper

Serving a specific sub-culture

Tohono O'odham Elder Homes (with a proposed location in Sells, AZ) is a Small House community designed specifically for elderly Tohono O'odham Native Americans. The design incorporates features that would appeal to this culturally distinct population, including orienting buildings to face important views (e.g. sacred mountains to the east and west) and fire pits, since residents have a history of preparing food outdoors.

Major interior renovations, with minor community interruptions

Signature Apartments (located in Media, PA) used "out-of-the-box" thinking "within-the-walls" to reinvent their existing building stock. Major interior renovations, performed apartment at a time, allowed the community to reposition itself to better appeal to the market while minimizing disruptions to existing residents.

Integration of seniors and market rate housing in an urban setting

SKY55 (located in Chicago, IL) is a mixed-income high-rise development that combines elderly housing with market-rate apartments. In addition to intergenerational opportunities, the building occupants can take advantage of existing services/amenities in the surrounding community.

Use of shipping containers as a structural skeleton

Intended to be a case study for how new green building technology can be applied to housing for the elderly, Villa at San Luis Rey (proposed to be located in Oceanside, CA) plans to use over 500 recycled steel shipping containers as the structural framework for the community. Using this prefabrication technology as part of its progressive approach to ecologically sustainable design, the consumption of new materials will be reduced—along with the carbon output required for such new materials, the construction schedule can be improved by as much as 30%, and the cost of the overall project can also be lowered.

Children's play spaces to encourage family visits

In addition to the previously described radiant floor heating at Three Links Care Center Lodging Facility (located in Northfield, MN), the facility also includes an exterior playground and interior play room to support visiting families with children. Toys, games, and media entertainment provide an inviting and casual atmosphere for children visiting a facility that could otherwise be intimidating.

Three Links Care Center Lodging Facility
Photograph courtesy of: Stuart Lorenz Photographic Design Studio

More and more projects don't fit the traditional continuing care approach, reflecting the changing market perspective

The projects submitted to DFAR10 have several characteristics that suggest CCRC communities, which have been so popular and have dominated the market for the past few decades, are being supplanted by different types of senior living environments. There is now a greater diversity of senior living building types on the market, from the traditional large-scale CCRCs to smaller, stand-alone projects; facilities with one building type to multiple types on one site or even within one building; and less traditional options like cohousing and household models are becoming more prevalent.

Furthermore, the distinction between Independent Living and Assisted Living is being blurred as a greater number of facilities offer Independent Living plus services. Some communities are even eliminating the distinction. For instance, Villa at San Luis Rey plans to license all of their residential apartments as Assisted Living, but market them as Independent Living with services; and Sun City Palace Tsukaguchi is a CCRC that offers Independent Living with services and Skilled Nursing—with no Assisted Living component. The continuum at this community is provided through increasingly supportive in-home care, rather than a transition to a designated Assisted Living environment.

The effort to keep older adults in their homes longer is a trend occurring at all levels of development for seniors. There are communities like the aforementioned Villa at San Luis Rey and Sun City Palace Tsukaguchi, as well as market rate, non-senior-specific projects that incorporate universal design features and community support systems that appeal to a market that wishes to age-in-place.

In fact, the idea of de-institutionalism is no longer about interior aesthetics and models of care—both of which have already been addressed through advances in home-like environments and person-centered care, but about taking people out of campuses. The award-winning Building, Planning/Concept Design, and Affordable category submissions suggest that residents of stand-alone facilities (i.e. not CCRCs or part of CCRCs) are actually more connected since they are part of a larger community fabric, as opposed to part of a (segregated) campus.

Likewise, the increasing popularity of urban developments, such as SKY55, Taube Koret Campus for Jewish Life, and DeVries Place Senior Apartments, allow residents to walk out their doors and take advantage of existing services and amenities (e.g. retail, dining, medical services, and access to public transportation that extends one's range even further). Older adults are increasingly able to engage with the surrounding community.

> Breaking down campus boundaries and providing easy access to neighborhood services, amenities, and public transportation allows older adults to integrate with existing communities—further deinstitutionalizing senior living environments.

Not only do these new approaches enhance residents' lives and allow for aging-in-place, but they also permit providers to spend fewer resources on space and programs since they can instead rely on nearby senior-friendly non-providers. Older adults can have better choices and greater continuity with where and how they lived prior to moving to a "senior environment."

Less traditional models of living, like cohousing and households, are becoming more and more popular.

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Methodology

METHODOLOGY

Westminser Village Town Center
Photograph courtesy of: Chris Cooper

The DFAR10 Insights Study took into account all 92 projects that were submitted to the design competition, with particular attention paid to the 35 award winners at different times in the analysis.

DFA provided the Perkins Eastman Research Collaborative with the following information for data analysis:

- Responses to the Phase One submission form (quantitative and qualitative data from all 92 submitted projects);
- Responses to the Phase Two submission form – architects' data (quantitative and qualitative data from 32 out of the 34 award-winning projects in the Building, Planning/Concept Design, and Affordable categories);
- Responses to the Phase Two submission form – providers' data (quantitative and qualitative data from 29 out of the 34 award-winning projects in the Building, Planning/Concept Design, and Affordable categories); and
- High-quality project images (qualitative data from all 34 of the award-winning projects in the Building, Planning/Concept Design, and Affordable categories), with photographer credits.

The study consisted of both quantitative and qualitative evaluations. The quantitative analyses included basic statistical investigations (e.g. ranges, averages, and distributions); and the qualitative analyses were focused on understanding common themes, plus any significant exceptions.

See Appendices C, D, and E for the Phase One and Two submission forms, with question identifiers.

Though there were an infinite number of questions that could have been asked and answered during the DFAR10 Insights Study, the researchers chose to analyze and present the findings that were the most interesting to the senior living industry and that would have the most value to architects, their clients, and the AIA|DFA. Some questions that were explored include:

- What do the projects consist of, both in terms of basic statistics as well as project goals?
- What are the innovative ideas and strategies?
- Are there any characteristics or themes that are common amongst the award winners?

- What types of units are included in the award-winning residential facility types, including their frequency (i.e. distribution); and what are typical unit sizes?
- What are typical space breakdowns (e.g. net common space) in the award-winning projects?

The investigation included a question-by-question analysis of responses, correlations between questions (e.g. region, site type, project size and costs), and understanding the differences between the award recipients and the other submissions. Also, the results from related questions (e.g. the multiple questions about sustainability) were compiled to contribute to the understanding of larger issues facing designers and providers today. The study also elicited questions from the data, itself, that offered insights into underlying patterns and evolving trends.

A second objective of the DFAR10 Insights Study was to assess the submission form questions and the quality of the data received to determine how to improve the DFAR design competition submittal process to produce more usable and informative data in the future. This assessment was provided to the DFA in a separate document; and included feedback and suggestions for improvements, where applicable. Based on these comments, future cycles of the DFAR design competition process can be improved.

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Building, Planning/Concept Design, and Affordable Categories Summary

CATEGORIES SUMMARY: BUILDING, PLANNING/CONCEPT DESIGN, AND AFFORDABLE

Hope House at Hope Meadows
Rendering courtesy of: Stephanie Bower

Eighty nine out of the 92 projects submitted to the DFAR10 design competition were entered under the Building, Planning/Concept Design, or Affordable categories. Thirty four were recognized with an award.

The following is a summary of the Phase One submissions under the Building, Planning/Concept Design, and Affordable categories (see Appendix F for a question-by-question analysis of the Phase One submitted data).

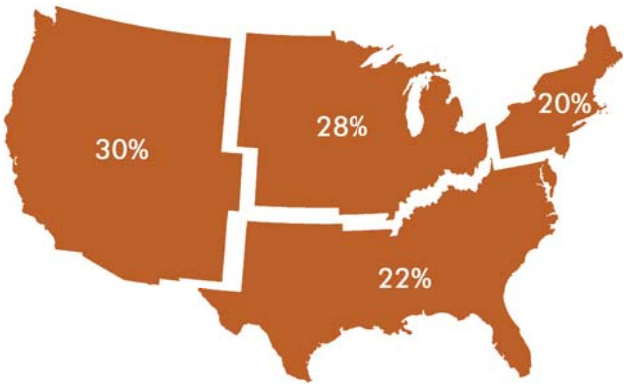
DFAR9 vs. DFAR10 Comparison: Submission Types

CATEGORY	DFAR9 SUBMISSIONS	DFAR10 SUBMISSIONS	10 VS. 9
Building	57	47	–18%
Planning/Concept Design	12	28	+133%
Affordable	N/A	14	---

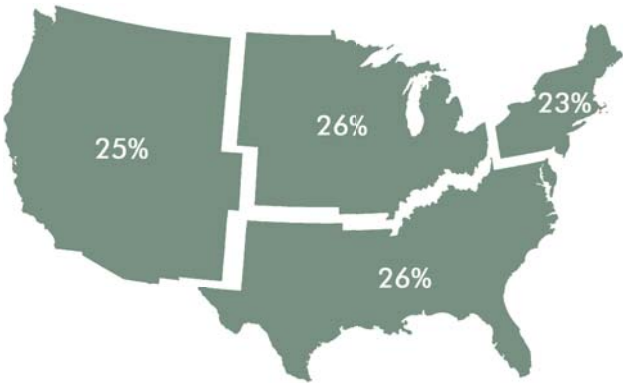
Compared to DFAR9, the DFAR10 design competition received slightly fewer Building category submissions. However, DFAR10 received significantly more Planning/Concept Design category submissions—perhaps representative of the shift in the industry and economic downturn facing the country that resulted in more projects "on the boards" than "in the ground."

About the Submissions

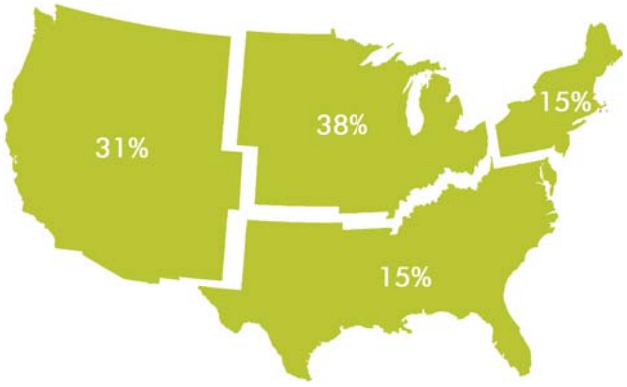
The 50 submitting firms located in the United States are not as evenly distributed throughout the country as the 89 submitted Building, Planning/Concept Design, and Affordable category projects. There are also slightly more Affordable category projects located in the Midwestern and Western regions of the United States.



Submitting Firms
(50 out of 50 distinct submitting U.S. firms)



Submitted Projects
(84 out of 84 U.S. submissions)



Submitted Affordable Category Projects
(84 out of 84 U.S. submissions)

DFAR9 vs. DFAR10 Comparison: Submission Locations

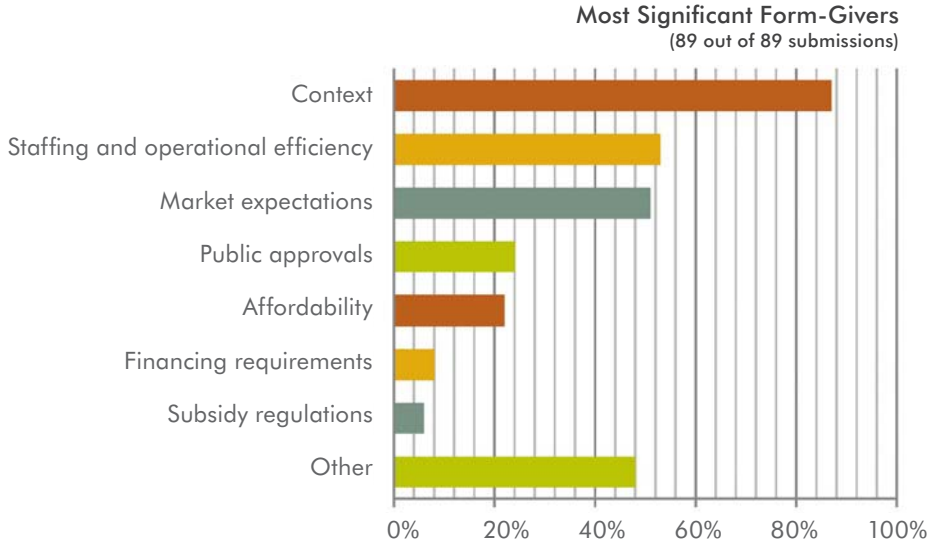
Compared to DFAR9, DFAR10 received the same percentage of submissions from within the United States (at 94%), though this tenth cycle of the design competition received more Building, Planning/Concept Design, and Affordable category submissions, overall.

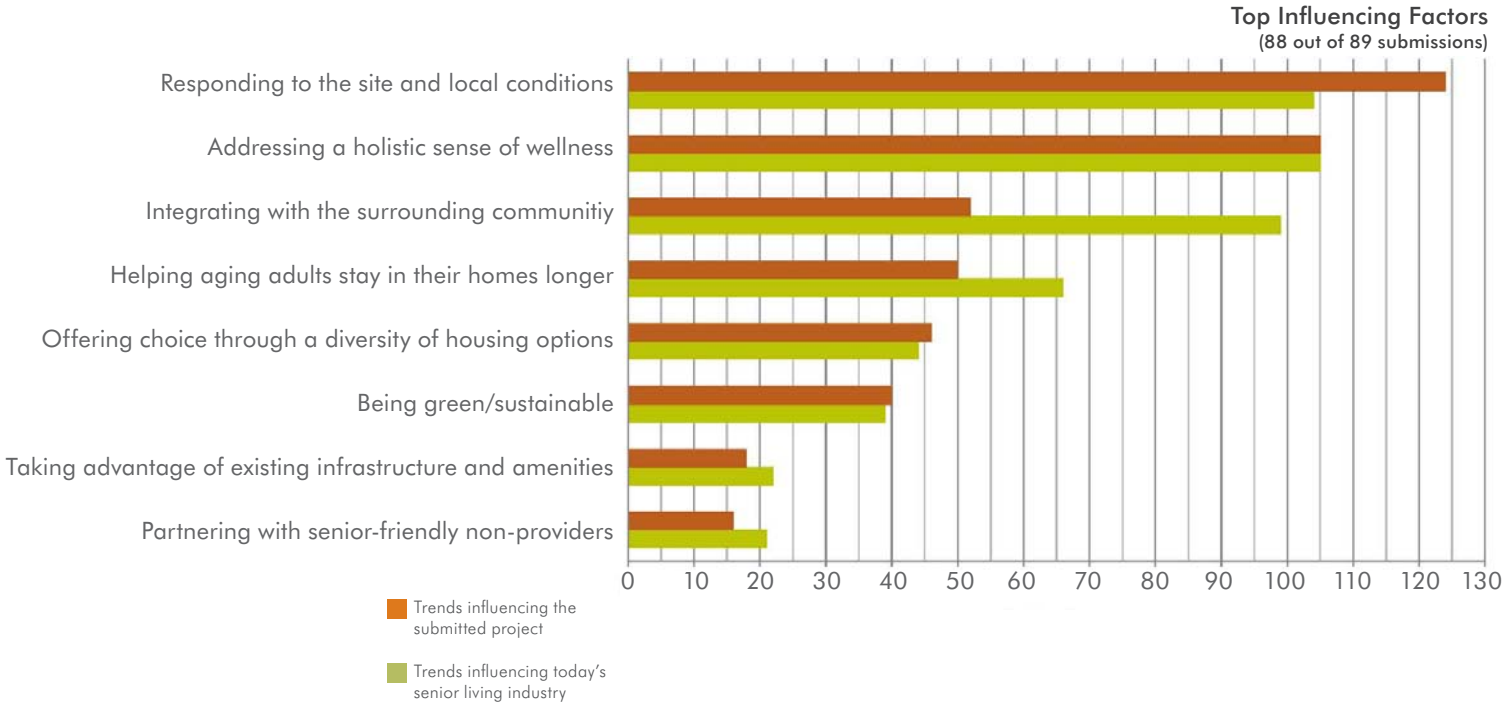
U.S. REGION	DFAR9	DFAR10	10 VS. 9
Northeast	23%	20%	–3%
South	30%	22%	–8%
Midwest	30%	28%	–2%
West	17%	30%	+13%

The locations of the projects submitted to DFAR10 varied from DFAR9, however, with fewer projects in the Northeast, South, and Midwest; and more projects located in the Western region of the country. DFAR10 also had slightly more international submissions, with three projects located in Canada and two in Japan; whereas the four international projects submitted to DFAR9 were all located in Japan.

About the Projects

The most common reasons why the submitted projects were undertaken included: 25% of the projects replaced, updated, and/or expanded an outdated facility; 17% were part of a culture change initiative, with about half of those projects specifying the adoption of the neighborhood/household model; 13% desired additional common spaces/amenities; and 8% used the project to create a network of services/ community activities.





When asked about the challenges faced by the submitted projects, the five most common challenges included[4]:

- Meeting the programmatic demands, including how they were affected by site restrictions or a tight budget;
- Dealing with local/county/state agency approvals and/or codes/regulations—especially for those projects dealing with a new model of care (e.g. culture change/the household model);
- The tight budget;
- Educating the client, contractor, and/or surrounding neighbors in order to appease opposing views or meet project goals (e.g. understanding the household model or how to be green/sustainable); and
- Fitting into the surrounding neighborhood.

The five most common ways the projects addressed affordability/budgetary concerns included[5]:

- Conscious choice of materials (e.g. paint instead of wall covering or synthetic instead of natural stone);
- Using simple forms and minimizing detail for less costly construction;
- Focusing dollars on high impact areas or on things that have the most "bang for the buck";
- Efficient project management (e.g. reducing the number of phases to save construction costs, or early collaboration with contractors); and
- "Creative financing" (e.g. using donated goods/land/dollars, tax credits, grant funding, and/or taking advantage of low-interest refinancing).

When asked to talk about the most unique opportunities or features that their project incorporated, several common themes were listed, including: creating a non-institutional environment; supporting sense of community/social interactions, both on campus and with the surrounding neighborhood; incorporating green/sustainable features; responding to the local site/vernacular; and supporting staff. Each theme was achieved in different ways.

To create a non-institutional environment, projects said they incorporated such features as:

- Access to/views of nature and daylighting (55 projects);
- A welcoming/distinctive entry (9 projects);
- Separation/hiding back-of-house functions, including circulation (5 projects);
- Home-like/residential design elements (4 projects);
- On-unit dining/residential kitchens (4 projects);
- Creation of neighborhoods/households (3 projects);
- Landscaping and/or creative building forms to hide unsightly equipment (3 projects);
- Modulating long corridors to make them less intimidating and less institutional (2 projects); and
- Mimicking amenities found in the surrounding neighborhood to make the transition to a senior living environment easier, e.g. "Donnelly's" instead of "The Donnelly Dining Room" (2 projects).

To support community/social interactions, projects included such features as:

- A strong link to the surrounding neighborhood/existing campus buildings (16 projects);
- A core of commons to draw people together (9 projects);
- An open plan to create visual connections that would promote usage (7 projects);
- Highly accessible common spaces (7 projects);
- Intergenerational developments (4 projects);
- Use of daylight to "draw" people into a space (3 projects);
- Intentional/overlapping pathways to encourage spontaneous social interactions (3 projects);
- Shared spaces with affiliated agencies (3 projects); and
- Including a display kitchen in the dining room (2 projects).

Green/sustainable design features included:

- Preserving natural resources, e.g. trees or wetlands (9 projects);
- Reusing an existing building (7 projects);
- Considering the solar orientation of the design (7 projects);
- Generating electricity using wind turbines (1 project);
- Generating electricity using solar panels (1 project);
- Minimizing the amount of conditioned air by providing more outdoor circulation space (1 project);
- Warming the pool through recovered HVAC heat (1 project); and
- Using a sustainable structural system, i.e. shipping containers (1 project).

Projects responded to the local site/vernacular by:

- Providing a design that fits the neighborhood fabric/local style (7 projects);
- Working with the site's topography (7 projects); and
- Conscious placement of parking to hide it from view/maximize pedestrian activity (5 projects).

To support the staff, projects incorporated:

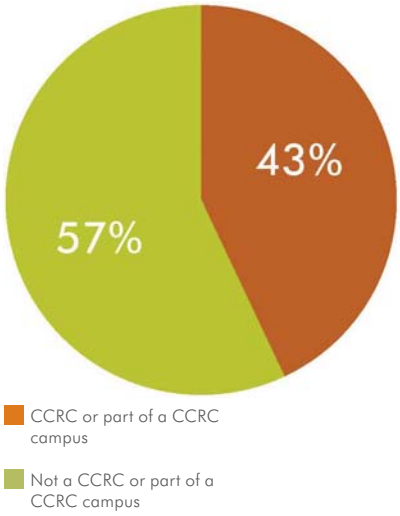
- Technology, e.g. wireless/electronic call systems, egress control/resident monitoring, medical records/charting, ceiling track/lift system (6 projects);
- Spaces for staff, e.g. well-appointed break rooms, training rooms (2 projects); and
- Flexibility for future repurposing/expansion (2 projects).

Common themes expressed by the Building, Planning/Concept Design, and Affordable category submissions include (in approximate order of prevalence):

- Aging-in-place, including universal design features;
- Responding to the site and local conditions, including climate, culture, and vernacular style;
- Green/sustainable design features;
- Connection to nature, including profuse daylighting;
- Connection to the greater community, including access to existing services/amenities;
- Promoting sense of community between residents, including clusters of residences and shared commons;
- Housing alternatives, e.g. cohousing and Green Houses®;
- Intergenerational developments;
- Home-like/non-institutional environments;
- Offering daily choice through extensive amenities (e.g. multiple dining venues);
- Sharing amenities and hosting programs for the greater community;
- Technology and physical environments that support staff;
- Providing a hospitality experience;
- Holistic wellness;
- Providing a welcoming, distinctive entrance;
- New image/feel to improve market appeal, including the entry experience;
- A focus on affordability;
- Collaboration/teaming during design development and construction;
- Partnering with senior-friendly non-providers; and
- Flexibility/adaptability for the future.

For further a description of the major themes common to the award-winning projects, including case study examples, refer to the report section “Award-Winning Project Themes,” on page 57.

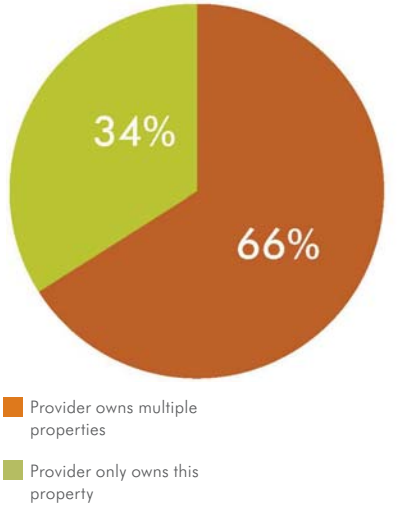
CCRCs
(89 out of 89 submissions)



DFAR9 vs. DFAR10 Comparison: CCRCs

Compared to DFAR9, fewer projects that identify themselves as a CCRC or part of a CCRC were submitted to DFAR10 (54% versus 43%)—perhaps indicating a shift from large-scale, inclusive projects to more, smaller stand-alone projects.

Provider Ownership
(89 out of 89 submissions)

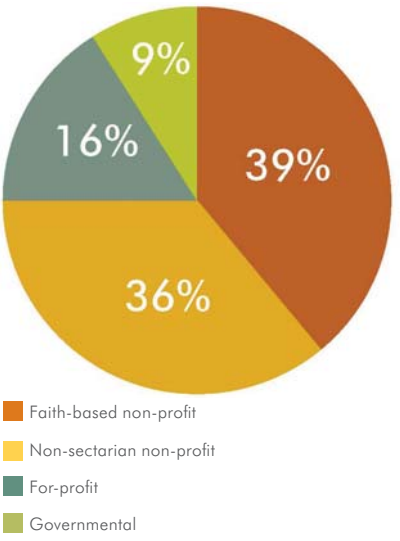


DFAR9 vs. DFAR10 Comparison: Providers

PROVIDER TYPE	DFAR9	DFAR10	10 VS. 9
Faith-based non-profit	41%	39%	–2%
Non-sectarian non-profit	32%	36%	+4%
For-profit	22%	16%	–6%
Governmental	4%	9%	+5%
Provider owns multiple properties	65%	66%	+1%

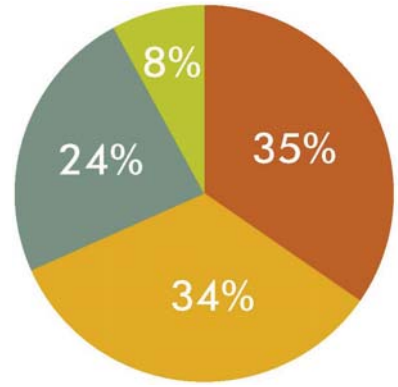
Compared to DFAR9, the projects submitted to DFAR10 have fairly similar provider types; and the ownership of properties is also analogous.

Provider Types
(89 out of 89 submissions)



The five most common features incorporated by the submitted projects to attract their targeted market included providing: physical or visual connections to nature; abundant common spaces/amenities; desirable features/amenities within the residential units; wellness/fitness spaces; and green/sustainable design features, particularly abundant daylighting and good indoor air quality.

Target Market
(89 out of 89 submissions)



DFAR9 vs. DFAR10 Comparison: Target Market

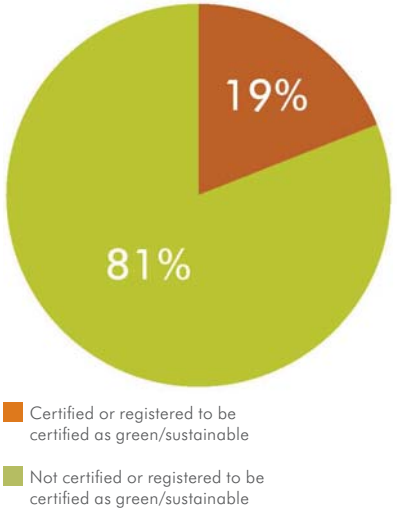
MARKET	DFAR9	DFAR10	10 VS. 9
Upper	25%	8%	–17%
Middle/upper middle	40%	34%	–6%
Low income/subsidized	12%	24%	+12%
Mixed income	24%	35%	+11%

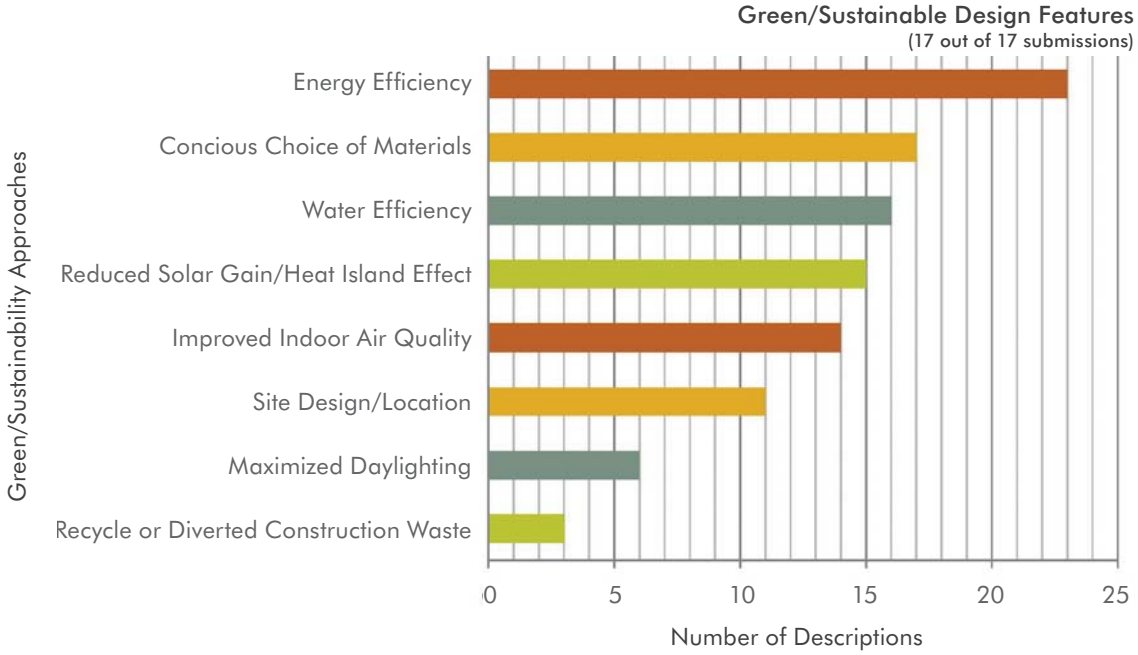
Compared to DFAR9, DFAR10 received more submissions that target low income/subsidized and mixed income markets. Projects that target an upper or middle/upper middle income market are less prevalent—perhaps representing a shift in the industry, resulting from the economic downturn that affected many people's retirement savings.

Green/sustainable design features incorporated into the certified, or registered to be certified, projects included:

- Twenty three descriptions of how projects achieved energy efficiency, including high efficiency mechanical equipment and/or water heaters, including geothermal heat pump systems; energy efficient light fixtures; increased wall or roof insulation; Energy Star appliances; solar heated domestic hot water systems; photovoltaic light fixtures; and/or producing electricity with wind turbines.
- Seventeen descriptions of how the projects made conscientious choices of materials, including low-VOC materials; regionally extracted, processed, and/or manufactured materials; materials with a high recycled content; and/or reuse of an existing building structure.
- Sixteen descriptions of how projects achieved water efficiency, including reuse of grey water and/or rainwater; low-flow plumbing fixtures; specially designed irrigation systems and managed storm water runoff; green roofs; protecting existing landscaping/limiting the disruption of the natural hydrology of the site; use of native plantings; and/or maximizing permeable surfaces.
- Fifteen descriptions of how projects reduced solar gain or the heat island effect, including high efficiency windows; reflective roofs; under-building parking to reduce surface lots; minimizing solar gain through sunshades; planting fast-growing trees for shade and surface heat reduction; and/or orienting the building to minimize its western exposure.
- Fourteen descriptions of how projects improved their indoor air quality, including the previously stated low-VOC materials; increased natural ventilation; and/or special air filters.
- Eleven descriptions of how the site design/location was approached, including decisions related to building density and/or being an urban infill project; proximity to community resources and public transportation; transformation from a Brownfield site into a Greenfield site; and/or proximity to existing infrastructure (i.e. power, water, and sewer). Please note that 33% of the award-winning projects were located on a Brownfield or Greenfield site.
- Six descriptions of how daylighting was maximized through profuse glazing (including skylights) and/or building orientation.
- Three descriptions of how construction waste was recycled and/or diverted from landfills.

Green/Sustainable Certification
(89 out of 89 submissions)

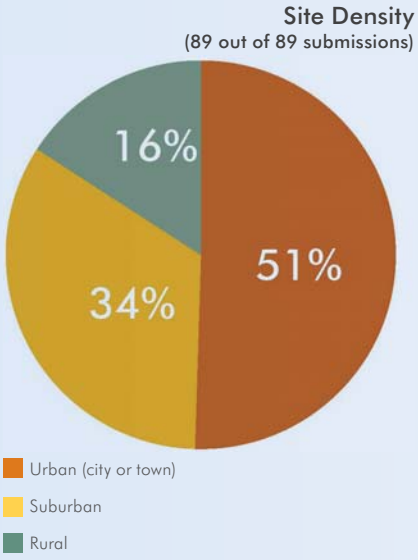




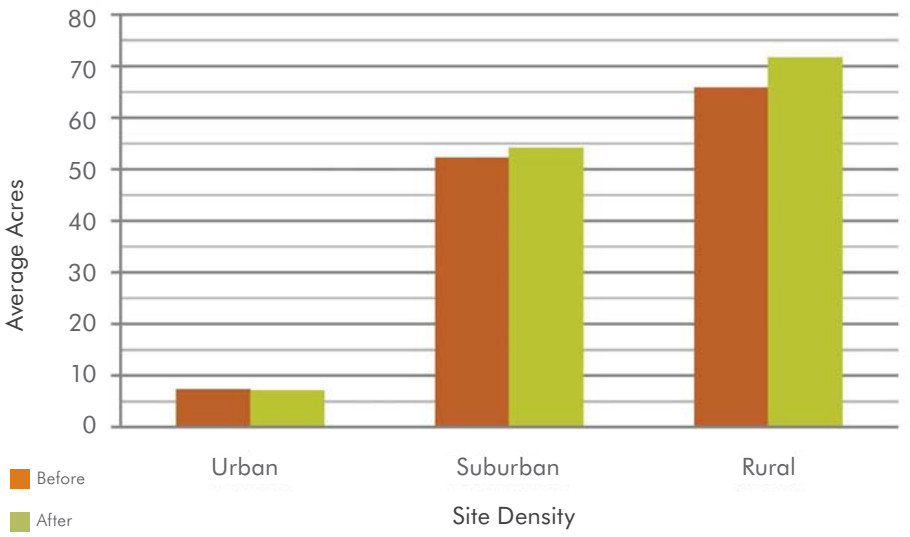
DFAR9 vs. DFAR10 Comparison: Site Density

SITE DENSITY	DFAR9	DFAR10	10 VS. 9
Urban	41%	51%	+10%
Suburban	45%	34%	–11%
Rural	13%	16%	+3%

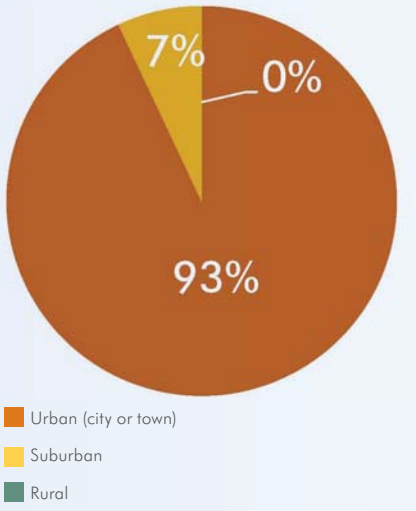
Compared to DFAR9, DFAR10 received more submissions located in urban settings; fewer suburban developments; and slightly more projects in rural environments.



Site Acerage
(88 out of 89 submissions)



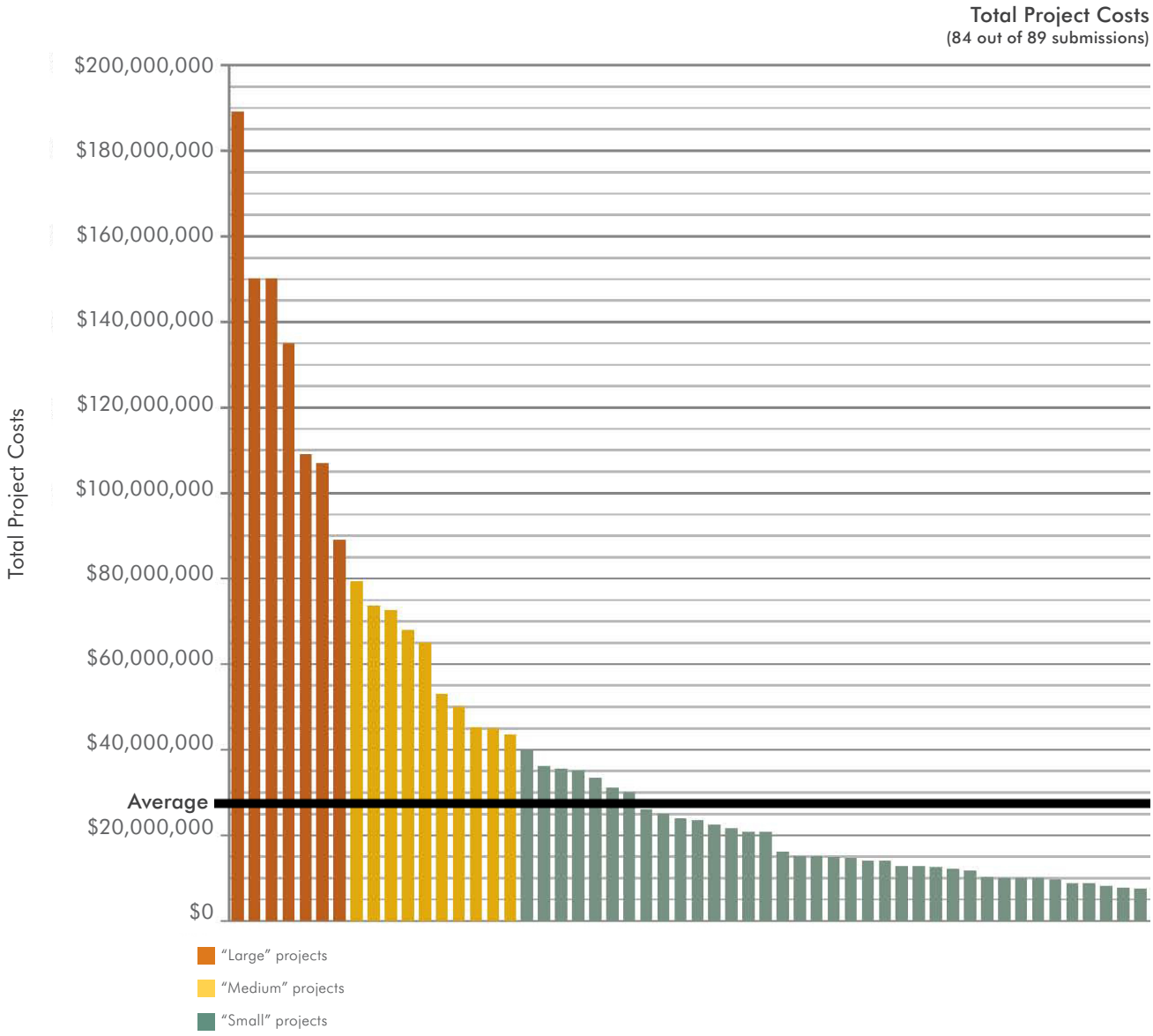
Site Density and Affordable Category Submissions
(14 out of 14 submissions)

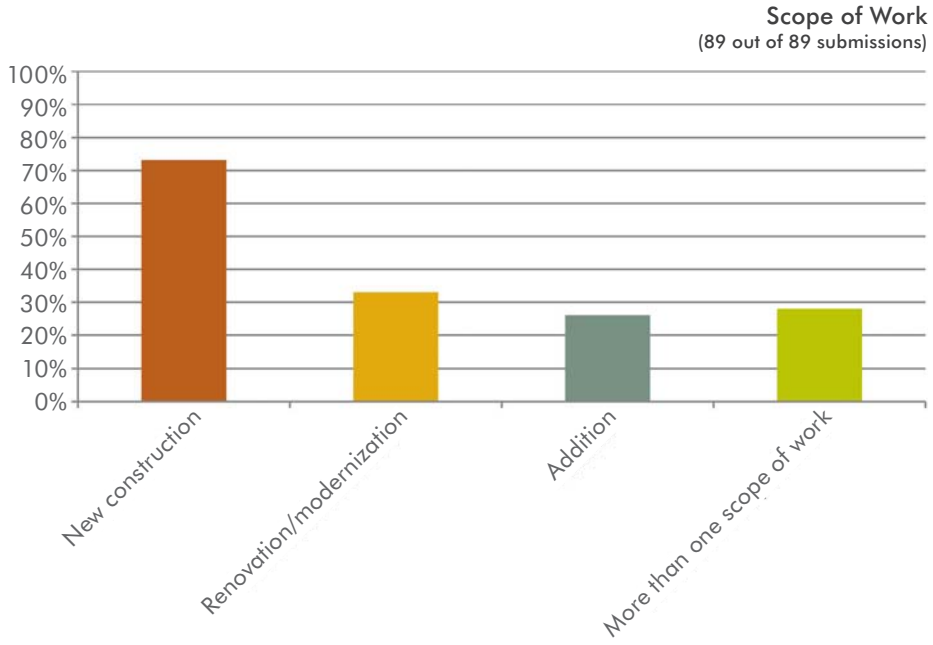


In terms of zoning, 74% of the submissions have the same zoning as before the project was undertaken. Original zoning categories included: residential (42% of the projects), planned development (17%), commercial or industrial (13%), institutional (10%), agricultural (10%), and mixed use (8%). Properties that were re-zoned were changed to higher density residential, planned development, institutional/medical, or senior-specific categories. Three projects required modification of the local zoning code or other special legislation.

When zoning is compared to whether the project is listed as a CCRC or part of a CCRC, 26 of the 28 projects listed as part of CCRC (93%) required no zoning change; and 16 of the 23 projects (70%) listed as a CCRC campus, required no zoning change. The CCRC projects requiring new zoning were changed to planned development, increased density, or senior specific use categories.

Total project costs ranged from $800,000 to $189 million, with an average of $27,739,881. Total construction costs for new construction projects averaged $31,460,143; additions averaged $14,410,950; and renovations/modernizations averaged $5,020,220.

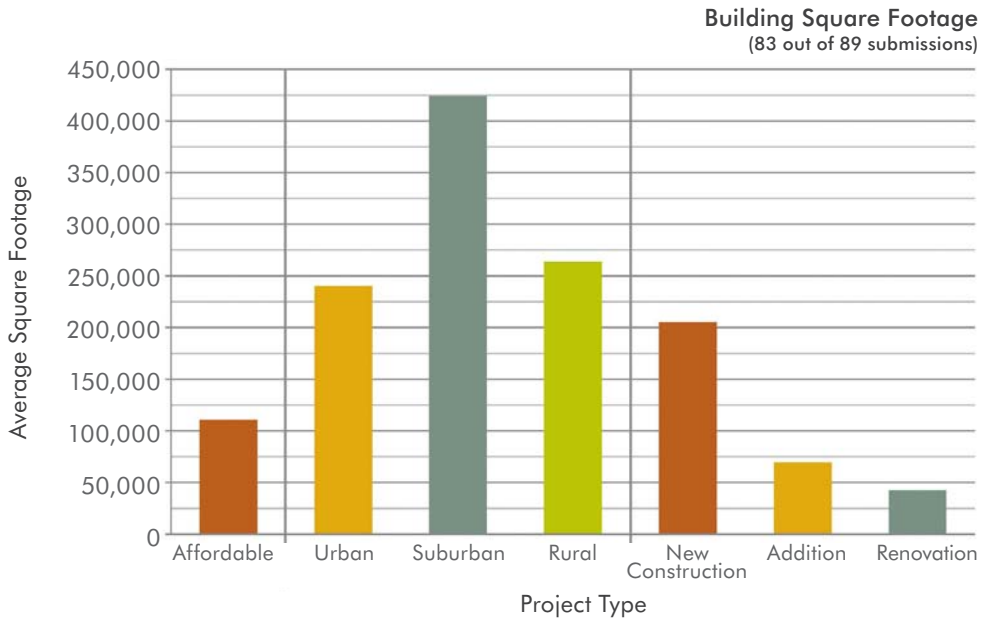


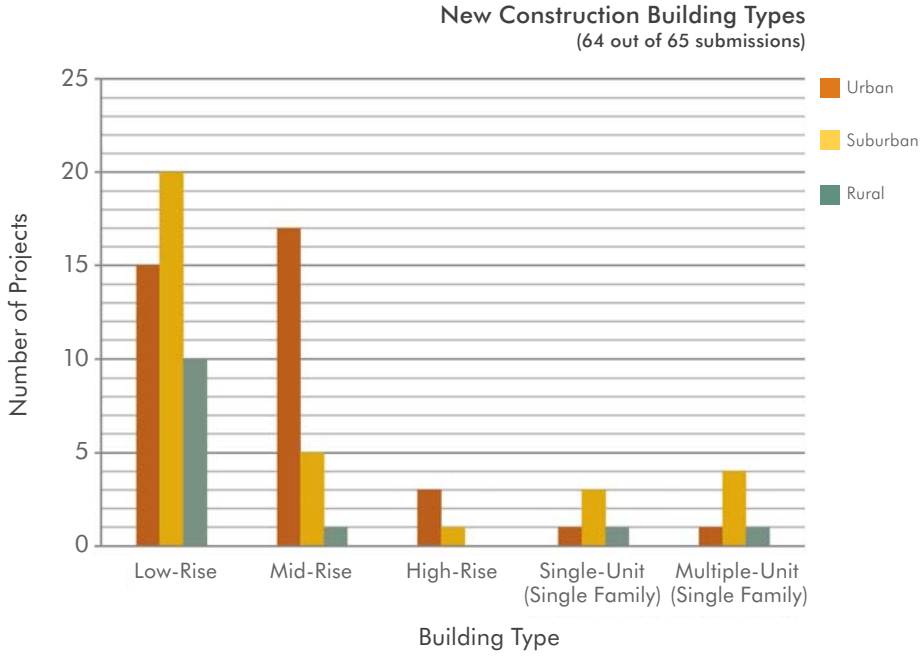


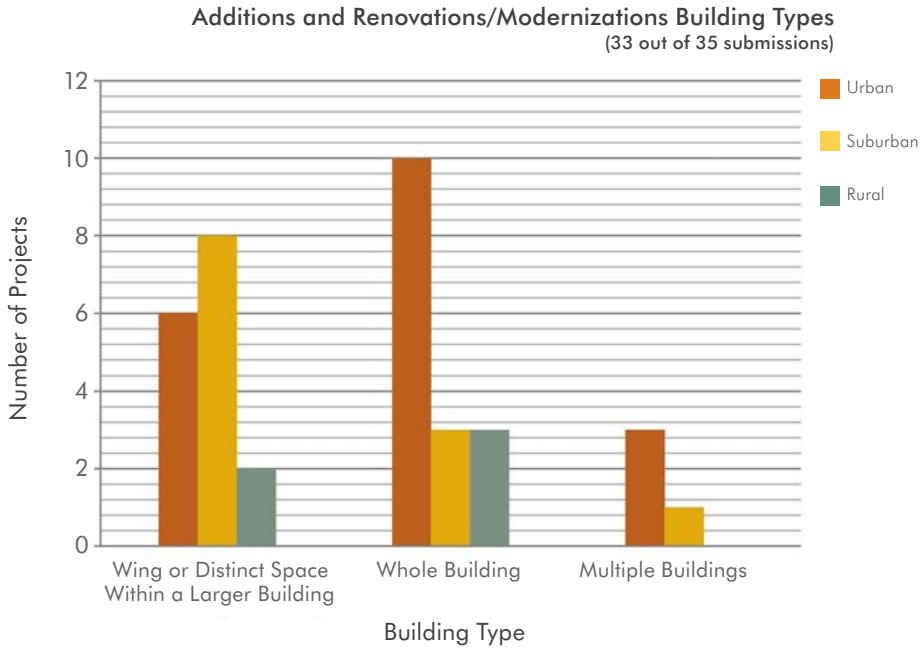
DFAR9 vs. DFAR10 Comparison: Scope of Work

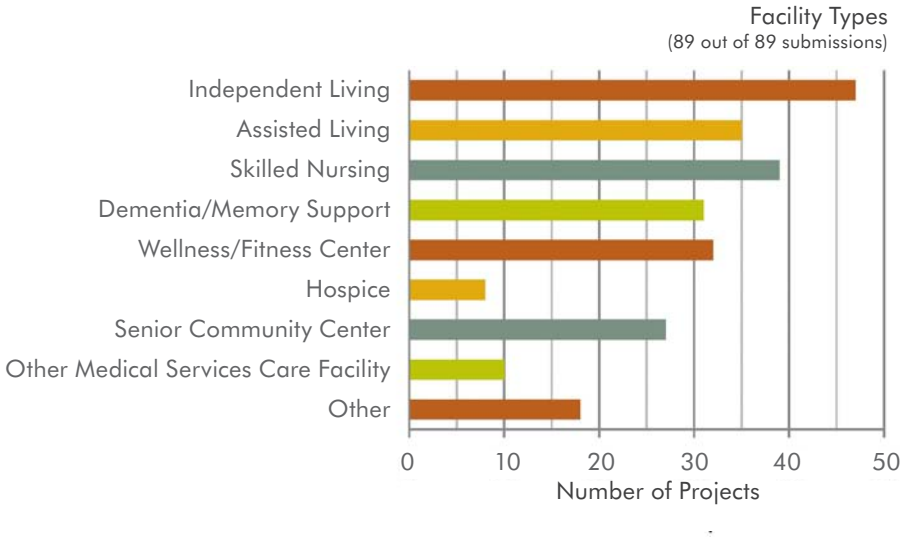
SCOPE OF WORK	DFAR9	DFAR10	10 VS. 9
New construction	73%	73%	0%
Renovation/modernization	13%	33%	+20%
Addition	15%	26%	+11%

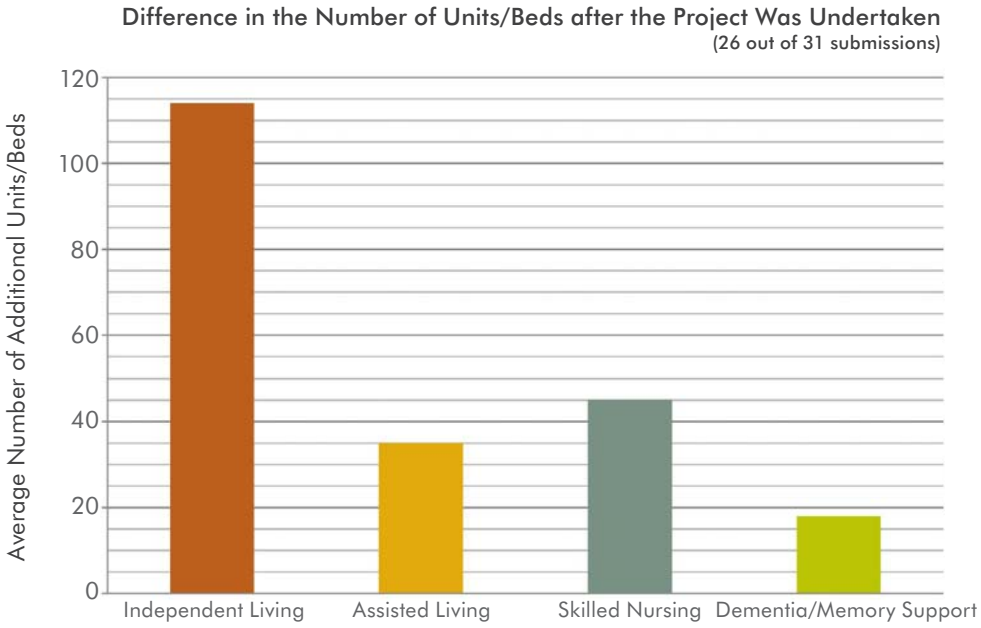
Compared to DFAR9, DFAR10 received the same percentage of submissions with new construction in their scope of work. However, there were more projects that included a renovation/modernization or an addition. The trend to expand/modify, rather than build new, may be indicative of the recent economic troubles that faced the nation—making new construction more difficult and/or a less viable option.




New Construction Building Types
(64 out of 65 submissions)
Number of Projects
25
20
15
10
5
0
Urban
Suburban
Rural
Low-Rise
Mid-Rise
High-Rise
Single-Unit (Single Family)
Multiple-Unit (Single Family)
Building Type


Additions and Renovations/Modernizations Building Types
(33 out of 35 submissions)
Number of Projects
12
10
8
6
4
2
0
Urban
Suburban
Rural
Wing or Distinct Space Within a Larger Building
Whole Building
Multiple Buildings
Building Type


Facility Types
(89 out of 89 submissions)
Independent Living
Assisted Living
Skilled Nursing
Dementia/Memory Support
Wellness/Fitness Center
Hospice
Senior Community Center
Other Medical Services Care Facility
Other
0
10
20
30
40
50
Number of Projects


Difference in the Number of Units/Beds after the Project Was Undertaken
(26 out of 31 submissions)
Average Number of Additional Units/Beds
120
100
80
60
40
20
0
Independent Living
Assisted Living
Skilled Nursing
Dementia/Memory Support


Parking Spaces
(88 out of 89 submissions)
Average Number of Parking Spaces
350
300
250
200
150
100
50
0
AVERAGE AFTER
Urban
Suburban
Rural
Site Density
Before
After

10

RESEARCH/POE

CATEGORY SUMMARY

CATEGORY SUMMARY: RESEARCH/POE

Three out of the 92 projects submitted to the DFAR10 design competition were entered under the Research/POE category. One study, "Data Mining Findings," was recognized to be published. This study was, in fact, the results of the analysis conducted on the previous cycle of the Design for Aging awards. However, the study was submitted as a blind entry and, therefore, received no special consideration by the jury.

Though there were too few submissions to make broad statements about the state of research in the field today, the submissions and any related themes are summarized herein.

DFAR9 vs. DFAR10 Comparison

	TOTAL SUBMISSIONS		AWARD RECIPIENTS	
CATEGORY	DFAR9	DFAR10	DFAR9	DFAR10
Research/POE	4	3	2	1

Compared to the ninth biennial DFAR awards competition, DFAR10 received slightly fewer Research/POE category submissions, and distributed less awards in that category. However, with only a handful of submissions, overall, and only one submission and award separating the two cycles, little can be inferred about the prevalence of research in the industry.

About the Submissions

Two distinct research organizations provided the three DFAR10 Research/POE category submissions. Both organizations are located within the United States; and are associated with architectural firms.

All three of the submitted studies concentrated on environments for seniors located within the United States. However, two of the studies did include some information about senior living environments located within other countries (with references to Japan, Europe, and the Far East).

DFAR9 vs. DFAR10 Comparison: Location

Compared to DFAR9, DFAR10 also received Research/POE submissions only from organizations located within the United States. However, unlike DFAR9, some of the DFAR10 studies investigated facilities not only within the United States, but overseas as well.

The three research studies had varying funding sources. One study was funded by the firm that employed the researcher. Another study received a grant from the AIA, with matching funds from the researcher's architectural firm. And the third study was funded by the provider of the facilities evaluated.

DFAR9 vs. DFAR10 Comparison: Funding

Three of the four DFAR9 research studies were funded by the architectural firm associated with the research organization, with one study funded by a grant. The DFAR10 studies, however, received more disparate funding, including an architectural firm, a grant, and a senior living provider who commissioned the research.

This client-funded study was the only submission that described the provider having a direct role in conducting the research study. The provider was said to have helped establish the goals and scope of the study; provided background information about the evaluated communities; coordinated site visits and interviews; provided feedback during the development of occupant surveys; distributed and collected completed surveys; and provided feedback and insights during the development of the summary report.

DFAR9 vs. DFAR10 Comparison: Provider Role

Compared to the research studies submitted to DFAR9, which each included user participation and provider assistance during the investigations, the DFAR10 studies lacked a provider role. Only one DFAR10 study involved the provider, in addition to incorporating user participation in the process.

Hypotheses, Methodologies, & Findings

Each study had a different area of interest. One focused on the current and future state of Assisted Living; another looked for patterns amongst data from over 70 senior living projects; and the third study created design guidelines based on lessons learned to inform a provider's future developments.

Each study was unique in its purpose, methodology, and findings. However, two studies focused on multiple facilities, owned by multiple providers—essentially looking at the state of the industry and where it may be headed in the future. One of these studies was interested in Assisted Living and its relationship to the provision of care in CCRCs. This study approached the problem from both a designer's and a provider's perspective, looking at how Assisted Living has been programmed and designed in master plans for the past 30 years.

The study states that—with the exception of specialized dementia care facilities—Assisted Living is most likely going away in the future, as home health and ADL services are increasingly delivered to Independent Living residences. This will reportedly shift CCRCs to a larger residential and smaller health care component, with the study stating ratios of 80% to 20%. Furthermore, aging-in-place will result in universally designed facilities and more compact CCRCs, as residences encircle common areas (ensuring shorter walking distances).[6]

The other study that looked at a broad cross-section of the senior living industry investigated the submissions to a design competition. It reviewed data from over 70 projects in nine building types (Independent Living, Assisted Living, Skilled Nursing, Special Care Unit, Wellness/Fitness Center, Hospice, Senior Community Center, Other Medical Services Care Facility, and Other).

The primary goal of the study was to understand the range of design goals and approaches in the current field of senior living in order to share lessons learned amongst peers and to provide a benchmark against which to compare projects. Through quantitative and qualitative analyses, the common design objectives and innovative ideas and strategies that had been reported by architects and providers were summarized.

A number of key themes, or patterns, characterized the investigated senior living projects, such as the idea of "integration"—of communities with their surroundings, of in-

terior and exterior settings, and of residents with each other in a natural aging process. Another important theme was "wellness," which was driving new facilities across market sectors, from affordable to luxury.

Significant differences were also noted between "Campus-Centered" and "Greater-Community Focused" developments. Campus-Centered communities typically allocated 11% more building area to private residential space. In contrast, the Greater-Community Focused developments built a higher proportion of common space with more diverse and specialized functions, often providing amenities that the general public was encouraged to use.[7]

The research studies submitted to DFAR10 included varied methodologies. These consisted of: reviewing programming and design practices from the past 30 years; quantitative and qualitative analyses to summarize common design objectives and innovations; and POEs consisting of interviews, surveys, and building-walk-throughs.

The third study was performed for a single senior living provider so that the organization could understand how lessons learned from their existing facilities could inform future developments. POEs were conducted on two of the provider's newest CCRCs; and included building walk-throughs; surveys completed by residents and staff; and interviews with residents, staff, visitors, and administrators. The findings from the POEs were then used to create a book of design guidelines, which was meant to be a "workbook" for both the provider and their designer to make more informed decisions during future developments.

The design guidelines focused on the defining characteristics of the physical environment that are specific to a community built by the provider. They are adaptable to a broad range of conditions (including diverse sites, contexts, programs, and markets); balance the adherence to principles with the need for adaptability; and present ways in which the physical environment can not only meet people's needs, but also provide opportunities for growth. Topics covered included: site and building organization; circulation systems; common spaces; outdoor spaces and paths; residential design; staff support spaces; and appearance.[8]

Relevance of the Research, Context, Communication, & Applicability

The research studies submitted to DFAR10 were performed not only to describe current conditions at senior living facilities, but to also relate how this information might be used to create innovations in future developments.

Only two of the three studies were intended for a broad audience, but all three were performed to provide useful information to both providers *and* designers. The studies also reported not only on the current conditions at senior living facilities, but also how this information might be used to inform future developments. All three studies also reviewed precedent research in order to inform their current investigations and to create a framework from which to make their own conclusions.

The communication of findings varied from a research paper, a report available on a public website, and a book of design guidelines intended for a much more limited audience. However, all three carefully organized and divided the content into sections to aid the reader in understanding the lessons learned. Furthermore, all three included graphics (e.g. diagrams, photographs, and plans) to illustrate their findings—providing a more interesting and engaging medium, especially for the more visually-oriented audience of designers.

All three studies summarized their findings in reports that are intended for an audience of both providers and designers. Furthermore, these reports include illustrations to graphically explain the study's findings.

Areas for Further Inquiry

The areas for further inquiry described by the three studies varied according to their area of investigation.

The researcher that studied the current and future state of Assisted Living was curious about affordability, inclusion, and international implications. Questions posed included: How can ADL and home health services affordably be delivered to seniors, allowing them to age-in-place? Can aging-in-place de-segregate seniors in our society? How can an affordable senior care model be brought to developing countries? And if brought to other regions of the world, how would operational models and levels of care need to vary to accommodate different cultures, social barriers, and traditions?[6]

The study that summarized the state of the senior living industry based on submissions to a design competition stated that the analyzed data presented only a snapshot of patterns, instead of an indication of trends. The researcher explained that the true value of that type of investigation would only be realized when data from past and/or future design competition submission forms can be compared, allowing for trend reporting. Additionally, adding data from more submissions would increase the pool of projects being compared, thereby improving the validity of the findings.[7]

Similarly, the researcher who conducted two POEs in order to create design guidelines also described how the study's findings could be strengthened by investigating more facilities. Additional data from more of the provider's developments would reportedly enable the researcher to test and refine the design guidelines. Further methodologies were also described as being potentially informative, including behavior mapping and longer-term tracking of the use of common spaces. The researcher also suggested developing a multi-disciplinary study to examine issues that have more than physical implications, such as associated operational and/or financial effects.[8]

10

About the Award-Winning Projects

ABOUT THE AWARD-WINNING PROJECTS

Penick Village Garden Cottage
Rendering courtesy of: Alan L. Moore for CJMW

Thirty four out of the 89 Building, Planning/Concept Design, and Affordable category submissions were recognized with an award (either Merit, Special Recognition, Publication and Exhibition, or Publication).

DFAR9 vs. DFAR10 Comparison: Award Recipients

CATEGORY	DFAR9 AWARD RECIPIENTS	DFAR10 AWARD RECIPIENTS	10 VS. 9
Building	29	17	–41%
Planning/Concept Design	6	12	+100%
Affordable	N/A	4	---

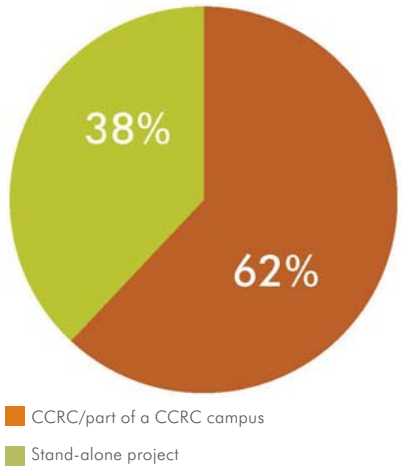
Compared to DFAR9, the DFAR10 jury distributed fewer awards in the Building category and significantly more under Planning/Concept Design (though that may simply be a result of the increased number of Planning/Concept Design category submissions to the tenth cycle).

To understand the similarities amongst the Building, Planning/Concept Design, and Affordable category award winners, data analysis was performed using the additional information collected by the Phase Two submission forms that were distributed to this group. Completed Phase Two submission forms were received for 85% of the award-winning projects[9] (see Appendix G for a summary of which projects provided what Phase Two information).

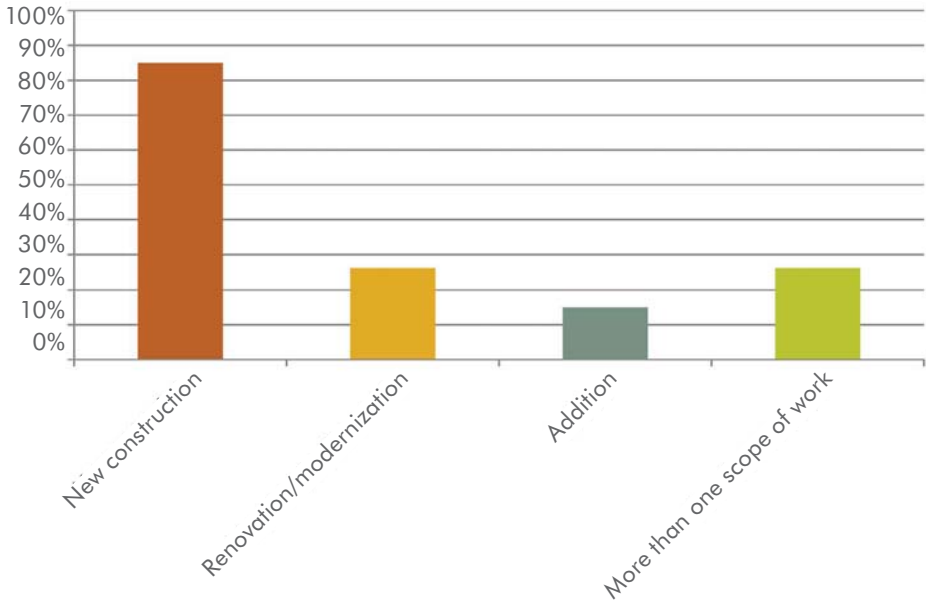
About the Winning Projects

The award-winning submissions range in size from about 7,000 to over one million gross square feet; and have project costs ranging from $1.45 million to $244 million. Small projects (i.e. those costing less than $40 million) average $9,318,828 and 53,381 GSF; whereas the large projects (with costs greater than $40 million) average $123,068,482 and 625,517 GSF.

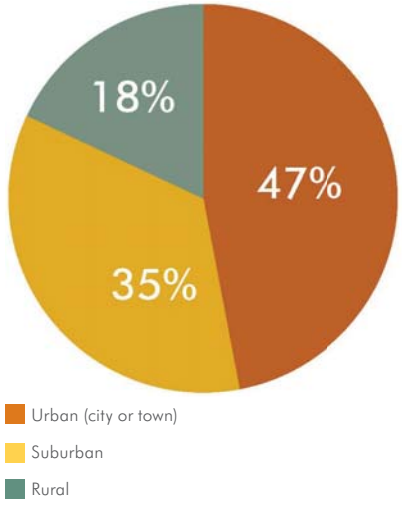
CCRC vs. Stand-Alone Award-Winning Submissions
(34 out of 34 submissions)



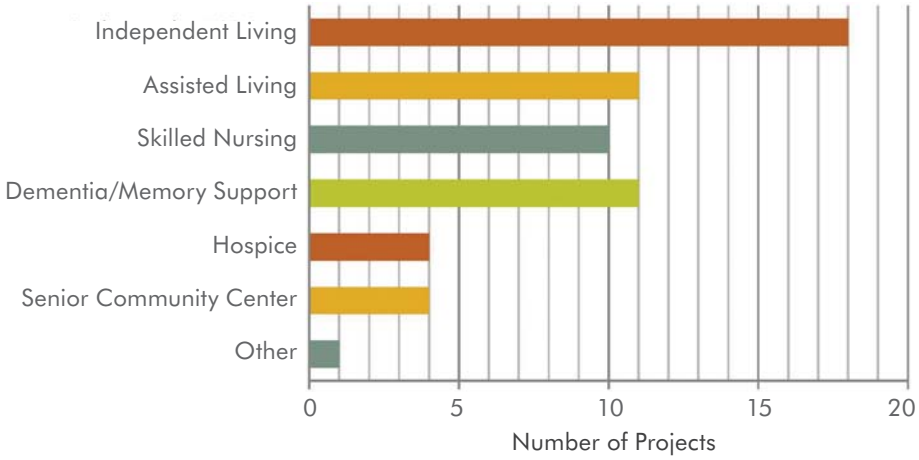
Award-Winning Submissions' Scope of Work
(34 out of 34 submissions)



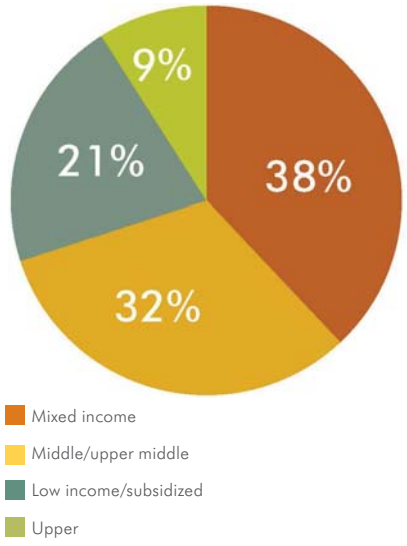
Award-Winning Submissions' Site Density
(34 out of 34 submissions)



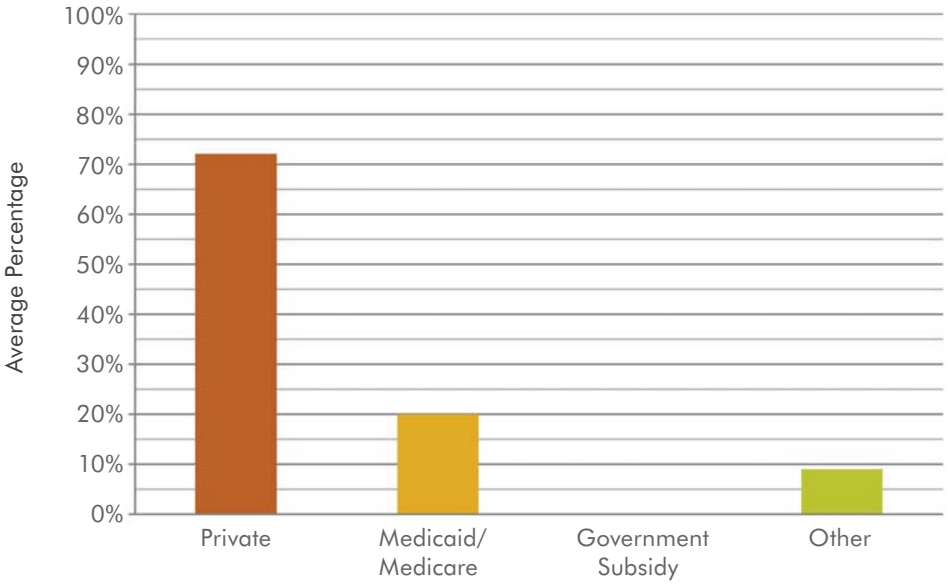
Award-Winning Submissions' Facility Types
(34 out of 34 submissions)



Award-Winning Submissions' Target Market
(34 out of 34 submissions)

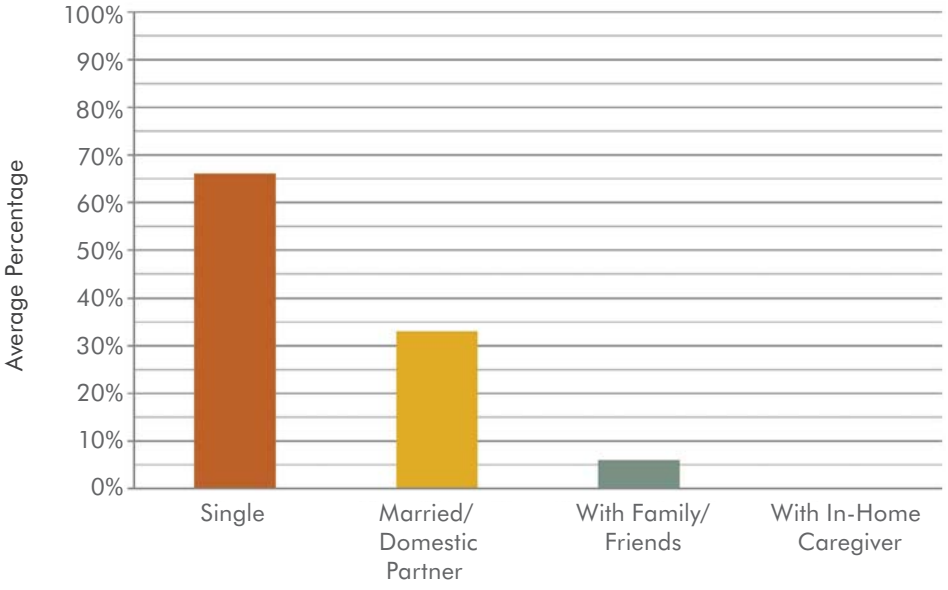


Award-Winning Submissions' Source of Resident Payments
(15 out of 20 submissions)

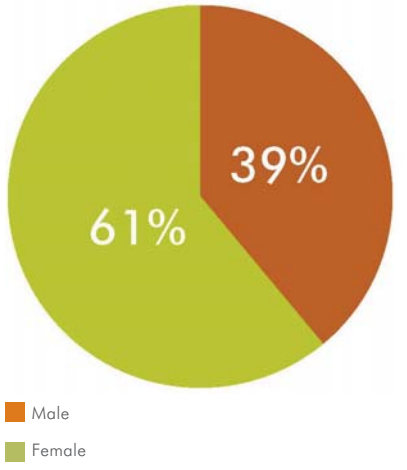


Project Demographics

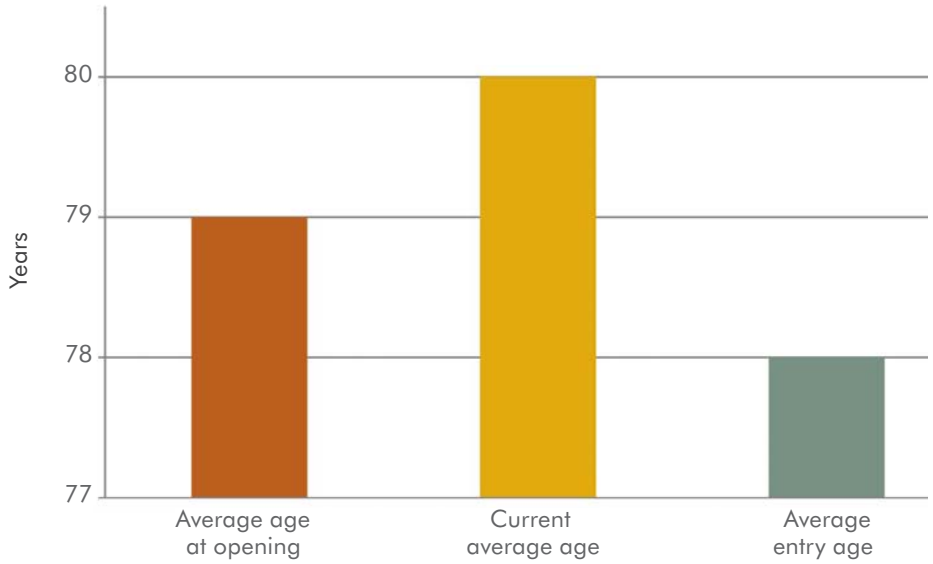
Award-Winning Submissions Resident Living Situations
(12 out of 22 relevant submissions)



Award-Winning Submissions' Resident Gender (Averages)
(16 out of 22 relevant submissions)



Award-Winning Submissions' Average Resident Ages
(14 out of 22 relevant submissions)



FACILITY TYPE	AVERAGE AGE THE PROJECT WAS DESIGNED TO SUPPORT	AVERAGE PERCENTAGE OF BUILDING OCCUPANTS USING MOBILITY ASSISTANCE DEVICES THAT THE PROJECT WAS DESIGNED FOR
Independent Living *(12 out of 18 relevant responses)*	68	52%
Assisted Living *(6 out of 11 relevant responses)*	74	64%
Skilled Nursing *(5 out of 10 relevant responses)*	85	72%
Dementia/Memory Support *(5 out of 11 relevant responses)*	76	52%
Hospice *(2 out of 4 relevant responses)*	78	67%
Wellness/Fitness Center *(7 responses)*	75	25%
Senior Community Center *(4 out of 4 relevant responses)*	78	59%
Other Medical Services Care Facility *(0 relevant responses)*	N/A	N/A

New Developments vs. Campus Additions/Renovations

Thirty eight percent of the award-winning Building, Planning/Concept Design, and Affordable category submissions are campus addition/renovation projects; and 62% are new developments. The new development projects fall into one of two categories: either smaller, stand-alone projects or larger developments, such as CCRCs. Each of the small scale projects consist of only one facility type in its scope of work. In contrast, all of the larger scale new developments include multiple facility types within each project.

SUBMISSION NAME	COMMONS	IL UNITS	AL UNITS	SN BEDS	D/MS BEDS	HOSPICE BEDS
CAMPUS ADDITION/ RENOVATION PROJECTS:						
Boutwells Landing Care Center				108		
Episcopal Home Church St. Luke's Chapel	•					
The Houses on Bayberry		8				
Hybrid Homes		75				
Lenbrook		163	16	60		
Mennonite Home Skilled Care Reinvention				133	28	
Montgomery Place			12	40	8	
Penick Village Garden Cottage			10			
The Point at C. C. Young	•					
Roseland Senior Campus		60				
Signature Apartments		60				
Three Links Care Center Lodging Facility					14	8
Westminster Village Town Center	•		23			
SMALLER, STAND-ALONE NEW DEVELOPMENT PROJECTS:						
Bloomfield Township Senior Center	•					
Buena Vista Terrace		40				
Hope House at Hope Meadows		8				
Hospice of Lancaster County						24
La Paloma – East Lubbock Regional MHMR	•					
Porter Hills Green House® Homes				20		
Residential Hospice for York Region						10
Sharon S. Richardson Community Hospice						20
Silver Sage Village Senior Cohousing		16				
THF/CCS Casitas on East Broadway Senior Housing		56				
Tohono O'odham Elder Homes			48			
LARGER NEW DEVELOPMENT PROJECTS:						
DeVries Place Senior Apartments	•	103				
Fox Hill	•	240	29		65	
The Legacy at Willow Bend	•	115	40	60	18	
NewBridge on the Charles	•	256	51	268	40	
The Ridge and Boulders of RiverWoods at Exeter	•	192	51	31	8	
SKY55	•	91				
The Sterling of Pasadena	•	200	22		23	
Sun City Palace Tsukaguchi	•	600		160	40	
Taube Koret Campus for Jewish Life	•	170	12		11	
Villa at San Luis Rey	•	180*	40	15		

** Independent Living licensed as Assisted Living so that in-home services can be provided, allowing residents to age-in-place*

DFAR10 vs. DFAR9 Space Comparisons

The researchers examined the DFAR10 Phase Two submission form building data charts and compared it to information provided in the DFAR9 submissions to see if meaningful patterns emerged.[10] See Appendix H for a summary chart of the space-breakdown data analysis performed on all of the DFAR10 award-winning Building, Planning/Concept Design, and Affordable category projects.

The DFAR10 submissions have a fairly similar distribution of Independent Living units, though with more studios and fewer one-bedroom apartments. And with the exception of the studio apartments, the DFAR10 Independent Living residences tend to be slightly smaller than those submitted to DFAR9.

The DFAR10 submissions have a greater distribution of larger Assisted Living units (i.e. two-bedroom and three-bedroom+ apartments); and tend to be larger in size than those submitted to DFAR9.

The DFAR10 submissions tend to have more shared Skilled Nursing rooms, though they are smaller in size.

The distribution of DFAR10 Dementia/Memory Support residences is comparable to DFAR9, though the rooms are smaller in size.

	OVERALL GROUP OF DFAR10 WINNERS		OVERALL GROUP OF DFAR9 WINNERS		PERCENTAGE
UNIT TYPE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	DIFFERENCE IN UNIT SIZE
INDEPENDENT LIVING:					
Studio apartment	20%	658 NSF	5%	508 NSF	+30%
One-bedroom apartment	28%	769 NSF	45%	844 NSF	–9%
Two-bedroom apartment	36%	1,183 NSF	37%	1,184 NSF	–0.1%
Two-bedroom plus den apartment	13%	1,515 NSF	13%	1,465 NSF	+3%
Three-bedroom+ apartment	4%	1,682 NSF	1%	2,259 NSF	–26%
Two-bedroom cottage	59%	1,795 NSF	47%	1,820 NSF	–1%
Two-bedroom plus den cottage	41%	INSUFFICIENT DATA	48%	2,333 NSF	---
Three-bedroom+ cottage	0%	N/A	5%	2,603 NSF	---
ASSISTED LIVING:					
Studio apartment	11%	385 NSF	20%	358 NSF	+8%
One-bedroom apartment	49%	589 NSF	63%	581 NSF	+1%
Two-bedroom apartment	30%	1,178 NSF	17%	877 NSF	+34%
Two-bedroom plus den apartment	0%	N/A	0.3%	1,464 NSF	---
Three-bedroom+ apartment	10%	INSUFFICIENT DATA	0%	N/A	---
SKILLED NURSING:					
Single-occupancy room	78%	297 NSF	97%	293 NSF	+1%
Double-occupancy room	22%	369 NSF	3%	423 NSF	–13%
Triple+ occupancy room	0%	N/A	0%	N/A	0%
DEMENTIA/MEMORY SUPPORT					
Single-occupancy room	80%	316 NSF	80%	351 NSF	–10%
Double-occupancy room	20%	451 NSF	20%	795 NSF	–43%
Triple+ occupancy room	0%	N/A	0%	N/A	0%

10

AWARD-WINNING

PROJECT THEMES

AWARD-WINNING PROJECT THEMES

NewBridge on the Charles
Photograph courtesy of: Chris Cooper Photography

Though the DFAR10 award-winning projects are quite diverse, several common and often interrelated project themes were identified based on the similarities amongst the submissions' building components, project descriptions, and goals. These include:

- Connection to nature (97% of the award-winning projects);
- Responding to the site and local conditions (56% of the award-winning projects);
- Connecting to the neighborhood (53% of the award-winning projects);
- Green/sustainable design (50% of the award-winning projects);
- Neighborhood/household model and person-centered care (35% of the award-winning projects);
- Home-like environments (29% of the award-winning projects);
- Promoting resident sense of community (26% of the award-winning projects);
- Staff support spaces/features (24% of the award-winning projects);
- Intergenerational developments (21% of the award-winning projects);
- Offering daily choice through extensive amenities, including multiple dining options (21% of the award-winning projects);
- Aging-in-place (21% of the award-winning projects);
- Collaboration during design development (21% of the award-winning projects);
- Holistic wellness (18% of the award-winning projects);
- Hospitality/resort feel (18% of the award-winning projects);
- Repositioning to appeal to the market (15% of the award-winning projects);
- Focusing on affordability (15% of the award-winning projects); and
- Family/visitor support spaces (12% of the award-winning projects).

Responding to the Site and Local Conditions

Including a Phase One submission form question that specifically asked how the submitted projects respond to the site and local conditions, several other questions generated responses from the award-winning projects that also described how these submissions address the site and/or local conditions, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; greatest challenges; ways the project promotes sense of community; unique opportunities or features that the project took advantage of; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Fifty six percent of the award-winning submissions described specific ways in which their project responds to the site and/or local conditions, including:

- Fitting the neighborhood fabric, such as:
  - Preservation/re-use of existing historic features or buildings
  - Using a similar streetscape as neighbors
  - Building setbacks similar to neighbors
  - Using building scale/massing/density that are similar to neighbors
  - Siting the building(s) to be respectful to neighbors, e.g. preventing blocked views or casting shadows
  - Siting the parking to be respectful to neighbors;
- Preserving natural features and/or working within site limitations (e.g. mature trees, challenging site topography, rock outcroppings, wetlands);
- Emulating or reinterpreting the familiar, local vernacular style, including using:
  - Exterior form/style/details/materials that are similar to neighbors
  - Interior design elements that reflect regional landforms/history/style (e.g. colors, materials, artwork, etc.);
- Reflecting the residents' cultural/faith-based expectations; and
- Working with the local climate, including:
  - Being influenced by solar conditions, which had an effect on building orientation, sun shading, the use of solar panels, etc.
  - Designing to address local winds, from incorporating natural ventilation to shielding from cold Northwest winds
  - Incorporating outdoor "rooms" where the local climate could support frequent use of the outdoors.

Case Study: Porter Hills Green House® Homes

An example of a project that responds to the local vernacular through the scale of its buildings, Porter Hills Green House® Homes is located in suburban Grand Rapids, MI; and consists of 16,820 GSF of two newly constructed Green Houses® for ten Skilled Nursing residents, each. Adjacent to an existing 55+ residential community, the project's scale, massing, and Craftsman style are compatible with the surrounding single-family homes. The project was also carefully sited to minimize impact on existing wetlands, while maximizing views toward the wetlands and access to walking trails and gardens.

Photograph courtesy of: Jason Reiffer

Case Study: The Houses on Bayberry

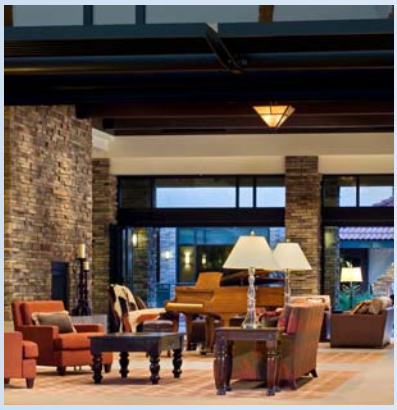
The Houses on Bayberry provide eight affordable Independent Living residences, organized in two clusters of four, with 12,296 GSF of new construction. Located in urban Winston-Salem, NC, the project responds to the local vernacular style. The design consists of an "economical interpretation" of the architectural style, detailing, colors, and forms found in the region. The goal was to provide "an attractive affordable home that would not visually compromise the adjacent market rate housing[11]."

Rendering courtesy of: RLPS Architects

Case Study: Westminster Village Town Center

Located in suburban Scottsdale, AZ, the Westminster Village Town Center included 63,000 GSF of new construction and 6,000 renovated GSF. The project consists of a senior community center that serves an existing CCRC, plus an addition of 23 Assisted Living residences. The reinvented town center exemplifies how a project can address the local conditions since it takes full advantage of the warm and dry Southwestern climate.

Including a "rejuvenating courtyard oasis," an outdoor dining venue, fire pit, and multiple common spaces with glass walls and retractable glass doors, this project optimizes indoor-outdoor connections and blurs the lines between interior and exterior spaces, while also providing sunshades to offer protection from heat gain and glare from the harsh Arizona sun. In addition, the project responds to the local vernacular through the style of its interior and exterior design. A modern interpretation of the Southwest aesthetic is seen throughout the town center's use of natural materials, patterns and textiles, desert-inspired color palette, hair-on-hide furniture, and native art.



Photographs courtesy of: Chris Cooper

Case Study: Tohono O'odham Elder Homes

The Tohono O'odham Elder Homes is planned to consist of 32,464 GSF of new construction; and will be located in rural Sells, AZ. There will be four houses, with 12 Assisted Living bedrooms each. Based on the Green House® model, these Small Houses are a good example of working with the local conditions in that the design has been adapted to reflect the cultural expectations of the Tohono O'odham Native American culture. Focus groups were held with residents, family members, staff, and administrators to understand what the project should include. The design reflects their requests, including connections to nature (i.e. views, outdoor seating areas, patios, outdoor cooking areas, etc.) and layers of privacy, since residents have lived most of their lives outside and within homes widely dispersed across the reservation.

3D rendering courtesy of: Thomas McQuillen

Connection to Nature

Multiple questions generated responses from the award-winning projects that described how these submissions connect to nature, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; greatest challenges; ways the project addresses a holistic sense of wellness; unique opportunities or features that the project took advantage of; unique features or innovations to support aging building occupants; and unique features/services/amenities to attract the targeted market.

Ninety seven percent of the award-winning submissions described specific ways in which their project connects to nature, including:

- Optimizing views;
- Accessible outdoor spaces/"rooms;"
- Indoor-outdoor connections; and
- Maximizing daylight (while controlling glare).

NewBridge on the Charles
Photograph courtesy of: Chris Cooper

Case Study: Montgomery Place

An example of an urban project that maximizes its connection to nature, the addition and renovation of Montgomery Place consisted of 52,578 GSF and included 12 Assisted Living, 22 Skilled Nursing, and 6 Dementia/ Memory Support residences, updating its image, and more extensive commons. Located in Chicago, IL, one of the major project goals was to create a strong indoor-outdoor connection. Views to adjacent Lake Michigan, profuse daylight, rooftop gardens, a conservatory, and a greenhouse help connect the residents to nature.

Photographs courtesy of: Barry Rustin Photography

Case Study: The Ridge and Boulders of Riverwoods at Exeter

Located in rural Exeter, NH, The Ridge and Boulders of RiverWoods at Exeter consist of 516,178 GSF of planned new construction for 192 Independent Living, 51 Assisted Living, 31 Skilled Nursing, and eight Dementia/Memory Support residences, plus commons. This project will connect residents to the outdoors by providing views to and walking trails throughout the wooded site and surrounding wetlands. Residents will also be able to access a nearby municipal dam and waterfalls.

Rendering courtesy of: JSA, Inc.

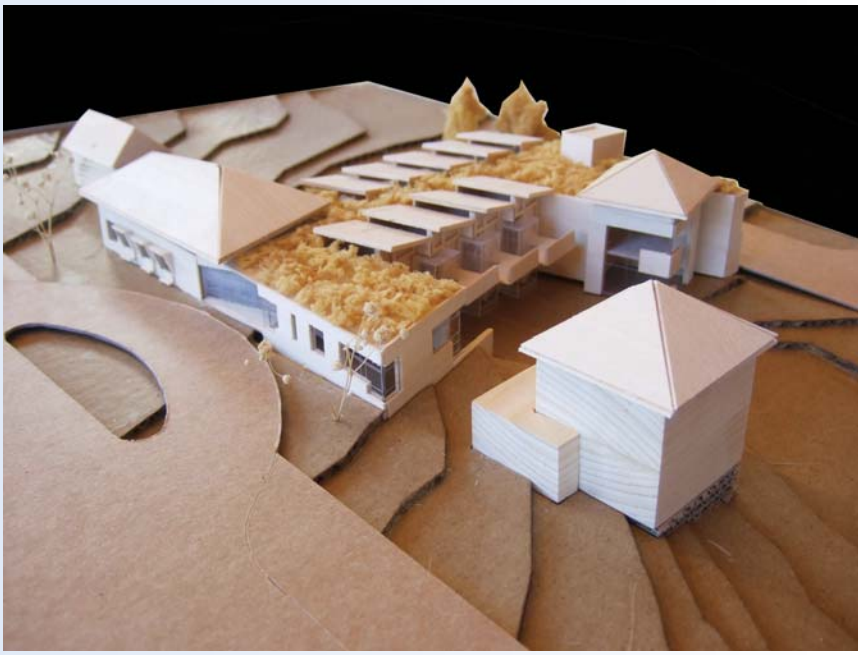
Case Study: Sharon S. Richardson Community Hospice

Located in rural Sheboygan Falls, WI, this hospice with 18 Skilled Nursing resident rooms included 29,878 GSF of new construction. The project exemplifies how to provide access to nature—even for frail residents, through its angled resident rooms that provide daylight, extensive views, and private, sheltered patios; healing garden courtyards; and extensive walking trails.

Photographs courtesy of: Mike Rebholz and Daniel Kabara

Case Study: Residential Hospice for York Region

Planned to be located in suburban Newmarket, Ontario, Canada, this hospice will consist of 10 single-occupancy rooms. The project strives to connect residents to nature, even if they are bed-bound. In addition to good views and plentiful daylight, each resident room will have a private balcony with planters, onto which beds can be wheeled out to. Residents can also be taken to ground floor landscaped areas. The project will also take advantage of the sloped site by separating back-of-house functions and orienting rooms so that they have the best views and can follow the sun.



Photograph courtesy of: Colm Murphy, Dragos Gorun

Green/Sustainable Design

Including four Phase One submission form questions that specifically asked about projects' green/sustainable certification and features, several other questions generated responses from the award-winning projects that also described how these submissions address ecological sensitivity, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; greatest challenges; ways the project responds to the site and to local conditions; ways the project addresses a holistic sense of wellness; unique opportunities or features that the project took advantage of; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Fifty percent of the award-winning submissions specifically described the green/sustainable design features incorporated in their project, including:

- Energy efficiency;
- Conscientious choices of materials;
- Water efficiency;
- Reduced solar gain or the heat island effect;
- Improved indoor air quality;
- Site design/location choices;
- Maximized daylighting through profuse glazing (including skylights) and/or building orientation; and
- Construction waste was recycled and/or diverted from landfills.

Case Study: THF/CCS Casitas on East Broadway Senior Housing

Located in urban Tucson, AZ, this HUD 202 project includes 56 Independent Living apartments plus commons; and—at the request of the neighborhood—is going for LEED certification. Tight budget constraints required the design team to select sustainable design features that would "get the most bang for the buck." Green features include: a dense site; use of an existing infill site, near existing infrastructure and existing community resources; native plants; extensive daylighting; windows made from recycled materials; low water-use plumbing fixtures; highly efficient mechanical units; compact distribution for ductwork and piping; high insulation values; and a site that has been designed to minimize runoff and provide shaded outdoor courtyards. In addition to creating a high-performance building, these features also make it a healthier building for the occupants.

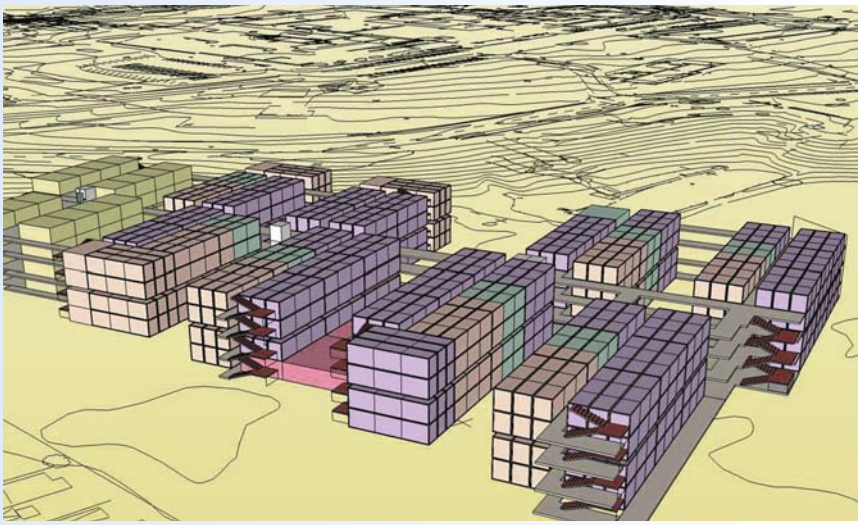
3D rendering courtesy of: Thomas McQuillen

Case Study: Villa at San Luis Rey

The Villa at San Luis Rey will be a CCRC located in urban Oceanside, CA; and is planned to include 242 apartments which are all to be licensed as Assisted Living so that residents can receive in-home care services as the age-in-place. There is also a five unit Dementia/Memory Support suite with common spaces. Because the project is connected to a Franciscan Mission, green/sustainable design is an important aspect of the project since the Friars consider themselves "stewards of the Earth."

The project aims to be one of the most ecologically sensitive senior living developments in the country; and will use a structural skeleton made up of over 500 recycled steel shipping containers. The designer explained that "using new Green Building and innovative prefabrication technology to improve the construction schedule and reduce the cost of the overall project, allows the construction period to be reduced by as much as 30% and significantly reduces general conditions cost[12]."

Renderings courtesy of: Kevin Koernig



Aging-In-Place

Including a Phase One submission form question that specifically asked about project features that support aging building occupants, several other questions generated responses from the award-winning projects that also described how these submissions help residents age-in-place, including: ways the project addresses a holistic sense of wellness; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Twenty-one percent of the award-winning submissions described specific aging-in-place features incorporated in their project, including:

- Universal/accessible design features, especially in bathrooms and kitchens;
- Ease of mobility and accessibility to encourage independence, including easy access to outdoor spaces and commons from different parts of the campus;
- Wayfinding cues;
- Short walking distances;
- Prominently featured stairs to encouraging use of stairs over elevators;
- Inconspicuous lean rails in hallways;
- Ample mobility assistance device storage/parking;
- Reduced vehicular dependence, including:
  - A pedestrian-oriented campus
  - Proximity to public transportation
  - Easy access to neighborhood services/amenities
  - Driver service or available golf carts for use;
- Technology (e.g. resident monitoring, emergency call systems);
- In-home care/services;
- On-site rehab/fitness/wellness programs;
- On-site social and/or clinical services;
- Space/amenities for staff assistance (e.g. ample room for assistance in bathrooms, electronic charting, ceiling-mounted lift systems); and
- Spaces to support/encourage social interactions.

In addition, when asked specifically in the Phase Two submission form about provisions for mobility assistance devices, 26 out of the 34 award-winning projects provided analyzable responses. The three most common provisions included:

- Providing mobility assistance device storage alcoves at common areas—with storage at dining rooms, multipurpose rooms/auditoriums, and salons specifically noted (12 projects, 46%);
- Using universal/accessible design throughout (10 projects, 38%); and
- Including a multipurpose room/auditorium with a flat, as opposed to sloped, floor (6 projects, 23%)—with 2 projects specifically noting having a ramp to the stage.

Additional, but less common, responses included providing: additional space in common areas for easier maneuverability; furniture plans that have adequate clearance and/or flexibility for mobility assistance devices; accessible outdoor spaces; wide hallways (i.e. 8′ to 10′) for easy maneuverability and so two people can easily pass each other; continuous hand/lean rails in all corridors and/or grab bars; level floor transitions; an open plan so there are no barriers/doors to make maneuvering difficult; automatic door openers, including to outdoor common spaces; short travel distances—allowing residents to be more independent/less reliant on mobility assistance devices; and electrical outlets at mobility assistance device storage areas so scooters can recharge.

Also mentioned was the provision of: valet parking of mobility assistance devices at common areas (e.g. at dining, multipurpose rooms/auditoriums); additional area with common spaces or a large pre-function area adjacent to commons to accommodate mobility assistance device parking; lower counter heights in common area kitchens so seated residents can participate more easily; over-sized elevators; elevator access to all floors of the building; an accessible ramp into the pool; mobility assistance devices stored/available for visitor use; tight loop commercial-grade carpeting in the commons; a level floor plan so there is no need for ramps, etc. between floor levels; and ADA accessible bathrooms.

The Phase Two submission form also asked about mobility assistance devices in dining rooms. 15 out of the 34 award-winning projects provided analyzable responses. The most common response was to provide mobility assistance device storage alcoves immediately adjacent to the dining room (9 projects, 60%). Two projects, however, chose not provide a designated storage area, but instead provide additional area within the dining room to accommodate mobility assistance device parking.

Additional, but less common, responses included: specifying furniture that is accessible (e.g. adequate clearance/ at appropriate height and width for access, or are height adjustable)—thereby requiring no transfer; having an open plan so there are no barriers/doors to make maneuvering difficult; intentionally providing additional space in the dining room (e.g. for easy maneuverability); and providing short travel distances—allowing residents to be more independent/less reliant on mobility assistance devices.

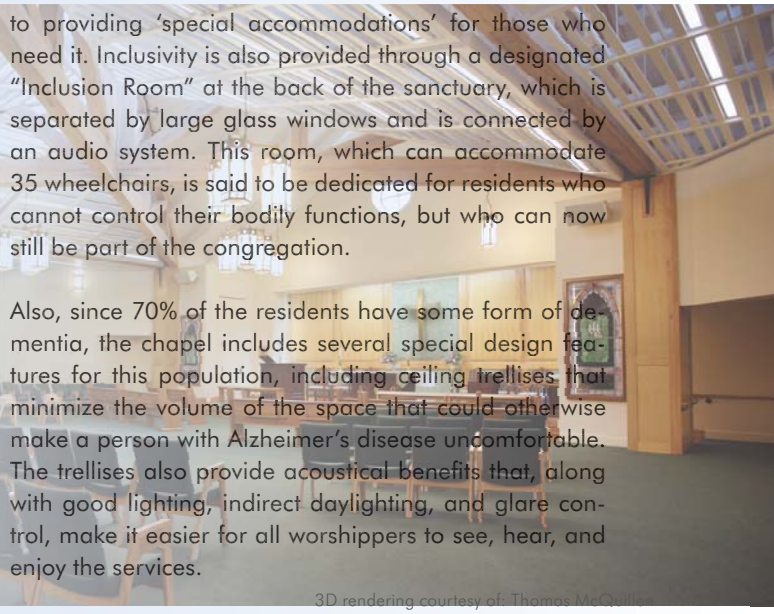
Two specific comments were provided about mobility assistance devices in dining rooms. One facility noted that balancing aesthetics and function is difficult: Easily accessed storage areas are necessary, but mobility assistance device parking can reportedly be an "eyesore" at the entrance to the dining room. Another project said that additional storage—more than you even expect you need—is always a good thing since scooters keep getting bigger and more residents require mobility assistance devices as they age-in-place.

Case Study: Episcopal Home Church St. Luke's Chapel

Connected to an existing senior living facility, this 8,939 GSF new construction and addition project is located in urban Louisville, KY. The Episcopal Home Church St. Luke's Chapel was built to replace an existing undersized chapel; and is a good example of how residents of all cognitive and physical abilities can be included in a community space. In addition to universal design/accessibility features throughout, the chapel includes an open, flexible plan so that residents in wheelchairs have ample room to maneuver and can sit next to their friends/family in standard chairs.

In addition, a portion of the kneeler at the altar rail was removed so that worshippers in wheelchairs could still receive communion by placing their arms on the altar rail. In this way, receiving communion is inclusive, as opposed to providing 'special accommodations' for those who need it. Inclusivity is also provided through a designated "Inclusion Room" at the back of the sanctuary, which is separated by large glass windows and is connected by an audio system. This room, which can accommodate 35 wheelchairs, is said to be dedicated for residents who cannot control their bodily functions, but who can now still be part of the congregation.

Also, since 70% of the residents have some form of dementia, the chapel includes several special design features for this population, including ceiling trellises that minimize the volume of the space that could otherwise make a person with Alzheimer's disease uncomfortable. The trellises also provide acoustical benefits that, along with good lighting, indirect daylighting, and glare control, make it easier for all worshippers to see, hear, and enjoy the services.



3D rendering courtesy of: Thomas McQuillen

Holistic Wellness

Including a Phase One submission form question that specifically asked how projects address the holistic sense of wellness in residents and staff, several other questions generated responses from the award-winning projects that also described how these submissions help achieve whole-person wellness, including: important project goals; top trends influencing today's senior living industry; and top trends influencing the project.

DIMENSIONS OF WELLNESS

Physical
Promotes involvement in physical activities for cardiovascular endurance, muscular strengthening, and flexibility. Advocates healthy lifestyle habits, encourages personal safety, and appropriate use of the healthcare system.

Social
Emphasizes creating/maintaining healthy relationships by talking, sharing interests, and actively participating in social events.

Intellectual
Encourages individuals to expand their knowledge and skill base through a variety of resources and cultural activities.

Emotional
Involves the capacity to manage feelings and behaviors, recognize and express feelings, control stress, problem solve, and manage success and failure.

Spiritual
Includes seeking meaning and purpose, demonstrating values through behaviors, such as meditation, prayer, and contemplation of life/death, as well as appreciating beauty, nature, and life.

Vocational (Occupational)
Emphasizes the process of determining and achieving personal and occupational interests through meaningful activities including lifespan occupations, learning new skills, volunteering, and developing new interests or hobbies.

Some experts now also add the environmental dimension to the list of six.

Environmental
Focuses on protecting and improving their personal environment and the environment at large for health and safety benefits for themselves and the generations that follow.

According to the National Whole Person Wellness Survey (2006, sponsored by Mather LifeWays, architectural firm Dorsky Hodgson Parrish Yue, and Ziegler Capital Markets Group), there are seven dimensions of wellness (p. 5).

Eighteen percent of the award-winning submissions described specific features incorporated in their project to promote holistic wellness, including:

- On-site fitness/rehab spaces and programs, including outdoor fitness opportunities;
- On-site clinical services;
- Spaces that support social interactions, including:
  - Supporting visitors
  - Spaces/programs open to the public
  - Intergenerational interactions
  - Maintaining existing relationships or creating connections to the surrounding neighborhood, whether physical connections—like access to public transit, local services/amenities—or visual connections, e.g. eyes on the street;
- Programs/spaces for continued learning (e.g. libraries, art rooms, classrooms, computer labs);
- Resident participation/engagement (e.g. self-management, gardening, volunteer opportunities, assisting in household chores);
- Spiritual/meditative spaces;
- Views and/or access to nature, including daylight;
- Green/sustainable design elements, including improved indoor air quality;
- Encouraging healthy and regular dining;
- Ease of mobility and accessibility to encourage independence;
- Opportunities for personalization;
- Individual control over ambient conditions, including thermal and lighting controls;
- Options for personal choice; and
- Dignity/privacy, especially in resident rooms and bathing areas.

Case Study: The Point at C.C. Young

Located at an existing suburban CCRC in Dallas, TX, The Point at C. C. Young consists of a 20,000 GSF newly constructed senior community center that embodies holistic wellness. The town center provides daily opportunities for personal growth and creativity through its many spaces that correspond to one of three specific wellness elements—mind, body, and spirit.

To enrich the mind, a library offers extensive resources on healthy aging, classrooms support lifelong learning, and a computer lab plays host to training on next-generation technologies. The body is nourished at a café offering healthy choices and is strengthened at a fitness center that embraces preventative wellness. To engage the spirit, a performance hall presents live entertainment, art studios support the expression of creativity, and a meditation room and sculpture garden provide sanctuaries for reflection.

The Point at C. C. Young also collaborates with nearly 30 outside partners (ranging from health and wellness providers and institutes of higher education to arts and cultural organizations, non-profit senior agencies, and religious groups) to create dynamic programs that attract an intergenerational audience—connecting residents with each other and the local community. Adults and young people in the community are engaged as participants, educators, health providers, and entertainers.

Photographs courtesy of: Chris Cooper

Intergenerational Developments

Several questions generated responses from the award-winning projects that described how these submissions support intergenerational interactions, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; ways the project promotes sense of community; unique opportunities or features that the project took advantage of; and unique features/services/amenities to attract the targeted market.

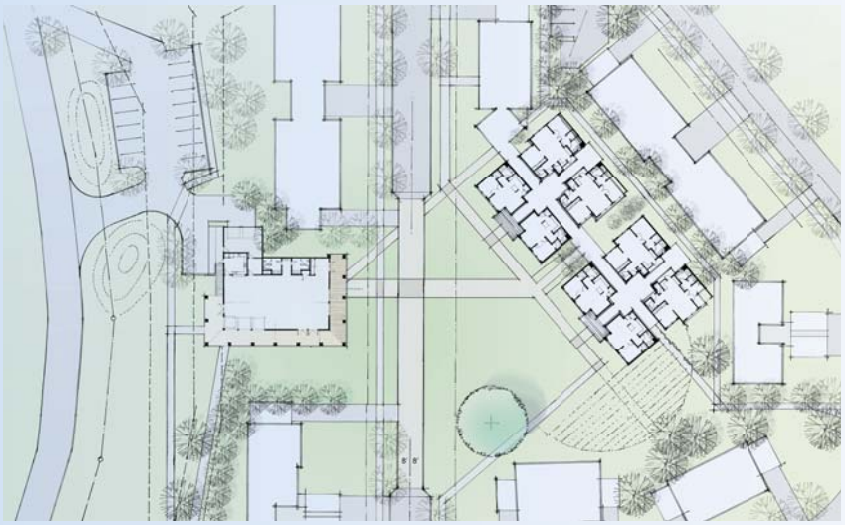
Twenty-one percent of the award-winning submissions described ways in which their project supports intergenerational interactions, including:

- Providing spaces that support/promote intergenerational interactions; and
- Partnering with non-senior living providers to attract an intergenerational audience.

Case Study: Hope House at Hope Meadows

Located in rural Rantoul, IL, Hope House at Hope Meadows is planned to include 18,824 GSF of new construction and renovation. An example of an intergenerational development, the project will provide eight Independent Living residences within an existing senior community that links adoptive families with children coming out of the foster care system.

The new housing will allow older residents to age-in-place as they become frailer; and will connect to the existing Intergenerational Center to help maintain existing relationships between the seniors and the adopted children. "The housing design successfully facilitates relationships, promotes continued engagement, and offers community elders support and control over their environment even at their most frail. At the same time, the design allows varying opportunities for children to remain engaged and active parts of the elders' lives[13]."



Rendering courtesy of: Mithun
Photographs courtesy of: Generations of Hope

Connecting to the Neighborhood

Several questions generated responses from the award-winning projects that described how these submissions connect to the neighborhood, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; greatest challenges; ways the project promotes sense of community; ways the project responds to the site and to local conditions, including the regional culture and vernacular; ways the project addresses a holistic sense of wellness; unique features or innovations to support aging building occupants; unique opportunities or features that the project took advantage of; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

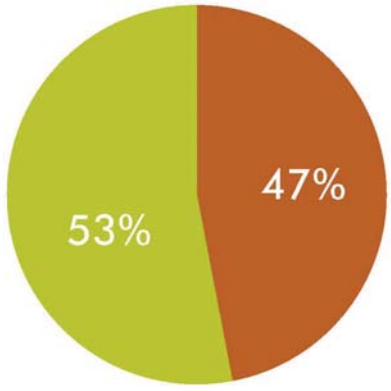
Fifty three percent of the award-winning submissions described specific ways in which their project connects to the neighborhood, including:

- Being a part of a mixed use development;
- Being part of neighborhood revitalization;
- Maintaining existing relationships or creating connections to the surrounding neighborhood, whether physical connections—like access to public transit, local services/amenities—or visual connections (e.g. eyes on the street, balconies, front porches);
- Providing services/amenities available for public use;
- Hosting community programs, such as: a center for arts and education, wellness center, child or adult day care center, restaurants and shops open to the public, etc.;
- Partnering with senior-friendly non-providers, such as: a restaurant, full-service spa, fitness center, shops, entertainment venues, educational institutions, or other services;
- On-site/shared spaces with affiliated agencies;
- Focusing on pedestrians instead of vehicles, including hiding the parking from the street;
- Creating an inviting, welcoming entry/exterior; and
- Providing spaces that encourage/support visitors.

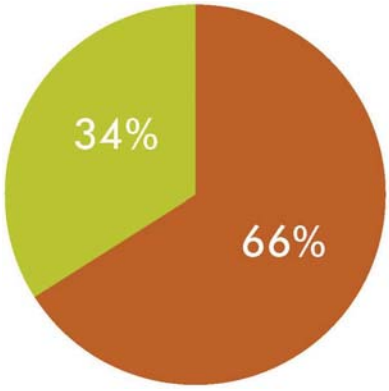
The three most common ways the award-winning projects take advantage of existing infrastructure and amenities found in the surrounding neighborhood is by providing easy access to:

- Adjacent natural amenities, e.g. parks, walking trails/paths, etc. (13 projects, 57%);
- Public transportation (7 projects, 30%); and
- Neighborhood retail shopping/dining (6 projects, 26%)—with one project even going so far as to provide a tunnel under a busy street so people can more safely and easily go between the facility and the adjacent shopping and medical offices.

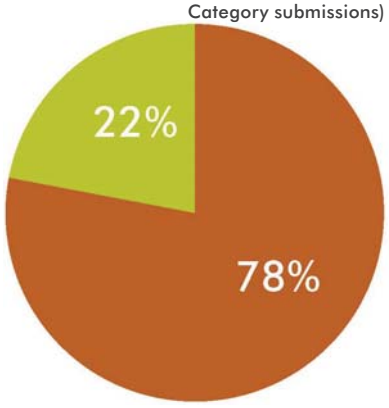
Award-Winning Submissions Located Within 1000' of Everyday Shopping and/or Medical Areas
(32 out of 34 submissions)



Award-Winning Submissions Located Within 1000' of a Bus Line or Rapid Transit Line
(32 out of 34 submissions)



Award-Winning Submissions that Offer Transport to Nearby Shopping, Medical, or Cultural Areas
(18 out of 22 Building and Affordable Category submissions)



The projects also: use existing infrastructure (e.g. roads, sidewalks, utilities, and/or city services); provide easy connections to area roads/highways; and are near a neighborhood service/amenity, such as a civic center, theater, museum, public library, religious/spiritual center, medical center, etc.

The Phase Two submission form also asked how the award-winning projects integrate with the community (e.g. sharing spaces and/or hosting public events). 23 out of the 34 award-winning projects provided analyzable responses. The two most common responses included: hosting community events, such as meetings, entertainments, classes, weddings, baptisms (16 projects, 70%); and allowing the public to attend on-site events and/or to visit commons, including multi-purpose rooms/auditoriums, conference/meeting rooms, meditation rooms, outdoor spaces, chapels, dining rooms, fitness/wellness/clinic spaces, libraries, etc. (12 projects, 52%).

Additional responses included: providing a visual connection to the surrounding community; offering parking for the public (e.g. public parking lots or parking garage leases); having an on-site counseling center, adult daycare center, and/or childcare center; and including front porches at the residences to promote social interactions with the community.

When asked what partnerships have been developed with senior-friendly non-providers, 18 out of the 34 award winners provided analyzable responses. The Phase Two submission forms indicated that the three most common partnerships provided:

- Music/theater/art programs (7 projects, 39%);
- Medical/rehab services (6 projects, 33%); and
- Continuing education/lifelong learning classes (4 projects, 22%).

Additional partnerships were formed to provide: volunteers; fitness programs; retail; dining; spa/salon services; massage therapy; pet therapy; and grounds keeping through a local gardening club.

Case Study: Rosland Senior Campus

Located in urban Chicago, IL, Rosland Senior Campus is planned to include 79,174 GSF of new construction, with 60 Independent Living residences, 10 grand-family apartments, and a 7,000 GSF senior center (in addition to the 124 existing Assisted Living residences). The project will engage the street while hiding the parking in the rear; and will partner with the City of Chicago, which plans to operate a senior center that includes a large multi-purpose room, a library and craft space, computer lab, fitness and aerobics room, and warming kitchen.

Rendering courtesy of: Thorsten Bösch

Case Study: DeVries Place Senior Apartments

Part of a larger planning effort by the city to revitalize the downtown area, the 113,250 GSF of new construction and renovation is located in urban Milpitas, CA. Consisting of 103 Independent Living apartments, DeVries Place Senior Apartments is a good example of how a development can connect to the greater neighborhood.

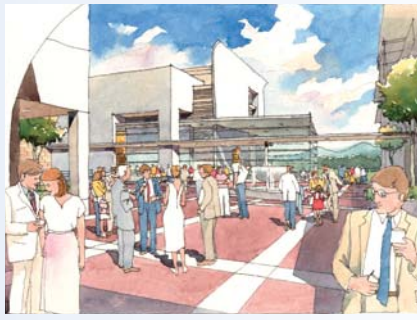
Residents can walk to existing and developing community services/amenities, including a library and county medical center; and it is part of a transit corridor. The pedestrian-focus is further enhanced by the way the parking is hidden from view. "By working as a part of a larger redevelopment effort, designing affordable housing on a transit corridor, being a good neighbor in site planning and building massing, strengthening pedestrian connections, and restoring a local landmark building, this project places a priority on connecting the seniors to the larger community[14]."

Photograph courtesy of: Misha Bruk

Case Study: Taube Koret Campus for Jewish Life

The Taube Koret Campus for Jewish Life is planned to be located in Palo Alto, CA; and will consist of 735,000 GSF. Part of a large mixed-use, "urban village" development, the CCRC will include 170 Independent Living, 12 Assisted Living, and 11 Dementia/Memory Support residences integrated into an intergenerational campus that partners with the Jewish Community Center and other senior-friendly non-providers.

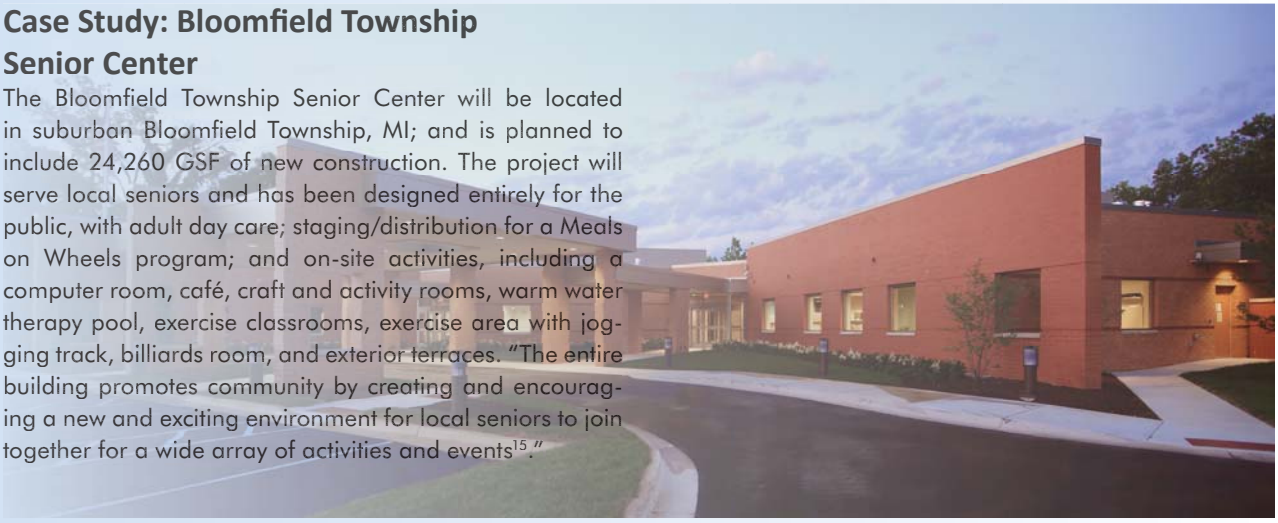
The project is planned to include educational, fitness, health/wellness, and cultural services and amenities. "By sharing resources, both the Jewish Home and the JCC have been able to offer a much broader range of resources than either could have provided on their own[16]." Residents will also easily be able to walk to nearby amenities and interact with other neighborhood residents, young and old.

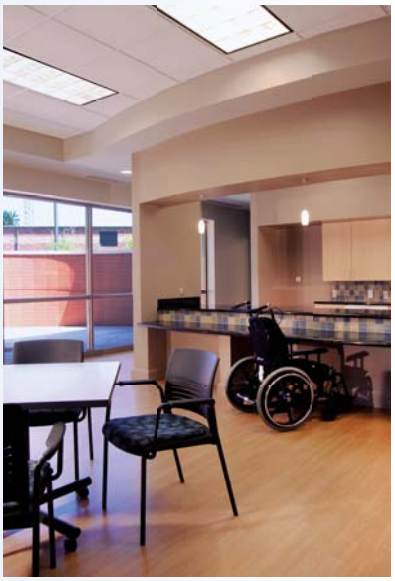


Renderings courtesy of: Steinberg Architects

Case Study: Bloomfield Township Senior Center

The Bloomfield Township Senior Center will be located in suburban Bloomfield Township, MI; and is planned to include 24,260 GSF of new construction. The project will serve local seniors and has been designed entirely for the public, with adult day care; staging/distribution for a Meals on Wheels program; and on-site activities, including a computer room, café, craft and activity rooms, warm water therapy pool, exercise classrooms, exercise area with jogging track, billiards room, and exterior terraces. "The entire building promotes community by creating and encouraging a new and exciting environment for local seniors to join together for a wide array of activities and events[15]."





Photographs courtesy of: Mia Photography

Promoting Resident Sense of Community

Including a Phase One submission form question that specifically asked how the submitted projects promote sense of community, several other questions generated responses from the award-winning projects that also described how these submissions encourage social interactions, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; greatest challenges; ways the project addresses a holistic sense of wellness; unique opportunities or features that the project took advantage of; unique features or innovations to support aging building occupants; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Twenty six percent of the award-winning submissions described specific ways in which their project fosters sense of community, including:

- Providing common spaces that promote socialization, such as:
  - Informal/spontaneous social interaction spaces (e.g. lobby, mail area, laundry room, spa/salon, library, computer room, fitness center, outdoor trails, etc.)
  - Formal/planned social interaction spaces (e.g. dining room, activity room, theater, game room, chapel, etc.)
  - Spaces that encourage/support visitors
  - A communal dining option to support socialization
  - Core of commons to draw people together
  - Common spaces/programs that bring people from different parts of the campus together so they have opportunities to interact;
- Providing a circulation system that promotes socialization, including:
  - Ease of access to commons to encourage use
  - Intentional/overlapping pathways to encourage spontaneous social interactions
  - Creating connections to existing (and/or future) buildings;
- Building massing/scale/organization to breakdown the resident population into smaller residential clusters so it's easier to get to know one's neighbors (e.g. households, neighborhoods, shared courtyards, minimal number of residents on a wing);
- Open plans to create visual connections that promote usage;
- Use of daylight to "draw" people into a space;
- Classes/activities to connect people of varying cultures (e.g. English as a second language classes); and
- Technology to connect people on campus (e.g. CCTV to broadcast events that some people may not otherwise be able to attend).

When asked in the Phase Two submission form about the award-winning projects' largest common room—not including dining venues—two main types of spaces were described. The first, large community rooms (e.g. auditoriums/multi-purpose rooms), occurred primarily in CCRCs and Independent Living projects. They ranged in size from 5 to 24 NSF per person, with an average of 13 NSF/person. The rooms' capacity ranged from 50 to 442 people, with an average of 194 people. All but one of the rooms are rectangular. The non-rectilinear room is L-shaped, reportedly to provide options when subdividing the space with wall partitions.

DeVries Place Senior Apartments
Photographs courtesy of: Misha Bruk

The second type of common room described was living rooms. Found in smaller facilities, such as Assisted Living, Skilled Nursing, and Hospice projects, the living rooms ranged in size from 17 to 50 NSF per person, with an average of 29 NSF/person. The rooms' capacity ranged from 12 to 28 people, with an average of 19 people. All of the rooms are rectangular.

When asked what functions the common rooms were designed to serve, 28 out of the 34 award winners provided analyzable responses. The Phase Two submission forms indicated that the three most common room functions include being the primary location for:

- Gathering/social interactions (16 projects, 57%);
- Entertainment/events (15 projects, 54%); and
- Small group meetings/activities (11 projects, 39%).

Three Links Care Center Lodging Facility
Photograph courtesy of: Stuart Lorenz Photographic Design Studio

Additional common room functions were described, including being a location for: fitness/wellness activities, including dancing; dining/banquet events; classes/lectures; holiday/special event parties—either community-wide or small, private gatherings; relaxation/quiet reflection; religious services; and/or waiting for a ride or to greet visitors. Several projects also noted that their large common space is also used to host meetings and events for the greater neighborhood/region.

The award-winning submissions also described several features incorporated by their large common rooms. Quite a few projects described the importance of including daylight, views to nature, and/or indoor-outdoor connections (e.g. retractable glass walls and/or adjacent outdoor spaces to spill out onto). Wall partitions to subdivide large spaces into smaller rooms, state-of-the-art audio/visual systems (that make special accommodations for those with hearing impairments), and providing a raised stage (with access ramp) were also popular in several large multi-purpose rooms/auditoriums. Adjacent kitchens for catered events and/or food-related activities were also common; as were fireplaces in the smaller living rooms.

There were several unique features/innovations incorporated by the award-winning projects into the common rooms, including:

- Sun City Palace Tsukaguchi (located in Itami, Kansai Prefecture, Japan) and The Point at C. C. Young (located in Dallas, TX) include black-out curtains for easier visibility during movies, etc.
- Villa at San Luis Rey (located in Oceanside, CA) has internet access and a television to connect to collegiate educational programs.
- Sun City Palace Tsukaguchi also includes fabric sliding panels that reveal a mirrored wall for when the space is used for ballroom dancing.
- Taube Koret Campus for Jewish Life (located in Palo Alto, CA) plans to include an A/V system that can record community events, which will be saved in a digital library and can then be viewed on-demand in the residences and fitness center.
- The Point at C. C. Young also includes a performance hall that is set up "in the round" so that every seat has a prime view.

Case Study: Hybrid Homes

Part of an existing CCRC in rural Lititz, PA, the Hybrid Homes are planned to have 138,612 GSF of new construction for 75 Independent Living apartments. Each building will accommodate up to 13 residences; and paired buildings will share an outdoor patio area and community room, which help bring residents together. In addition, each residential floor includes a living room to foster a sense of community.

Renderings courtesy of: RLPS Architects

Case Study: La Paloma – East Lubbock Regional MHMR

A planned senior center in urban Lubbock, TX, La Paloma – East Lubbock Regional MHMR will consist of 26,701 GSF of new construction. A provider of PACE senior services, the project will include a main activity area; PT/OT/wellness; outdoor areas; clinic/medical area; staff and administration area; and basic support spaces for food preparation, mechanical, staff lounge, laundry, storage, etc.

The building will be laid out in quadrants, with a central hub that acts as a "gathering space for purposeful interaction, informal meeting, [and] interplay between departments and services… that allows all functions to interact causing social integration of staff and in some cases, the participant. It becomes an informal gathering place and helps pull people through the space[17]."

3D renderings courtesy of: Edward E. McCormick, AIA

Neighborhood/Household Model and Person-Centered Care

Several questions generated responses from the award-winning projects that described how these submissions incorporate the household model and/or person-centered care, including: why the project was undertaken; what makes the project worthy of an award; important project goals; greatest challenges; unique features or innovations to support aging building occupants; unique opportunities or features that the project took advantage of; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Thirty five percent of the award-winning submissions described ways in which their project incorporates the household model/person-centered care. Of these projects, 30% have an Assisted Living component; 60% are Skilled Nursing projects; 30% have Dementia/Memory Support; and all of the Hospice projects incorporate person-centered care/culture change.

It is worth noting that some projects were said to have faced challenges, such as: educating the client, contractor, and/or surrounding neighbors about this newer model of care; and dealing with local/county/state agency approvals and/or codes/regulations that were not used to accommodating this new residential building type.

When asked in the Phase Two submission form about the award-winning projects' Dementia/Memory Support components, the relevant projects included, on average, 12 resident rooms per wing/unit or household (with a range of 6 to 28 residences); and an average of two wings/units or households per project (with a range of 1 to 5 wings/units or households).

The commons area in Dementia/Memory Support projects averaged 3,372 NSF[18], with 92 NSF of commons per Dementia/Memory Support bed[19]. Specifically, living rooms ranged from 194 to 625 NSF, with an average of 344 NSF. Dining rooms ranged from 310 to 650 NSF, with an average of 451 NSF. Country kitchens ranged from 90 to 304 NSF, with an average of 157 NSF. Activity rooms ranged from 103 to 795 NSF, with an average of 353 NSF. Meeting/private dining/quiet rooms ranged from 74 to 250 NSF, with an average of 143 NSF. Bathing/spa rooms ranged from 102 to 375 NSF, with an average of 198 NSF.

The award-winning submissions also described several features found in their Dementia/Memory Support components: Daylight, views to nature, and access to outdoor spaces were popular features. Courtyards were described as being secure, with walls and landscaping acting as shields, and including walking paths; seating areas; non-toxic and seasonally distinctive plantings; and raised bed gardening areas. One project, Montgomery Place (located in Chicago, IL), also used a perforated metal grid on their pergolas to minimize disorienting ladder-like shadows.

Other common features included open floor plans/no corridors for improved staff visibility; memory boxes at residence doors for orientation and memory support; and providing home-like, residential interiors—including residential-style kitchens where residents can see and smell food being prepared. One project, La Paloma – East Lubbock Regional MHMR (located in Lubbock, TX), even went so far as to create a décor reminiscent of the 1950s/60s to feel familiar to the residents.

Two projects also noted using technology to support staff: NewBridge on the Charles (located in Dedham, MA) has a state-of-the-art electronic medical records system that can be accessed by staff from any location; and the Sharon S. Richardson Community Hospice (located in Sheboygan Falls, WI) incorporated a WanderGuard® system.

Several other unique features/innovations were incorporated by the award-winning projects into their Dementia/Memory Support components, including:

- The Villa at San Luis Rey (located in Oceanside, CA) is "based on the Troxel & Bell Model™ to provide the maximum flexibility of care planning within a secured unit[12]."
- NewBridge on the Charles (located in Dedham, MA) has designed its households to easily switch between accommodating long-term care, Dementia/Memory Support, or short-term rehab occupants—depending on what the market demands.
- The Three Links Care Center Lodging Facility (located in Northfield, MN) includes in-floor heating so residents who wander barefoot can still be comfortable.[20]
- Bloomfield Township Senior Center (located in Bloomfield Township, MI) includes a Snoezelen room in its adult daycare center "to stimulate visual, auditory, and olfactory sensations[15]."

Case Study: Penick Village Garden Cottage

Penick Village Garden Cottage will be located in suburban Southern Pines, NC; and is planned to include 6,997 GSF of new construction. A Small House for 10 Assisted Living residents, this project is the first of six cottages—the next five planned as Skilled Nursing. The household model was chosen for this project because the provider wanted to de-institutionalize care and provide a *home* for residents—not just a "home-like" environment.

When completed, the Penick Village Garden Cottage will be the first licensed single-family Assisted Living home in North Carolina. Because of this, the project team worked closely, from very early on, with the Chief of North Carolina's Department of Health Services Regulation. This collaboration enabled the project to move forward, as the regulations and licensure requirements were re-thought to allow for this Small House development. In fact, "NC's Department of Health Services Regulation (DHSR) has agreed to use this cottage as a 'test case' to establish design criteria for future cottages to be licensed for skilled care[22]."

Renderings courtesy of: Alan L. Moore for CJMW

Case Study: Boutwells Landing Care Center

Boutwells Landing Care Center is a 240,000 GSF addition and new construction project located in suburban Oak Park Heights, MN; and is the final component to an 80-acre CCRC. Consisting of 105 Skilled Nursing beds, the facility is organized into neighborhoods of 12-14 residents, which "adds to the closer relationship of residents and staff to further residents' sense of physical and mental health[21]." The care center has access to an outdoor patio and is connected to existing Independent Living and Assisted Living wings.

Photograph courtesy of: InSite Architects, Inc.

Family/Visitor and Staff Support Spaces and Features

Several questions generated responses from the award-winning projects that described how these submissions support families/visitors and staff, including: important project goals; ways the project promotes sense of community; ways the project addresses a holistic sense of wellness; unique features or innovations to support aging building occupants; unique opportunities or features that the project took advantage of; and unique features/services/amenities to attract the targeted market.

Twelve percent of the award-winning submissions described specific ways in which their project supports families/visitors, including:

- Private, quiet places to spend time with residents (including outdoor spaces);
- Guest suites or in-room accommodations for overnight stays (e.g. a pull-out couch); and
- Playrooms/playground areas for visiting children.

Twenty four percent of the award-winning submissions described specific ways in which their project supports staff, including:

- Technology (e.g. wireless/electronic call systems, egress control/resident monitoring, medical records/charting, ceiling track/lift system);
- Well-appointed break rooms, training rooms, etc.;
- Ample room for staff assistance in residence bathrooms; and
- Short walking distances/efficient layouts in nursing settings.

Case Study: Three Links Care Center Lodging Facility

The Three Links Care Center Lodging Facility is located in urban Northfield, MN; and includes 23,229 GSF of new construction. Part of a CCRC, this project has 14 Dementia/Memory Support beds and eight Hospice beds. The two wings are linked by a glass conservatory, which provides a place for residents, staff, and visitors/family to gather, seek comfort, and connect with nature—even during harsh winter months.

In addition to the conservatory, the design supports staff with household spaces and clear visibility into resident rooms and throughout the common areas. Families are supported by in-room accommodations for overnight stays; a family room for gathering, particularly during end-of-life situations; a guest bathroom with shower; and children's spaces, including a playroom and outdoor playground.

Photographs courtesy of: Stuart Lorenz Photographic Design Studio

Home-Like Environments

Several questions generated responses from the award-winning projects that described how these submissions are residential/home-like/non-institutional, including: why the project was undertaken; what makes the project worthy of an award; important project goals; significant form-givers; unique opportunities or features that the project took advantage of; and unique features/services/amenities to attract the targeted market.

Twenty nine percent of the award-winning submissions—particularly Assisted Living, Skilled Nursing, Dementia/Memory Support, and Hospice projects—described specific ways in which their project is residential/home-like/non-institutional, including:

- Incorporating residential design elements;
- Modulating long corridors to make them less intimidating and less institutional;
- Separating/hiding back-of-house functions, including circulation;
- On-unit dining/residential kitchens;
- Creation of neighborhoods/households;
- Access to/views of nature and daylighting;
- Landscaping and/or creative building forms to hide unsightly equipment;
- A welcoming entry; and
- Conscious placement of parking to hide it from view.

Case Study: Mennonite Home Skilled Care Reinvention

Consisting of 8,463 GSF of new construction and 222,899 GSF of renovation, the Mennonite Home Skilled Care Reinvention project transformed 161 beds of traditional Skilled Nursing and Dementia/Memory Support into residential households of 18-22 residents each. Located in suburban Lancaster, PA, the project reconfigured and refinished the facility to create "a comfortable, homelike environment with more privacy as well as social spaces for family visits and interaction among residents[23]."

A residential-style kitchen and tucked-away staff support (e.g. the nurses' station, med cabinets, and service areas) allow the residents to become the central focus of each household. The exterior of the building was also refinished to look less institutional—further broadcasting the internal transformation to the neighborhood.

Photographs courtesy of: Larry Lefever Photography

Case Study: Hospice of Lancaster County

Located in rural Mount Joy, PA, the Hospice of Lancaster County includes 52,692 GSF of new construction for 24 Hospice beds and a grief support center. The design is intended to provide palliative care in a non-institutional setting. All medical instruments and functions are kept out of sight and home-like features, from residential finishes and furnishings to the ability to personalize one's room, are provided so that residents and their families can be comfortable and can take center stage.

Photographs courtesy of: Larry Lefever Photography

Hospitality/Resort Feel

Several questions generated responses from the award-winning projects that described how these submissions provide a hospitality/resort feel, including: what makes the project worthy of an award; important project goals; unique features/services/amenities to attract the targeted market; top trends influencing today's senior living industry; and top trends influencing the project.

Eighteen percent of the award-winning submissions—all CCRCs, or part of CCRCs—said that their project has a hospitality/resort feel, with high-end interior and exterior materials, details, finishes, and furnishings; extensive common spaces/amenities, including outdoor areas; and resort-like services/programs.

DFAR9 vs. DFAR10 Comparison: High-End Hospitality Projects

CHARACTERISTIC	DFAR9 AWARD RECIPIENTS	DFAR10 AWARD RECIPIENTS
High-end hospitality	16%	18%
Home-like/non-institutional	N/A	29%

Compared to DFAR9, the award-winning DFAR10 projects include slightly more high-end hospitality projects. However, 11% more DFAR10 award winners emphasized a residential atmosphere.

Case Study: Sun City Palace Tsukaguchi

Sun City Palace Tsukaguchi is a high-density, high-rise CCRC located in suburban Itami, Kansai Prefecture, Japan. Consisting of 650,000 GSF of new construction for 600 Independent Living residences (with services), 160 Skilled Nursing beds, and 40 Dementia/Memory Support beds, this project targets an upper income market and is an example of a hospitality project. The project has extensive commons (15% of the gross building area), integrated interior and exterior spaces, and high-end interiors—similar to that of a five-star hotel.

Photographs courtesy of: Tom Fox/ SWA Group and Steve Hall/Hedrick Blessing

Offering Daily Choice Through Extensive Amenities, Including Multiple Dining Options

Several questions generated responses from the award-winning projects that described how these submissions provide extensive amenities/common spaces, including: why the project was undertaken; ways the project promotes sense of community; unique features/services/amenities to attract the targeted market; and top trends influencing the project.

Left to right from top: Westminster Village Town Center (Chris Cooper); NewBridge on the Charles (Chris Cooper); DeVries Place Senior Apartments (Misha Bruk); NewBridge on the Charles (Perkins Eastman); The Sterling of Pasadena (Mike Kowalski); NewBridge on the Charles (Chris Cooper); The Legacy at Willow Bend (Charles Davis Smith)

Case Study: Lenbrook

The 483,020 GSF addition and renovation to the Lenbrook CCRC, located in urban Atlanta, GA, consists of 163 Independent Living, 16 Assisted Living, and 60 Skilled Nursing residences in a high-rise building. The project provides a resort-like feel, concierge services, and many amenities, including a 38,000 SF landscaped plaza and outdoor "rooms," three upscale dining venues, a 5,000 SF multi-purpose room, a state-of-the-art video theater, 10,700 SF fully equipped Wellness Center and Spa, a glass-enclosed natatorium, billiards room, postal center, convenience store, full service bank, and resident business center.

Photographs courtesy of: Michael Chase Eayton, Aerial Photography Inc. and Kim Sargent

Twenty-one percent of the award-winning submissions said that their project includes multiple dining venues—all of which are CCRCs, or part of a CCRC; and many of which also reported providing a hospitality approach.

When asked in the Phase Two submission form about the award-winning projects' dining venues, several types of rooms were discussed. Formal dining rooms found in CCRCs, Senior Community Centers, and Independent Living projects ranged in size from 15 to 29 NSF per seat, with an average of 24 NSF/seat. The capacity ranged from 55 to 225 seats, with an average of 115 seats.

Formal dining rooms found in Assisted Living, Skilled Nursing, and Dementia/Memory Support projects ranged in size from 16 to 34 NSF per seat, with an average of 27 NSF/seat. The capacity ranged from 12 to 50 seats, with an average of 36 seats.

Casual/grab-and-go dining rooms ranged in size from 18 to 46 NSF per seat, with an average of 31 NSF/seat. The capacity ranged from 8 to 110 seats, with an average of 40 seats.

Outdoor dining areas ranged in size from 33 to 70 NSF per seat, with an average of 54 NSF/seat. The capacity ranged from 12 to 20 seats, with an average of 17 seats.

Private dining rooms ranged in size from 23 to 50 NSF per seat, with an average of 35 NSF/seat. The capacity ranged from 6 to 22 seats, with an average of 10 seats.

Household dining rooms in Assisted Living projects ranged in size from 19 to 26 NSF per seat, with an average of 24 NSF/seat. The capacity ranged from 12 to 37 seats, with an average of 28 seats.

Skilled Nursing and Dementia/Memory Support projects' household dining rooms ranged in size from 20 to 45 NSF per seat, with an average of 30 NSF/seat. The capacity ranged from 12 to 32 seats, with an average of 21 seats.

The award-winning submissions also described several features found in their dining rooms. A number talked about neighborhood/household kitchen and dining areas; and several aimed to create a non-institutional feel. Demonstration/display kitchens were included at some facilities, plus one project had a display bakery and another incorporated a pizza oven. Daylight, views to nature, and adjacent outdoor spaces for outdoor dining were also popular features. And one project specifically noted that their dining room is open to the greater community.

When asked in the Phase Two submission form about the award-winning projects' kitchens, two main types of spaces were described: main kitchens and warming/pantry/satellite kitchens. Even though the style of food production, storage, etc. tend to differ between these two spaces, they shared similar space requirements. Both ranged in size from 1 to 21 NSF per meal served per day, with an average of 8 NSF/meal served per day. For those projects that include kitchens that are accessible to residents, visitors, etc., all were country kitchens or kitchenettes located in either household common areas or part of activity rooms.

Porter Hills Green House® Homes
Photograph courtesy of: Jason Reiffer

Dining Room Space Recommendations

According to the "Senior Living Dining Rooms Design Guidelines and Post-Occupancy Evaluation Feedback" study[24], designers should plan for an area per person that is appropriate for the population group (i.e. their need for space to maneuver). The needs of each population should be considered and may change over time—particularly if the dining room is to support aging-in-place.

General recommended areas per person for senior living dining rooms include:

- **Independent Living = 25 square feet per person** (assumes no aging-in-place—the area per person should be higher if residents use mobility assistance devices)
- **Assisted Living = 30 square feet per person** (assumes one-quarter of the resident population is in a wheelchair—the area per person should be higher if a greater proportion of residents use mobility assistance devices)
- **Skilled Nursing = 40 square feet per person** (assumes one-half of the resident population is in a wheelchair—the area per person should be higher if a greater proportion of residents use mobility assistance devices)

Please note that these areas are independent of table sizes. However, if (e.g.) more two-person tables are to be included than four or six-person tables, there will likely be more aisle space required; and therefore more overall space needed for the dining room.

Furthermore, the size of a dining room should not be determined by simply applying one of the generic areas per person listed to the left. A designer also needs to consider the experience of eating within that space—from how to accommodate the client's program (e.g. wanting half the space for formal dining versus the other half for casual dining) to when a dining room starts to feel "too big" (too many people, too much noise, too many distractions).

Several unique features/innovations were incorporated by the award-winning projects into their dining rooms or kitchens, including:

- The Porter Hills Green House® Homes (located in Grand Rapids, MI) provide a low kitchen counter height in their residential-style kitchens so that residents can participate in meal preparation while sitting.
- The Legacy at Willow Bend (located in Plano, TX) offers a consistent level of quality—both in terms of aesthetics and food—in dining rooms at all levels of care to make transitions easier.
- Boutwells Landing Care Center (located in Oak Park Heights, MN) has a kitchen that can provide cook-to-order options, maximizing resident choice.
- Because of its residential-style Green House® kitchen, Tohono O'odham (located in Sells, AZ) allows the timing of breakfast to be at the residents' discretion.
- NewBridge on the Charles (located in Dedham, MA) and Villa at San Luis Rey (located in Oceanside, CA) offer a "point of sale" (POS) or "declining balance" payment plan, which enables casual and grab-and-go dining options to be as popular as formal dining. It is also convenient for visitors and when people from the surrounding community dine on-site.
- NewBridge on the Charles also aims to provide dining experiences equivalent to the cafés and restaurants found in the surrounding neighborhood.
- Bloomfield Township Senior Center (located in Bloomfield Township, MI) uses their adult daycare services' kitchen for occupational therapy.
- The Three Links Care Center Lodging Facility (located in Northfield, MN) includes a staff workstation within their country kitchens so that there is a greater staff presence amongst residents even while staff is performing their duties.

Repositioning to Appeal to the Market

Several questions generated responses from the award-winning projects that described how these submissions were repositioned to appeal to the market, including: why the project was undertaken; what was the purpose of the renovation/modernization; important project goals; greatest challenges; and ways the project responds to the site and to local conditions.

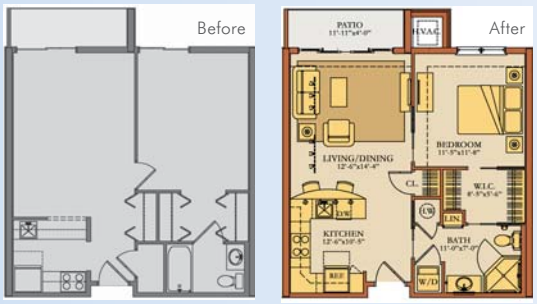
Fifteen percent of the award-winning submissions described specific ways in which their project was repositioned to appeal to the market, including:

- Introducing a change in image/identity/feel;
- Renovating the exterior to be more inviting, including creating a new entry/"front door" experience;
- Incorporating amenities that would allow the project to be competitive now and in the future;
- Improving the quality of the current facility (i.e. revitalized the aesthetics or function);
- Addressing changing market demands by shifting which market is being served and/or what is offered to that market; and
- Offering new housing models or services, including supporting culture change.

Case Study: Signature Apartments

The Signature Apartments project is part of a CCRC located in urban Media, PA; and included 49,033 GSF of renovations to 80 existing Independent Living apartments, resulting in a total of 60 upgraded residences. Through unit-by-unit renovations, which minimized disruptions to adjacent residences, the apartment upgrades were performed to meet the current market demands and reinvent the image of the apartment building.

Renovation work included reconfiguring units within their existing footprint; combining selected units to provide larger residential options; replacement of existing wall console mechanical units with exterior high efficiency vertical units; installation of four-panel patio doors to increase natural light and outdoor views, which are further unimpeded by new tempered glass patiorailing panels (instead of the old picket wrought iron railings); an increase in the bedroom window height; bathroom expansion and a frameless, tiled corner shower, wood console vanity with integrated bowl, wood wainscoting, hide-away hamper, linen storage, decorative wall sconces and ceramic tile floors.



Renderings courtesy of: RLPS Architects
Photographs courtesy of: Larry Lefever Photography

Also performed was the removal of interior walls to open up the kitchen; new kitchens with stainless steel appliances, granite countertops, breakfast bar, and custom-style cabinetry; energy-efficient windows and patio doors; walk-in closets; washer/dryers; built-ins; accent and task lighting; space-saving pocket doors; and bamboo flooring. "By using the existing infrastructure, the owner was able to maintain an affordable solution and work within a timeframe beneficial to their budget abilities[25]."

Focusing on Affordability

Including a Phase One submission form question that specifically asked about ways the projects respond to affordability/budgetary concerns, several other questions generated responses from the award-winning projects that also described how these submissions focus on affordability, including: what makes the project worthy of an award; significant form-givers; top trends influencing today's senior living industry; and top trends influencing the project.

Fifteen percent of the award-winning submissions described specific ways their project addresses affordability, including:

- Providing amenities, even on a tight budget;
- Creating a market-rate feel, even on a tight budget;
- Conscious choice of materials (e.g. paint instead of wall covering or synthetic instead of natural stone);
- Using simple forms and minimizing detail for less costly construction;
- Focusing dollars on high impact areas or on things that "have the most bang for the buck;"
- Efficient project management (e.g. reducing the number of phases to save construction costs or early collaboration with contractors);
- "Creative financing" (e.g. using donated goods/land/dollars, tax credits, grant funding, and/or taking advantage of low-interest refinancing);
- Limiting the structure to four stories or less so that (less expensive) wood frame construction can be used;
- Reusing existing materials, structure, and/or MEPFP systems;
- Using value engineering throughout the project for redesigns that meet the budget;
- Maximizing common amenities in as little square footage as possible;
- Sharing infrastructure, services, and/or amenities between adjacent facilities instead of providing in each building or residential unit;
- Providing fewer common areas by creating flexible, multi-purpose spaces and/or by including more outdoor "rooms;"
- Building a facility with a compact footprint;
- Renovating a facility instead of embarking on new construction;
- Creating a phased design so more can be added in the future when funding becomes available;
- Using a prefab system;
- Minimizing wasted space (e.g. extraneous circulation); and
- Reducing future operational/maintenance costs through the careful selection of FF&E (e.g. durable materials and simple/efficient mechanical systems) and/or incorporating green/sustainable elements.

Case Study: SKY55

Located in urban Chicago, IL and consisting of 732,200 GSF of new construction, SKY55 is a mix of low-income senior housing alongside market rate housing. The ten-story senior living component includes 91 affordable Independent Living apartments that share common spaces/amenities with the attached 40-story 411 unit market rate and affordable housing building. This intergenerational development was developed and financed using a unique private/public partnership.

Photograph courtesy of: Solomon Cordwell Buenz

Collaboration During Design Development

Several questions generated responses from the award-winning projects that described how these submissions' design teams collaborated with others during the design process and/or during construction, including: what makes the project worthy of an award; important project goals; greatest challenges; ways the project responds to the site and to local conditions; and ways the project promotes sense of community.

Twenty-one percent of the award-winning submissions described specific ways in which their design team collaborated with others, including:

- The owner/provider;
- Building occupants, current and/or (potential) future;
- City planners/code officials;
- The construction team;
- Public-private partnerships;
- Affiliated yet independent agencies; and/or
- Community neighbors.

In addition to influencing the projects' design, several submissions noted that the communication, education, and/or teamwork during project development helped develop relationships before project completion/move-in.

At NewBridge on the Charles, a CCRC located in suburban Dedham, MA, the architects collaborated with the provider's care staff. From providing wish-lists to feedback on a full-scale mock-up, the staff was involved throughout the design process.

NewBridge on the Charles
Photographs courtesy of: Perkins Eastman Architects

Case Study: Silver Sage Village Senior Cohousing

Located in urban Boulder, CO, Silver Sage Village Senior Cohousing includes 25,962 GSF of new construction for 16 Independent Living residences and a Common House, with shared kitchen, dining area, living room, crafts and performance areas, guest rooms, and provision for a caretaker unit, when needed. As opposed to institutionalized care, the community relies on relationships between caring neighbors to help support the residents' aging-in-place.

Like most cohousing developments, the residents have been working together since well before design and construction began. Collaboration during organizational/planning meetings and throughout the design process allowed the residents to learn how to work together and built the trust and caring relationships that they will now rely on for years to come. "This is not housing for people—this is housing with people[26]."

Photographs courtesy of: Ben Tremper Photography and McCamant & Durrett Architects

10

Campus-Centered vs. Greater-Community Focused

CAMPUS-CENTERED VS. GREATER-COMMUNITY FOCUSED

DeVries Place Senior Apartments
Photograph courtesy of: Misha Bruk

Twenty two out of the 34 award-winning Building, Planning/Concept Design, and Affordable category submissions could be classified as being a Campus-Centered or Greater-Community Focused project, as identified by the similarities within the projects' descriptions and goals.

See Appendix I for a summary chart of the space-breakdown data analysis performed on the Campus-Centered sub-group of the award-winning projects; and Appendix J for the Greater-Community Focused sub-group.[27]

DFAR9 vs. DFAR10 Comparison: Award Recipient Sub-Groups

SUB-GROUP	DFAR9 AWARD RECIPIENTS	DFAR10 AWARD RECIPIENTS	10 VS. 9
Campus-Centered	25%	21%	–4%
Greater-Community Focused	34%	44%	+10%

Compared to DFAR9, the award-winning DFAR10 projects include slightly fewer Campus-Centered projects, but more Greater-Community Focused projects. Based on these numbers and the project descriptions provided by the DFAR10 winners, it seems that **providers and designers are putting greater emphasis on developing connections to the surrounding community.**

In addition to providing views that visually link residents to the neighborhood, a common project goal was to develop easy pedestrian access to the surrounding community so residents could take advantage of existing service/amenities—reducing the size and/or program elements that have to be provided on-site, or freeing up space and/or budget for other common spaces.

Campus-Centered Projects

Twenty-one percent of the award-winning Building, Planning/Concept Design, and Affordable category submissions create a strong sense of community on their campus (including Fox Hill, Lenbrook, NewBridge on the Charles, The Ridge and Boulders of RiverWoods at Exeter, Sun City Palace Tsukaguchi, Villa at San Luis Rey, and Westminster Village Town Center), with little interaction with the surrounding neighborhood (as stated in their project goals and by the types of elements incorporated into the projects).

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Fox Hill	•	•		•		
Lenbrook	•	•	•			
NewBridge on the Charles	•	•	•	•		
The Ridge and Boulders of RiverWoods at Exeter	•	•	•	•		
Sun City Palace Tsukaguchi	•		•	•		
Villa at San Luis Rey		•*	•	•		
Westminster Village Town Center		•				•

**Independent Living licensed as Assisted Living so that in-home services can be provided, allowing residents to age-in-place*

Common characteristics of the Campus-Centered subgroup include:

- Being a CCRC or part of a CCRC;
- Creating the feeling of a "community within a community;"
- Extensive on-site common spaces/amenities so residents do not need to leave the campus/facility;
- Weaving common area components together to create a cohesive community, both in terms of sense of place and as a locus for activities;
- Developing communal outdoor spaces, with strong indoor-outdoor connections; and
- Providing a hospitality approach/resort-quality services.

Space Comparisons

UNIT TYPE	CAMPUS-CENTERED SUB-GROUP UNIT DISTRIBUTION	CAMPUS-CENTERED SUB-GROUP AVERAGE UNIT SIZE	OVERALL GROUP OF DFAR10 WINNERS UNIT DISTRIBUTION	OVERALL GROUP OF DFAR10 WINNERS AVERAGE UNIT SIZE	PERCENTAGE DIFFERENCE IN UNIT SIZE
INDEPENDENT LIVING:					
Studio apartment	32%	INSUFFICIENT DATA	20%	658 NSF	---
One-bedroom apartment	17%	862 NSF	28%	769 NSF	+12%
Two-bedroom apartment	36%	1,159 NSF	36%	1,183 NSF	–2%
Two-bedroom plus den apartment	14%	1,421 NSF	13%	1,515 NSF	–6%
Three-bedroom+ apartment	1%	INSUFFICIENT DATA	4%	1,682 NSF	---
Two-bedroom cottage	55%	INSUFFICIENT DATA	59%	1,795 NSF	---
Two-bedroom plus den cottage	45%	INSUFFICIENT DATA	41%	INSUFFICIENT DATA	---
Three-bedroom+ cottage	0%	N/A	0%	N/A	---
ASSISTED LIVING:					
Studio apartment	0%	N/A	11%	385 NSF	---
One-bedroom apartment	48%	564 NSF	49%	589 NSF	–4%
Two-bedroom apartment	39%	1,188 NSF	30%	1,178 NSF	+1%
Two-bedroom plus den apartment	0%	N/A	0%	N/A	---
Three-bedroom+ apartment	13%	INSUFFICIENT DATA	10%	INSUFFICIENT DATA	---
SKILLED NURSING:					
Single-occupancy room	83%	274 NSF	78%	297 NSF	–8%
Double-occupancy room	17%	INSUFFICIENT DATA	22%	369 NSF	---
Triple+ occupancy room	0%	N/A	0%	N/A	---
DEMENTIA/MEMORY SUPPORT					
Single-occupancy room	90%	297 NSF	80%	316 NSF	–6%
Double-occupancy room	10%	INSUFFICIENT DATA	20%	451 NSF	---
Triple+ occupancy room	0%	N/A	0%	N/A	---

The DFAR10 Campus-Centered sub-group submissions have:

- A fairly similar distribution of Independent Living units, though with more studios and fewer one-bedroom apartments. And with the exception of the one-bedroom apartments, the DFAR10 Campus-Centered Independent Living residences tend to be slightly smaller than the overall group of winners.
- A fairly similar distribution of Assisted Living units, though with fewer studios and more two-bedroom apartments. The DFAR10 Assisted Living residences also tend to be about the same size as the overall group of winners.
- Slightly more single-occupancy Skilled Nursing units (which are a bit smaller than the overall group of winners), though with fewer double-occupancy rooms.
- More single-occupancy Dementia/Memory Support units (which are a bit smaller than the overall group of winners), though with fewer double-occupancy rooms.

Case Study: Fox Hill

Fox Hill is a CCRC that consists of 700,000 GSF of new construction with 240 Independent Living, 29 Assisted Living, and 65 Dementia/Memory Support residences located in suburban Bethesda, MD. It is a Campus-Centered project that provides resort-quality services, indoor-outdoor connections, and choice/daily variety through its extensive commons, including: a great room, art studio, library, bank, bistro, tavern, café, lounge, recording studio, game and card room, formal dining and grille dining room, winter garden, and fitness and swimming areas. The project "was marketed as luxury condominiums with amenities that are unmatched in the Washington, Virginia and Maryland marketplace[28]."

Photograph courtesy of: Chris Eden and Maxwell MacKenzie

Case Study: NewBridge on the Charles

NewBridge on the Charles is a CCRC that targets a mixed income from the Boston area. Located in suburban Dedham, MA, the project consists of 1,011,572 GSF of new construction, with 256 Independent Living residences, 51 Assisted Living units, 268 Skilled Nursing beds, and 40 Dementia/Memory Support beds. There is also a 450-student school on the campus, which creates many intergenerational opportunities as residents, staff, and visitors of all ages interact in the Community Center throughout the day. Aimed to provide resort-style amenities and holistic wellness, NewBridge on the Charles provides extensive commons, multiple dining options, and a full array of programs to integrate the physical, social, intellectual, occupational, environmental, emotional, and spiritual dimensions of aging.

Photographs courtesy of: Chris Cooper

Greater-Community Focused Projects

Forty four percent of the award-winning Building, Planning/Concept Design, and Affordable category submissions focused on developing connections to the greater community. From providing views to the surrounding neighborhood to creating pedestrian links for easy resident access, these projects are defined by their openness to and interactions with the surrounding neighborhood (as stated in their project goals and by the types of elements incorporated into the projects).

Common characteristics of the Greater-Community Focused sub-group include:

- Spaces/amenities open to the public (e.g. wellness/fitness centers, dining venues, auditoriums/performance spaces);
- Programs/services open to/provided for the public (e.g. clinics, in-home care, Meals-On-Wheels);
- Partnerships with local organizations to host programs on-site;
- Mixed-use buildings;
- Locations that allow easy access to adjacent community resources; and
- Many of the Greater-Community Focused projects have urban site locations.

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Bloomfield Township Senior Center						•
Boutwells Landing Care Center			•			
Buena Vista Terrace	•					
DeVries Place Senior Apartments	•					
Hope House at Hope Meadows	•					
Hospice of Lancaster County					•	
La Paloma – East Lubbock Regional MHMR						•
The Legacy at Willow Bend	•	•	•	•		
The Point at C. C. Young						•
Roseland Senior Campus	•					
Silver Sage Village Senior Cohousing	•					
SKY55	•					
The Sterling of Pasadena	•	•		•		
Taube Koret Campus for Jewish Life	•	•		•		
THF/CCS Casitas on East Broadway Senior Housing	•					

The Greater-Community Focused projects can be further split into three sub-categories:

- Four of the projects have been developed as part of a neighborhood—all of which consist solely of Independent Living units (Buena Vista Terrace, Hope House at Hope Meadows, Silver Sage Village Senior Cohousing, and THF/CCS Casitas on East Broadway Senior Housing).
- Three of the projects specifically take advantage of existing services/amenities (DeVries Place Senior Apartments, SKY55, and The Sterling of Pasadena).
- Eight of the projects specialize in offering spaces/programs to the public (Bloomfield Township Senior Center, Boutwells Landing Care Center, Hospice of Lancaster County, La Paloma – East Lubbock Regional MHMR, The Legacy at Willow Bend, The Point at C. C. Young, Roseland Senior Campus, and Taube Koret Campus for Jewish Life).

Space Comparisons

UNIT TYPE	GREATER-COMMUNITY FOCUSED SUB-GROUP UNIT DISTRIBUTION	GREATER-COMMUNITY FOCUSED SUB-GROUP AVERAGE UNIT SIZE	OVERALL GROUP OF DFAR10 WINNERS UNIT DISTRIBUTION	OVERALL GROUP OF DFAR10 WINNERS AVERAGE UNIT SIZE	PERCENTAGE DIFFERENCE IN UNIT SIZE
INDEPENDENT LIVING:					
Studio apartment	4%	INSUFFICIENT DATA	20%	658 NSF	---
One-bedroom apartment	47%	730 NSF	28%	769 NSF	–5%
Two-bedroom apartment	28%	1,204 NSF	36%	1,183 NSF	+2%
Two-bedroom plus den apartment	12%	1,656 NSF	13%	1,515 NSF	+9%
Three-bedroom+ apartment	9%	1,484 NSF	4%	1,682 NSF	–12%
Two-bedroom cottage	0%	N/A	59%	1,795 NSF	---
Two-bedroom plus den cottage	0%	N/A	41%	INSUFFICIENT DATA	---
Three-bedroom+ cottage	0%	N/A	0%	N/A	---
ASSISTED LIVING:					
Studio apartment	21%	INSUFFICIENT DATA	11%	385 NSF	---
One-bedroom apartment	74%	574 NSF	49%	589 NSF	–3%
Two-bedroom apartment	6%	INSUFFICIENT DATA	30%	1,178 NSF	---
Two-bedroom plus den apartment	0%	N/A	0%	N/A	---
Three-bedroom+ apartment	0%	N/A	10%	INSUFFICIENT DATA	---
SKILLED NURSING:					
Single-occupancy room	98%	INSUFFICIENT DATA	78%	297 NSF	---
Double-occupancy room	2%	INSUFFICIENT DATA	22%	369 NSF	---
Triple+ occupancy room	0%	N/A	0%	N/A	---
DEMENTIA/MEMORY SUPPORT					
Single-occupancy room	90%	395 NSF	80%	316 NSF	+25%
Double-occupancy room	10%	INSUFFICIENT DATA	20%	451 NSF	---
Triple+ occupancy room	0%	N/A	0%	N/A	---

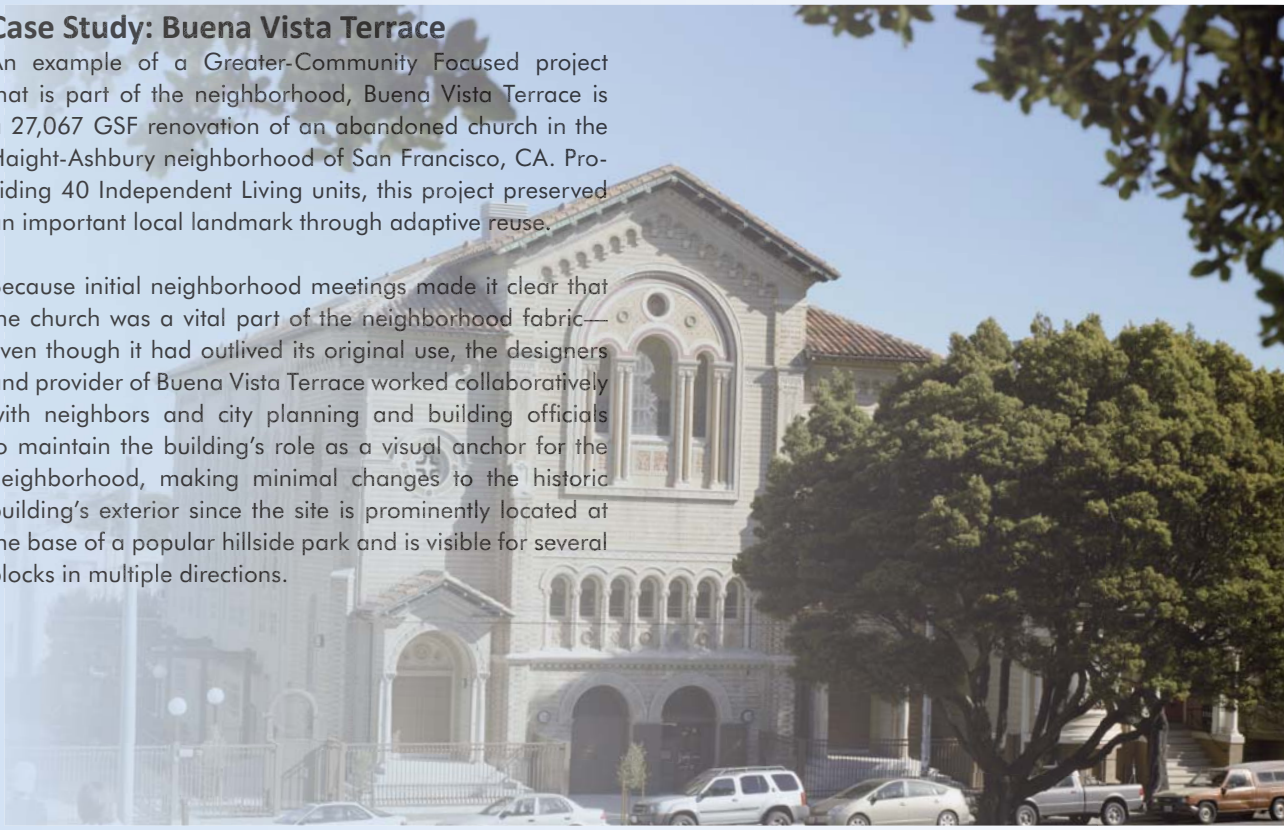
The DFAR10 Greater-Community Focused sub-group submissions have:

- A greater distribution one-bedroom Independent Living units, but fewer studio units and cottages. And with the exception of the two-bedroom plus den apartments, the Greater-Community Focused Independent Living residences tend to be slightly smaller than the overall group of winners.
- A greater distribution of smaller Assisted Living units (studios and one-bedroom apartments), but fewer two-bedroom apartments.
- A greater distribution of single-occupancy Skilled Nursing units; and fewer double-occupancy rooms.
- A greater distribution of single-occupancy Dementia/ Memory Support units; and fewer double-occupancy rooms. The single-occupancy rooms are also larger than in the overall group of award winners.

Case Study: Buena Vista Terrace

An example of a Greater-Community Focused project that is part of the neighborhood, Buena Vista Terrace is a 27,067 GSF renovation of an abandoned church in the Haight-Ashbury neighborhood of San Francisco, CA. Providing 40 Independent Living units, this project preserved an important local landmark through adaptive reuse.

Because initial neighborhood meetings made it clear that the church was a vital part of the neighborhood fabric—even though it had outlived its original use, the designers and provider of Buena Vista Terrace worked collaboratively with neighbors and city planning and building officials to maintain the building's role as a visual anchor for the neighborhood, making minimal changes to the historic building's exterior since the site is prominently located at the base of a popular hillside park and is visible for several blocks in multiple directions.

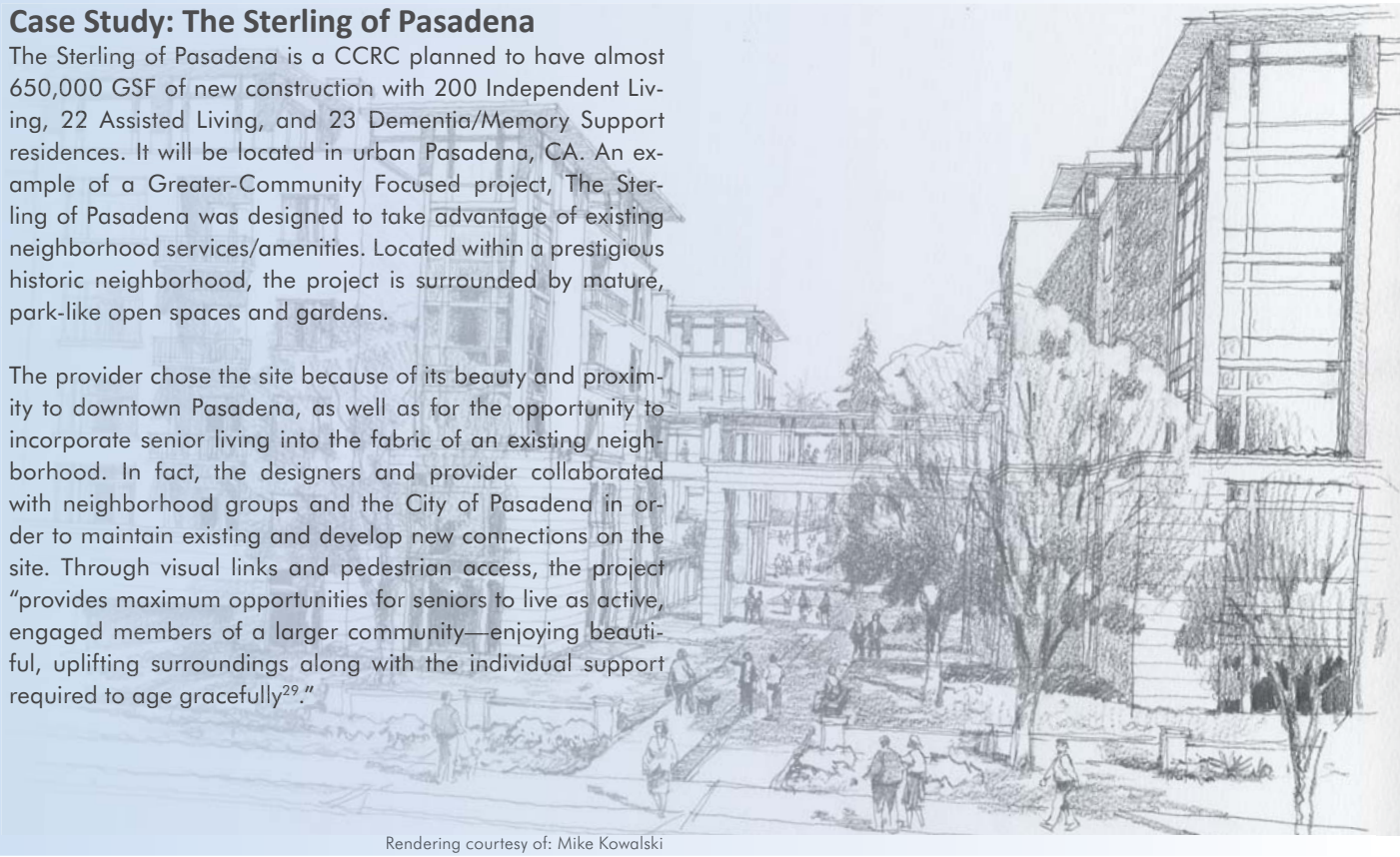


Photograph courtesy of: Cesar Rubio

Case Study: The Sterling of Pasadena

The Sterling of Pasadena is a CCRC planned to have almost 650,000 GSF of new construction with 200 Independent Living, 22 Assisted Living, and 23 Dementia/Memory Support residences. It will be located in urban Pasadena, CA. An example of a Greater-Community Focused project, The Sterling of Pasadena was designed to take advantage of existing neighborhood services/amenities. Located within a prestigious historic neighborhood, the project is surrounded by mature, park-like open spaces and gardens.

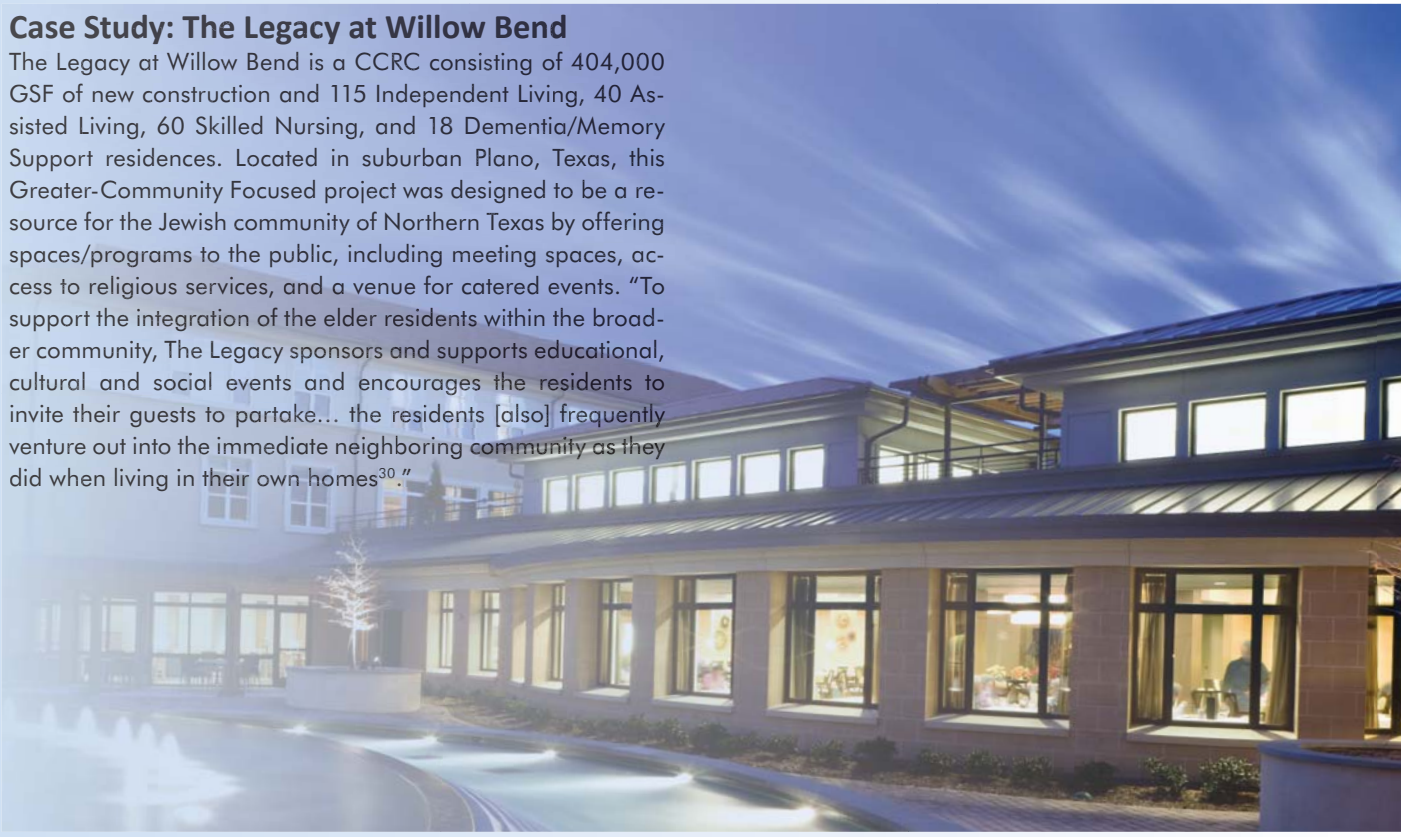
The provider chose the site because of its beauty and proximity to downtown Pasadena, as well as for the opportunity to incorporate senior living into the fabric of an existing neighborhood. In fact, the designers and provider collaborated with neighborhood groups and the City of Pasadena in order to maintain existing and develop new connections on the site. Through visual links and pedestrian access, the project "provides maximum opportunities for seniors to live as active, engaged members of a larger community—enjoying beautiful, uplifting surroundings along with the individual support required to age gracefully[29]."



Rendering courtesy of: Mike Kowalski

Case Study: The Legacy at Willow Bend

The Legacy at Willow Bend is a CCRC consisting of 404,000 GSF of new construction and 115 Independent Living, 40 Assisted Living, 60 Skilled Nursing, and 18 Dementia/Memory Support residences. Located in suburban Plano, Texas, this Greater-Community Focused project was designed to be a resource for the Jewish community of Northern Texas by offering spaces/programs to the public, including meeting spaces, access to religious services, and a venue for catered events. "To support the integration of the elder residents within the broader community, The Legacy sponsors and supports educational, cultural and social events and encourages the residents to invite their guests to partake… the residents [also] frequently venture out into the immediate neighboring community as they did when living in their own homes[30]."



Photograph courtesy of: Charles Davis Smith

Campus-Centered vs. Greater-Community Focused Projects

Compared to the DFAR10 Greater-Community Focused sub-group of projects, the DFAR10 Campus-Centered projects have significantly larger buildings on average, with more residential area and commons area, including commons area per unit. This reflects the Campus-Centered projects' common characteristic of offering services/amenities on-site so residents do not need to leave the campus/facility, versus the Greater-Community Focused projects that encourage their residents to use existing services/amenities that are found in the surrounding neighborhood. Thus, less needs to be provided on-site.

	OVERALL GROUP OF DFAR10 WINNERS	CAMPUS-CENTERED SUB-GROUP	GREATER-COMMUNITY FOCUSED SUB-GROUP	PERCENTAGE DIFFERENCE IN SIZE (CC VS. GCF)
Building area[31]	304,882 GSF	632,536 GSF	295,341 GSF	+111%
Total building area per unit[32]	2,410 GSF	1,904 GSF	3,371 GSF	–44%
Residential area[33]	.36	.50	.26	+92%
Commons area[34]	.07	.11	.04	+175%
Commons area per unit[35]	160 NSF	172 NSF	157 NSF	+10%

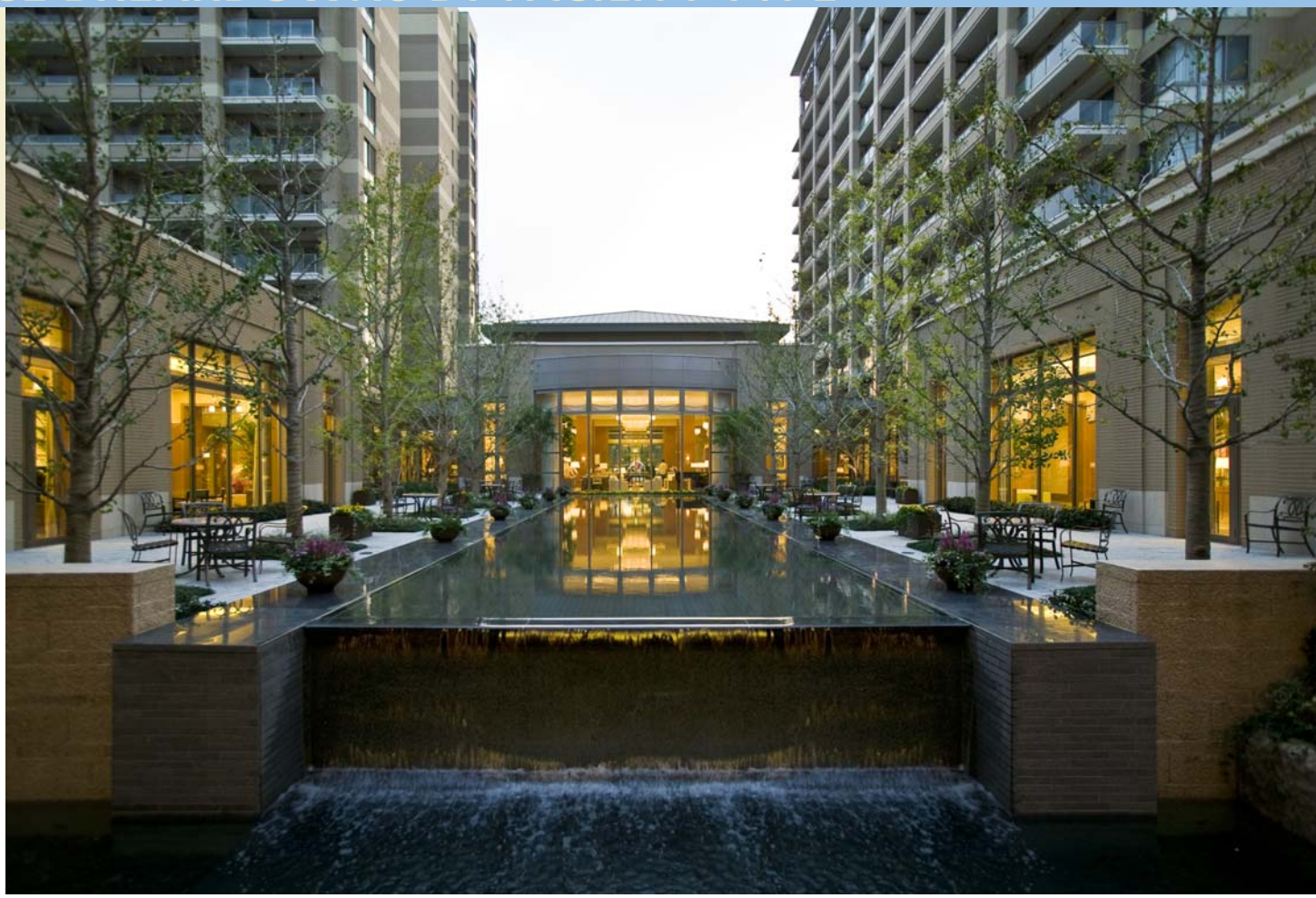
DFAR9 vs. DFAR10 Comparison: Campus-Centered vs. Greater-Community Focused Projects

Similar to DFAR9, the DFAR10 Campus-Centered projects allocate a larger proportion of building space to residential units and on-site common areas, with space distribution emphasizing individual over communal needs. The DFAR10 Greater-Community Focused projects are also similar to those from DFAR9 in that a smaller proportion of building area is devoted individual residential units; and less overall common space since residents use more services/amenities found in the greater community.

10

Space Breakdowns

SPACE BREAKDOWNS BY FACILITY TYPE



Sun City Palace Tsukaguchi
Photograph courtesy of: Tom Fox/SWA Group

Based on similarities between the DFAR10 award-winning submissions' building components and project descriptions, four additional facility type sub-groups were identified:

- New, Large CCRCs;
- Independent Living-Only;
- Skilled Nursing Additions/Renovations, Hospices, and Small Houses; and
- Senior Centers/Commons Additions.

See Appendices K, L, M, and N for summary charts of the space-breakdown data analyses performed on the New, Large CCRCs; Independent Living-Only; Skilled Nursing Additions/Renovations, Hospices, and Small Houses; and Senior Centers/Commons Additions sub-groups of the award-winning projects.[27]

New Large CCRCs

Twenty six percent of the award-winning Building, Planning/ Concept Design, and Affordable category submissions can be classified as New, Large CCRCs:

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Fox Hill	•	•		•		
The Legacy at Willow Bend	•	•	•	•		
Lenbrook	•	•	•			
NewBridge on the Charles	•	•	•	•		
The Ridge and Boulders of RiverWoods at Exeter	•	•	•	•		
The Sterling of Pasadena	•	•		•		
Sun City Palace Tsukaguchi	•		•	•		
Taube Koret Campus for Jewish Life	•	•		•		
Villa at San Luis Rey		•*	•	•		

**Independent Living licensed as Assisted Living so that in-home services can be provided, allowing residents to age-in-place*

Space Comparisons

	NEW, LARGE CCRCS SUB-GROUP	OVERALL GROUP OF DFAR10 WINNERS	PERCENTAGE DIFFERENCE IN SIZE
Building area[31]	643,217 GSF	304,882 GSF	+111%
Total building area per unit[32]	1,919 GSF	2,410 GSF	–20%
Residential area[33]	.52	.36	+44%
Commons area[34]	.09	.07	+29%
Commons area per unit[35]	151 NSF	160 NSF	–6%

Compared to the overall group of award-winning projects, the DFAR10 New, Large CCRCs sub-group of projects has significantly larger buildings on average, with more residential area and commons area. This suggests that the CCRCs are similar to the Campus-Centered projects in that they also offer services/amenities on-site so residents do not need to leave the campus/facility.

UNIT TYPE	NEW, LARGE CCRCS SUB-GROUP UNIT DISTRIBUTION	NEW, LARGE CCRCS SUB-GROUP AVERAGE UNIT SIZE	OVERALL GROUP OF DFAR10 WINNERS UNIT DISTRIBUTION	OVERALL GROUP OF DFAR10 WINNERS AVERAGE UNIT SIZE	PERCENTAGE DIFFERENCE IN UNIT SIZE
INDEPENDENT LIVING:					
Studio apartment	23%	INSUFFICIENT DATA	20%	658 NSF	---
One-bedroom apartment	20%	916 NSF	28%	769 NSF	+19%
Two-bedroom apartment	37%	1,183 NSF	36%	1,183 NSF	0%
Two-bedroom plus den apartment	15%	1,490 NSF	13%	1,515 NSF	–2%
Three-bedroom+ apartment	5%	1,735 NSF	4%	1,682 NSF	+3%
Two-bedroom cottage	55%	INSUFFICIENT DATA	59%	1,795 NSF	---
Two-bedroom plus den cottage	45%	INSUFFICIENT DATA	41%	INSUFFICIENT DATA	---
Three-bedroom+ cottage	0%	N/A	0%	N/A	---
ASSISTED LIVING:					
Studio apartment	4%	INSUFFICIENT DATA	11%	385 NSF	---
One-bedroom apartment	50%	582 NSF	49%	589 NSF	–1%
Two-bedroom apartment	35%	1,178 NSF	30%	1,178 NSF	0%
Two-bedroom plus den apartment	0%	N/A	0%	N/A	---
Three-bedroom+ apartment	11%	INSUFFICIENT DATA	10%	INSUFFICIENT DATA	---
SKILLED NURSING:					
Single-occupancy room	83%	274 NSF	78%	297 NSF	–8%
Double-occupancy room	17%	INSUFFICIENT DATA	22%	369 NSF	---
Triple+ occupancy room	0%	N/A	0%	N/A	---
DEMENTIA/MEMORY SUPPORT					
Single-occupancy room	80%	325 NSF	80%	316 NSF	+3%
Double-occupancy room	20%	473 NSF	20%	451 NSF	+5%
Triple+ occupancy room	0%	N/A	0%	N/A	---

The DFAR10 New, Large CCRCs sub-group submissions have:

- A fairly similar distribution of Independent Living units, though with fewer one-bedroom apartments. And with the exception of the one-bedroom apartments, the DFAR10 New, Large CCRCs Independent Living residences tend to be about the same size as the overall group of winners. Also, the distribution and sizes of the New, Large CCRCs sub-group's Independent Living units were similar to the Campus-Centered sub-group.
- A fairly similar distribution of Assisted Living units, though with fewer studios and more two-bedroom apartments. The DFAR10 New, Large CCRCs Assisted Living residences also tend to be about the same size as the overall group of winners. In addition, the distribution and sizes of the New, Large CCRCs sub-group's Assisted Living units were similar to the Campus-Centered sub-group.
- Slightly more single-occupancy Skilled Nursing units (which are a bit smaller than the overall group of winners), though with fewer double-occupancy rooms. Also, the distribution and sizes of the New, Large CCRCs sub-group's Skilled Nursing units were similar to the Campus-Centered sub-group.
- Fairly comparable Dementia/Memory Support residences.

Independent Living-Only

Twenty nine percent of the award-winning Building, Planning/Concept Design, and Affordable category submissions can be classified as containing only Independent Living residences. Sixty percent of these submissions are standalone projects, with the other 40% part of a CCRC development. The Independent Living-Only projects include:

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Buena Vista Terrace	•					
DeVries Place Senior Apartments	•					
Hope House at Hope Meadows	•					
The Houses on Bayberry	•					
Hybrid Homes	•					
Roseland Senior Campus	•					
Signature Apartments	•					
Silver Sage Village Senior Cohousing	•					
SKY55	•					
THF/CCS Casitas on East Broadway Senior Housing	•					

Space Comparisons

	INDEPENDENT LIVING-ONLY SUB-GROUP	OVERALL GROUP OF DFAR10 WINNERS	PERCENTAGE DIFFERENCE IN SIZE
Building area[31]	141,616 GSF	304,882 GSF	–54%
Total building area per unit[32]	2,923 GSF	2,410 GSF	+21%
Residential area[33]	.21	.36	–42%
Commons area[34]	.03	.07	–57%
Commons area per unit[35]	74 NSF	160 NSF	–54%

Compared to the overall group of award-winning projects, the DFAR10 Independent Living-Only sub-group of projects has significantly smaller buildings on average, with less residential area and commons area, including less commons area per unit. This reflects the fact that these projects tend to be stand-alone buildings that encourage their residences to use services/amenities available in the surrounding community (as opposed to offering them on-site); or the projects are part of larger CCRCs that provide common spaces in other buildings on the campus. 40% of the Independent Living-Only projects are also Affordable category submissions, which typically offer smaller buildings with less common space.

	INDEPENDENT LIVING-ONLY SUB-GROUP		OVERALL GROUP OF DFAR10 WINNERS		PERCENTAGE DIFFERENCE IN UNIT SIZE
UNIT TYPE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	
Studio apartment	10%	362 NSF	20%	658 NSF	–45%
One-bedroom apartment	59%	570 NSF	28%	769 NSF	–26%
Two-bedroom apartment	21%	1,183 NSF	36%	1,183 NSF	0%
Two-bedroom plus den apartment	7%	INSUFFICIENT DATA	13%	1,515 NSF	---
Three-bedroom+ apartment	2%	INSUFFICIENT DATA	4%	1,682 NSF	---
Two-bedroom cottage	0%	N/A	59%	1,795 NSF	---
Two-bedroom plus den cottage	100%	INSUFFICIENT DATA	41%	INSUFFICIENT DATA	---
Three-bedroom+ cottage	0%	N/A	0%	N/A	---

The DFAR10 Independent Living-Only sub-group submissions have more one-bedroom Independent Living apartments (with fewer types of other apartments); and tend to be quite a bit smaller in size than the overall group of winners.

Skilled Nursing Additions/Renovations, Hospices, and Small Houses

Twenty nine percent of the award-winning Building, Planning/Concept Design, and Affordable category submissions can be classified as a Skilled Nursing Addition/Renovation, Hospice, or Small House project. Half of these submissions are stand-alone projects, with the other half part of a CCRC development. The Skilled Nursing Addition/Renovation, Hospice, and Small House projects include:

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Boutwells Landing Care Center			•			
Hospice of Lancaster County					•	
Mennonite Home Skilled Care Reinvention			•	•		
Montgomery Place		•	•	•		
Penick Village Garden Cottage		•				
Porter Hills Green House® Homes			•			
Residential Hospice for York Region					•	
Sharon S. Richardson Community Hospice					•	
Three Links Care Center Lodging Facility				•	•	
Tohono O'odham Elder Homes		•				

Space Comparisons

	SKILLED NURSING ADDITIONS/RENOVATIONS, HOSPICES, AND SMALL HOUSES SUB-GROUP	OVERALL GROUP OF DFAR10 WINNERS	PERCENTAGE DIFFERENCE IN SIZE
Building area[31]	137,417 GSF	304,882 GSF	–55%
Total building area per unit[32]	3,074 GSF	2,410 GSF	+28%
Residential area[33]	.10	.36	–72%
Commons area[34]	.05	.07	–29%
Commons area per unit[35]	131 NSF	160 NSF	–18%

Compared to the overall group of award-winning projects, the DFAR10 Skilled Nursing Addition/Renovation, Hospice, and Small House sub-group of projects has significantly smaller buildings on average, with less residential area and commons area, including less commons area per unit. This reflects the fact that a portion of the residents of these types of projects tend not to use as much commons (e.g. bed-bound nursing or hospice residents).

Plus, the commons that are offered tend to be smaller (e.g. household kitchens, family-style dining areas, and living rooms versus big auditoriums, libraries, classrooms, art spaces, formal dining rooms, etc.). In addition, half of the projects are part of larger CCRC developments and can, therefore, take advantage of existing common spaces/programs without the need to provide additional space within the Skilled Nursing Addition/Renovation, Hospice, or Small House building.

	SKILLED NURSING ADDITIONS/RENOVATIONS, HOSPICES, AND SMALL HOUSES SUB-GROUP		OVERALL GROUP OF DFAR10 WINNERS		
UNIT TYPE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	UNIT DISTRIBUTION	AVERAGE UNIT SIZE	PERCENTAGE DIFFERENCE IN UNIT SIZE
ASSISTED LIVING:					
Studio apartment	94%	294 NSF	11%	385 NSF	–24%
One-bedroom apartment	6%	INSUFFICIENT DATA	49%	589 NSF	---
Two-bedroom apartment	0%	N/A	30%	1,178 NSF	---
Two-bedroom plus den apartment	0%	N/A	0%	N/A	---
Three-bedroom+ apartment	0%	N/A	10%	INSUFFICIENT DATA	---
SKILLED NURSING:					
Single-occupancy room	67%	351 NSF	78%	297 NSF	+18%
Double-occupancy room	33%	309 NSF	22%	369 NSF	–16%
Triple+ occupancy room	0%	N/A	0%	N/A	---
DEMENTIA/MEMORY SUPPORT					
Single-occupancy room	80%	290 NSF	80%	316 NSF	–8%
Double-occupancy room	20%	387 NSF	20%	451 NSF	–14%
Triple+ occupancy room	0%	N/A	0%	N/A	---

The DFAR10 Skilled Nursing Addition/Renovation, Hospice, and Small House sub-group submissions have:

- Significantly more smaller units (i.e. studios); and tend to be smaller in size.
- Slightly fewer single-occupancy Skilled Nursing units (which are a bit larger than the overall group of winners), though with more, smaller double-occupancy rooms.
- A similar distribution of Dementia/Memory Support units, but with smaller rooms than the overall group of winners.

Senior Centers/Commons Additions

Fifteen percent of the award-winning Building, Planning/ Concept Design, and Affordable category submissions can be classified as Senior Centers/Commons Additions:

PROJECT NAME	IL	AL	SN	D/MS	HOSPICE	SENIOR COMMUNITY CENTER
Bloomfield Township Senior Center						•
Episcopal Home Church St. Luke's Chapel						•
La Paloma – East Lubbock Regional MHMR						•
The Point at C. C. Young						•
Westminster Village Town Center		•				•

	SENIOR CENTERS/COMMONS ADDITIONS GROUP	OVERALL GROUP OF DFAR10 WINNERS	PERCENTAGE DIFFERENCE IN SIZE
Building area[31]	337,896 GSF	304,882 GSF	+11%
Commons area[34]	.05	.07	–29%

Compared to the overall group of award-winning projects, the DFAR10 Senior Centers/Commons Additions sub-group of projects has larger buildings on average, but less commons area. This reflects the fact that these are stand-alone buildings which offer community-wide services and, therefore, require more building area to be devoted to administrative/support spaces.

10

ENDNOTES

ENDNOTES

1 Retrieved July 27, 2010, from <http://network.aia.org/AIA/DesignforAging/Home/Default.aspx>.

2 Retrieved July 27, 2010, from <http://www.aia.org/practicing/groups/kc/AIAS075675>.

3 From the DFAR10 submission forms.

4 Please note that the challenges faced by the Affordable category projects were as varied and similar to the challenges faced by the Building and Planning/Concept Design category submissions. In only one case was a challenge listed solely for one Affordable category project—and it dealt with adapting to the local climate (as opposed to an issue related to the project's budget or financing).

5 Please note that the responses to affordability/budgetary concerns faced by the Affordable category projects were as varied and similar to the responses submitted by the Building and Planning/Concept Design category submissions. There were a few comments listed solely for Affordable category projects, but the practices listed could have just as easily applied to projects not classified under the Affordable category.

6 From Impact of Aging in Place on AL and CCRCs' DFAR10 Phase One submission form, provided by SB Architecture PC, Inc.

7 From Data Mining Findings' DFAR10 Phase One submission form, provided by Perkins Eastman Research Collaborative.

8 From Post-Occupancy Evaluations and Design Guidelines' DFAR10 Phase One submission form, provided by Perkins Eastman Research Collaborative.

9 Montgomery Place, The Sterling of Pasadena, and Penick Village Garden Cottage did not submit their Phase Two providers' responses; and SKY55 and Lenbrook did not submit the architects' or the providers' responses (i.e. any part of the Phase Two submission form).

10 Comparisons were made by building type: Independent Living, Assisted Living, Skilled Nursing, and/or Dementia/Memory Support. Please note that comparisons were based on average values. Also, when analyzing the building data charts, quantitative comparisons were not conducted when there was insufficient data (i.e. when data for fewer than three projects were available for investigation).

11 From The Houses on Bayberry's DFAR10 Phase One submission form, provided by RLPS Architects.

12 From Villa at San Luis Rey's DFAR10 Phase One submission form, provided by Lawrence Group.

13 From Hope House at Hope Meadows' DFAR10 Phase One submission form, provided by Mithun.

14 From DeVries Place Senior Apartments' DFAR10 Phase One submission form, provided by HKIT Architects.

15 From Bloomfield Township Senior Center's DFAR10 Phase One submission form, provided by Fusco, Shaffer, & Pappas, Inc.

16 From Taube Koret Campus for Jewish Life's DFAR10 Phase One submission form, provided by Steinberg Architects.

17 From La Paloma – East Lubbock Regional MHMR's DFAR10 Phase One submission form, provided by McCormick Architecture.

18 Dementia/Memory Support commons area = Average of total Dementia/Memory Support commons net square footage

19 Dementia/Memory Support commons area per bed = Total Dementia/Memory Support commons net square footage divided by the total number of Dementia/Memory Support resident beds

20 From Three Links Care Center Lodging Facility's DFAR10 Phase One submission form, provided by Rivera Architects Inc.

21 From Boutwells Landing Care Center's DFAR10 Phase One submission form, provided by InSite Architects.

22 From Penick Village Garden Cottage's DFAR10 Phase One submission form, provided by CJMW, PA.

23 From Mennonite Home Skilled Care Reinvention's DFAR10 Phase One submission form, provided by RLPS Architects.

24 Perkins Eastman Research Collaborative. (2010). *Senior Living Dining Rooms Design Guidelines and Post-Occupancy Evaluation Feedback*. Pittsburgh, PA.

25 From Signature Apartments' DFAR10 Phase One submission form, provided by RLPS Architects.

26 From Silver Sage Village Senior Cohousing's DFAR10 Phase One submission form, provided by McCamant & Durrett Architects.

27 Within the sub-groups, the researchers examined the analogous projects' data and compared it to the information provided by all of the Phase Two submission forms that the researchers had been given access to. The sub-group projects' Phase Two submission form building data charts were also analyzed to see if meaningful patterns emerged. Comparisons between each sub-group and the overall award-winning group were made through common space breakdowns, as well as space breakdowns for building types: Independent Living, Assisted Living, Skilled Nursing, and/or Dementia/ Memory Support. Please note that comparisons were based on average values. Also, when analyzing the building data charts, quantitative comparisons were not conducted when there was insufficient data (i.e. when data for fewer than three projects were available for investigation).

28 From Fox Hill's DFAR10 Phase One submission form, provided by DiMella Shaffer.

29 From The Sterling of Pasadena's DFAR10 Phase One submission form, provided by Mithun.

30 From The Legacy at Willow Bend's DFAR10 Phase One submission form, provided by DiMella Shaffer.

31 Building area = Average of total building gross square footage

32 Total building area per unit = Total building gross square footage divided by the total number of resident units (apartments and/or beds)

33 Residential area = Average residential net square footage divided by the average of total building gross square footage

34 Commons area = Average commons net square footage divided by the average of total building gross square footage

35 Commons area per unit = Total commons net square footage divided by the total number of resident units (apartments and/or beds)