


The NOI Equation: Creating the Best Spaces for Aging

A Position Paper from Direct Supply
on Maximizing Revenue, Occupancy,
& Resident Outcomes in Senior Living

Creating the Best Spaces for Aging

Table of Contents



Executive Summary: The NOI Imperative	3
Quick Reference: Highest-Impact Facility Improvements for Maximizing NOI	4
The Top 6 Correlations that drive NOI	6
Real World Applications	17
Direct Supply Building Solutions	24

Executive Summary

The NOI Imperative & Senior Satisfaction

Across care levels and markets, Senior Living operators repeatedly emphasize three core resident priorities: safety and security, health and wellness, and meaningful social engagement. **Communities that strategically align their design and operational models with these expectations not only deliver stronger resident experiences, they achieve greater financial sustainability.**

To quantify how effectively meeting these consumer preferences translates into financial outcomes, Direct Supply conducted a comprehensive analysis using anonymized data from TELS Platform™, Centers for Medicare & Medicaid Services, National Investment Center for Seniors Housing and Care, Care.com, and A Place for Mom. Our objective: to identify the design and operational factors most strongly correlated with Net Operating Income (NOI) performance.

Although external variables like executive leadership effectiveness and sales team performance significantly impact NOI outcomes, optimizing controllable factors such as facility design and operational processes helps facilities to ensure robust performance independent of these variables. The positions in this paper are based on data from 2020 to 2025, and may change over time.

This position paper presents actionable strategies integral to successful value-add turnaround projects—targeted investments and operational enhancements that rapidly elevate community performance and asset value. The evidence is clear: thoughtfully designed and efficiently operated environments enhance revenue streams, stabilize occupancy, and control operating expenses—key drivers in indirectly improving NOI. While each of these strategies may drive meaningful impact on its own, the true value comes from a cohesive, integrated approach.

Section I

Highest-Impact Facility Improvements for Maximizing NOI

A Data-Backed Prioritization of Senior Living Investments

Senior Living operators are constantly weighing where to invest limited capital for the greatest return. Based on a multi-market analysis conducted by Direct Supply—leveraging anonymized data from the TELS Platform, CMS, NIC, Care.com, and A Place for Mom—this matrix outlines the most effective facility improvements that enhance revenue potential, stabilize occupancy, and control costs—ultimately leading to improved financial performance.

Each strategy below has been vetted for its:

- Speed to payback
- Direct or indirect impact on revenue, occupancy, or operating costs
- Proven consistency across a wide range of Senior Living communities

Fast facts:

The top 6 factors that impact NOI

	Factor	Impact on NOI (directness & magnitude)	Payback Speed	Consistency
1.	Move-in Readiness = Higher Occupancy The faster that units can be available, the faster the revenue.	Very High Immediately enhances revenue potential by quickly converting vacant units into occupied, income-generating spaces.	Fast Minimal investment needed; vacant rooms can generate rent immediately once filled.	Very high
2.	Certified Beds = Higher Rent Potential More certified beds means more rent.	High Expands community appeal and increases potential rental rates, directly supporting stronger revenue.	Moderate Requires licensing or setup; revenue gains materialize once new beds are occupied (assuming demand).	Moderately High
3.	Resident Engagement = Better Retention Highly engaged residents will stay longer, improving retention.	Moderate Improves occupancy stability via higher satisfaction and longer stays, supporting steady revenue.	Moderate Benefits accrue over time as turnover drops and word-of-mouth referrals increase.	High
4.	Energy Efficiency = Lower Costs & Appeal Reduced utility spend reduces operational expenses each month.	Moderate Cuts operating expenses (utilities); minor marketing edge as a "green," modern facility.	Moderate Many upgrades (LED lighting, smart HVAC) pay back in ~1-3 years via energy savings.	High-Very High
5.	Smart Tech = Lower Long-Term Costs Technology utilization can drive better results.	Moderate Reduces long-term operating costs through streamlined labor and improved asset efficiency, freeing up resources.	Moderate Depends on the technology - some have very quick payback while others may be realized gradually as cost reductions compound.	Moderately High
6.	Compliance Excellence (Avoid Pricing Loss) Avoid unnecessary expenses related to regulation.	Critical (defensive) Doesn't boost NOI but prevents severe revenue loss from violations, monetary outlays related to deficiencies or reduced market perception	Fast (if fixing issues) Achieving compliance averts fines or occupancy hits immediately, but maintaining it is an ongoing necessity rather than a new "payback."	Moderate

1. Move-in Readiness = Higher Occupancy

Higher occupancy begins long before a prospective resident walks through your doors— your building needs to capture their attention, and you need to deliver the space they need when they are ready to move in quickly. Operators who proactively plan for move-in readiness consistently experience shorter unit turnover times, higher occupancy, and greater overall profitability.



“The number of seniors moving into senior living facilities will dramatically increase in next few years. Every day lost has an immediate impact to your bottom line. Now is the time to prepare - integrate your technology, build design standards, secure vendor partnerships, and start change management.”

– **Erin Berry**

Senior Director of Interior Design, Direct Supply Aptura

Acknowledging there are many types of unit turns, the average unit turn takes 22 hours and requires at least three team members to complete - typically Sales, Maintenance, and Housekeeping. By driving consistency to your process —through furnished, pre-staged units, streamlined turnover protocols, and proactive maintenance planning—your organization can consistently meet consumer expectations for immediate availability, comfort, and seamless integration into community life. These efforts help attract residents, reduce vacancy durations, and protect your NOI.

Recommended Actions:

- Understand your target demographics and code requirements now and start unit projects ASAP so you have the unit mix that will set you up for success.
- Pre-stage select units. Establish protocols for furnishing units in advance to enable immediate occupancy.
- Centralize coordination. Integrate digital tools to streamline scheduling, housekeeping, maintenance, marketing, and sales.
- Streamline procurement. Leverage quick-ship furniture and targeted purchasing strategies for high-turnover units.
- Set design standards and develop vendor partnerships who can execute your needs.

2. Certified Beds = Higher Rent Potential

Certification isn't just regulatory—it's a revenue strategy. Communities with a higher share of certified Assisted Living and Memory Care beds command stronger rental rates, offer expanded care services, and attract residents seeking licensed environments.

Expanding bed certification involves considerable operational investments, including dementia-specific staff training, enhanced regulatory compliance measures, and targeted facility upgrades to meet licensing requirements. Additionally, operators must navigate significant state-by-state variability in licensing processes, which directly influences project timelines and investment levels.



"Certification isn't just about meeting regulations—it's about unlocking the full potential of your community. When you expand your care capabilities through certified environments, you increase your value proposition to residents, families, and investors alike."

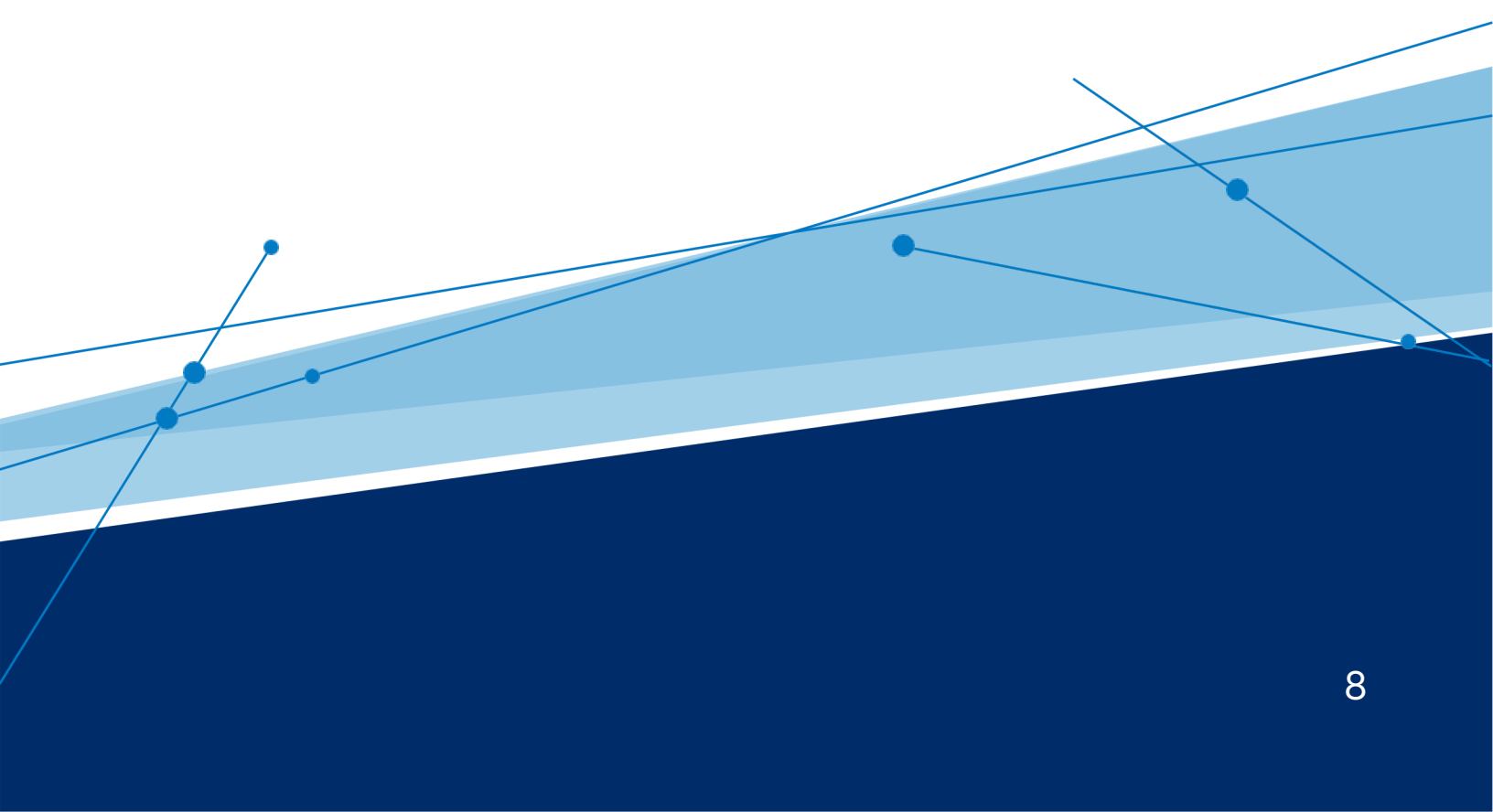
– **Gaurie Rodman**

Vice President of Real Estate & Development, Direct Supply Aptura

While Independent Living units typically remain uncertified, limiting certification in Assisted Living can result in missed revenue opportunities. Certified units generate 15–20% higher rents; however, operators must factor in increased operational investments such as specialized dementia training and regulatory compliance. Additionally, certification processes and timelines vary greatly by state, impacting overall project timelines and capital investments (NIC MAP Vision, 2024). Strategic certification—especially in Memory Care—can extend length of stay and unlock new revenue streams that add to NOI.

Recommended Actions:

- Conduct a Strategic Project Evaluation (SPE). Evaluate certification opportunities. Assess local demand and licensure pathways to determine if expanding certified beds aligns with market and financial goals.
- If there is market demand, retrofit for Memory Care. Prioritize dementia-friendly design and safety enhancements that inspire family trust and support wellness.
- Verify infrastructure compliance. Ensure HVAC, electrical, and life-safety systems meet certified care standards.
- Plan with regulators early. Build licensure requirements into project timelines to minimize disruptions.



3. Resident Engagement = Better Retention



“As we age, our living environment becomes even more important to supporting our health and well-being. Data indicates residents in senior living have fewer hospital admissions, higher wellness indicators, and live longer. Where we live, and how we live, matters.

– **Liz Jensen**

PhD, MSN Clinical Director

Enhanced resident retention directly results from engagement-driven design elements like flexible communal spaces and biophilic aesthetics. Communities employing these strategies have experienced up to a 12% improvement in resident retention and a 20% increase in referrals. Engagement today is lifestyle-driven. Residents seek autonomy, emotional connection, and meaningful daily rhythms. Research shows that today's seniors feel 10 years younger than they actually are - and they want the amenities and activities to match their youthful spirit (Senior Housing News, 2023). Design plays a pivotal role in delivering on these expectations through intuitive layouts, calming palettes, and adaptable spaces that support everything from morning yoga to evening wine tastings.

Design flexibility is emerging as a new form of luxury. Multi-use spaces that flex with resident energy and interest add value far beyond their square footage. These adaptable spaces directly boost NOI by reducing the need for dedicated amenity areas and, in turn, increase the community's overall rentable square footage. Holistic wellness—emotional, cognitive, and physical—is amplified by biophilic design, sensory-rich materials, and supportive wayfinding.

Personalization is equally essential. When residents see themselves reflected in their surroundings—via memory displays, hobby nooks, or self-selected décor—they form a stronger emotional attachment to place, enhancing both satisfaction and retention.

Recommended Actions:

- Design for discovery. Integrate sensory elements, flexible layouts, and interactive spaces that invite exploration.
- Elevate dining as a social anchor. Offer varied settings—casual, formal, and grab-and-go—to match different preferences and routines.
- Incorporate landscaping into your amenity plan - add play courts and natural settings. Even simple replacements like using pavers to create a chess board in your courtyard can go a long way to bring fun outdoors.
- Maximize flexibility. Use movable partitions, convertible furniture, and layered lighting to adapt to evolving needs.
- Promote holistic wellness. Leverage biophilic design, soft acoustics, and intuitive wayfinding to support comfort and autonomy.
- Enable personalization. Incorporate micro-customization opportunities like modular shelves, gallery walls, or resident-selected accents.
- Encourage community connection. Design for intergenerational and external engagement through shared studios, lounges, or libraries.

4. Smart Tech = Lower Long-Term Costs



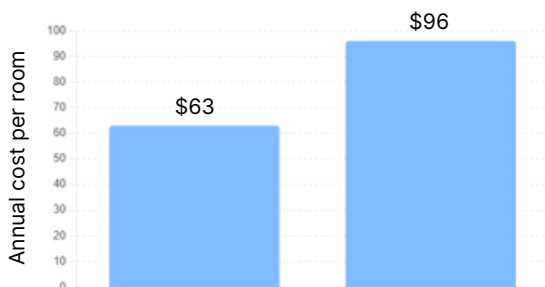
“When systems go unchecked, small issues become expensive problems. Smart tech gives you the foresight to act before failure—reducing emergency costs, increasing uptime, and protecting your margins.”

– **Tim Ernst**

Product Manager, TELS Platform

Aging infrastructure in Senior Living communities presents significant risks to operational performance, resident satisfaction, and ultimately, Net Operating Income (NOI). While legacy systems may not immediately fail, their inefficiencies accumulate over time, driving up utility expenses, increasing the frequency of emergency repairs, and shortening the lifespan of high-cost assets. These incremental costs chip away at profit margins, directly impacting NOI. While smart technology presents significant opportunities to streamline operations and reduce long-term costs, initial implementation costs may present barriers, particularly for older facilities or smaller operators. A phased integration approach, explicitly tailored to community needs, is recommended to manage upfront investments and achieve scalable efficiency gains. Communities leveraging smart technology—such as CMMS platforms, predictive maintenance tools, and smart building controls—consistently

outperform those relying on reactive models. Our data shows that facilities with preventive HVAC programs spend ~\$63 per room annually, compared to \$96 per room without defined plans—translating to over \$130,000 in annual savings across a 40-property portfolio (Direct Supply TELS, n.d.).



Preventative Maintenance vs. reactive maintenance

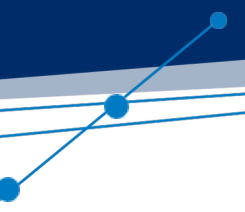
Tools like CMMS allow operators to automate work orders, monitor asset health, and improve vendor coordination. When paired with occupancy-based lighting, programmable HVAC, and real-time monitoring, these systems reduce unnecessary energy consumption while enhancing resident comfort and operational efficiency.

In essence, adopting smart technology isn't merely an upgrade—it's a strategic shift toward data-driven, resilient operations that safeguard margins, enhance resident satisfaction, and directly improve NOI performance.

Recommended Actions:

- Establish preventive maintenance protocols. Extend asset life and reduce emergencies with routine servicing of core systems.
- Adopt CMMS platforms. Digitize work order management, asset tracking, and vendor coordination for greater efficiency.
- Audit infrastructure regularly. Identify inefficiencies and support capital planning with hard data.
- Integrate analytics into capital strategy. Forecast system risks, prioritize investments, and track ROI over time.
- Explore application of IoT sensors for well-functioning equipment and upgrade to smart equipment during replacements. Several utilities or municipalities offer incentives to adopt smart systems.

5. Energy Efficiency = Lower Costs, Greater Appeal



Utility costs are among the most persistent—and controllable—expenses in Senior Living. Energy can account for up to 6% of total operating costs (EPA, 2021), and as infrastructure ages and prices rise, inefficiencies in HVAC, lighting, and plumbing can quietly erode margins by increasing operating expenses, thereby directly reducing NOI. As occupancy rises, utility costs are likely to rise as well - indicating that taking action now will reap even more benefits in future years.

Prioritizing energy efficiency not only lowers operating expenses but positions your community as a sustainability leader, appealing significantly to ESG-minded investors and families. For example, converting legacy PTAC units to energy-efficient mini-splits has demonstrated ROI through substantial utility savings. With younger decision-makers entering the field and workforce competition growing, sustainability has become a strategic differentiator—not just a “nice to have” (Sanalife, 2023).

Common upgrades like LED lighting, smart HVAC controls, and low-flow plumbing fixtures can cut utility consumption by 20–30%, depending on building conditions. These improvements not only reduce costs but also enhance comfort and reduce maintenance needs.

When paired with real-time utility monitoring and data-informed capital planning, these upgrades shift operations from reactive to proactive—building long-term financial resilience and positioning communities as forward-thinking leaders in care and stewardship.

Case Study: PTAC to Mini-Split Conversion – Texas Facilities

Facilities: 5 senior living communities (Dallas, Austin, Houston)

Units Converted: 500 units total

Project Scope: Converted PTAC units to mini-split systems

Total Installation Cost: \$1,750,000 (\$3,500 per unit)

Annual Energy Savings: \$150,000 (\$300 per unit)

Avoided expense of replacing PTACs every 7 years: \$400,000 (\$800 per unit)

Payback Period: Approximately 7.5 years

Benefits:

- Improved resident comfort with quieter operation and precise temperature control
- Enhanced humidity management reducing mold-related issues, especially in Houston facilities
- Significant long-term operational savings and reduced maintenance needs
- Compliance
- Proactive compliance safeguards pricing power by preventing violations that directly impact occupancy and revenue potential.

Recommended Actions:

- Retrofit outdated systems. Upgrade to LED lighting, install low-flow fixtures, and replace legacy HVAC with energy-efficient alternatives.
- Embed energy into capital planning. Prioritize sustainable upgrades and explore financing options to reduce upfront investment.
- Monitor utilities in real time. Use analytics to detect inefficiencies, adjust operations, and track performance.
- Bundle for scale. Combine energy-saving initiatives to streamline implementation and maximize ROI.
- Leverage sustainability as a brand asset. Communicate your efforts to residents, families, and staff to reinforce innovation and environmental commitment.

6. Poor Compliance = Pricing Power Loss



“Consistent compliance isn’t just a regulatory box to check—it’s a key competitive advantage. When your infrastructure and processes proactively ensure compliance, you not only reduce risk but preserve your reputation, pricing power, and long-term occupancy.”

- Roy Leneave

Regulatory Consultant, TELS Building Management

Facilities with recurring regulatory violations, failed inspections, or online complaints often face more than fines—they face reduced occupancy and weakened rent potential. In today's digitally connected world, low star ratings or recent deficiencies on platforms like CMS Care Compare quickly drive prospective residents to competing communities, negatively impacting occupancy rates and rent structures critical to maintaining healthy NOI. Non-compliance penalties average up to \$10,000 per violation, with occupancy reductions ranging from 5–7% due to reputational damage and consumer distrust (CMS Care Compare, 2024), underscoring the importance of maintaining proactive compliance practices.

Infrastructure gaps—like outdated fire systems, blocked egress, or deferred maintenance—are common culprits, as are operational lapses in infection control, staff training, and emergency preparedness. These issues directly threaten NOI by incurring fines, increasing insurance premiums, and triggering reimbursement penalties. Compliance is no longer just about avoiding fines—it’s central to protecting occupancy and maintaining pricing power in a competitive market.

Recommended Actions:

- Implement compliance tracking tools. Digitally manage inspections, certifications, and testing schedules for better preparedness.
- Prioritize code-aligned infrastructure. Conduct regular facility audits to address fire safety, egress, ADA, and emergency power compliance.
- Standardize staff protocols. Deliver ongoing training in infection control, emergency readiness, and safety procedures.
- Incorporate compliance into capital planning. Allocate budget for upgrades tied to code requirements and inspection-readiness.
- Monitor and respond to public reviews. Use feedback from platforms like CMS Care Compare and A Place for Mom to identify trends and demonstrate responsiveness.

Section II

Case Studies

Case Snapshot: Ruby Commons

Completion Year: 2023
Location: Brookfield, WI
Project Type: Renovation

Care Type: Independent Living
Services Provided: Interior Design



What Changed:

Ruby Commons, a mid-market Independent and Assisted Living community operated by Capri Communities, faced stiff competition from newer, nearby facilities. To strengthen its market position without undergoing a full structural overhaul, the community partnered with Direct Supply Aptura for a strategic renovation aimed at refreshing its interiors and enhancing resident experience.

Innovative Solutions:

Aptura's interior design team transformed the space by blending modern furnishings with regionally inspired artwork and warm finishes that reflect Wisconsin's supper club heritage. Key improvements included upgraded lighting, new furniture in shared spaces, and creative reprogramming of underutilized areas. A seldom-used lounge, for example, was converted into an inviting game room complete with poker tables, televisions, and soft seating to encourage daily interaction and connection among residents.

Results:

The renovation produced immediate and measurable results:

Weekly inquiries increased from **1.2 to 11.4**

Tours per week jumped from **1.2 to 3.2**

Occupancy reached **94%**

Conversion to deposits **doubled**



“Since the renovation, inquiries have increased dramatically, which has led to increased and steady tours and subsequent deposits. In the weeks leading to the completed renovation, the community held 9-12 vacancies. Currently, the community is projected to close that gap to 7 in the next 40 days. Activity remains high and there is confidence this community will stabilize to 94% or higher occupancy.”

Cindy Robinson

Vice President of Sales and Marketing , Capri Communities

Case Snapshot:

Orchard Pointe at Creek Valley

Completion Year: 2023

Location: Carrollton, TX

Project Type: New Construction

Care Type: Independent Living, Assisted Living, Memory Care, Respite Care

Capacity: 140 units

Services Provided:

Design-Build, Market Intelligence, Interior Design, Technology Design, Foodservice Design, Equipment Management, FF&E Procurement & Installation



What Changed:

Orchard Pointe at Creek Valley aimed to create an innovative living environment designed specifically to support multiple levels of care—including Independent Living, Assisted Living, Memory Care, and Respite Care—within a single, integrated community. To meet growing market demands and accommodate residents' changing health needs, Orchard Pointe collaborated with Direct Supply Aptura to strategically design a flexible environment that allowed residents to age comfortably in place without the disruption of relocating as care needs evolved.

“What makes our brand-new Senior Living community unique is that residents can receive personalized care in their existing apartment. The team at Direct Supply® Aptura® listened and worked very closely with us to envision how we can accomplish this by constructing a caregiver’s room and medical rooms on the Independent Living floor, allowing couples with varying levels of care to stay together in their apartments.”

Wesley Helms

Executive Director of Orchard Pointe at Creek Valley

Innovative Solutions:

Aptura's team designed adaptable apartments that seamlessly transition from Independent Living to Assisted Living units, significantly enhancing residents' ability to age in place. The community was thoughtfully planned with onsite medical and caregiver suites on the Independent Living floors, providing residents with immediate access to personalized care services. Additionally, expansive communal areas—including a welcoming bistro and a large, restaurant-style dining space—encourage daily interaction, fostering emotional and social well-being alongside physical health.



Results:

The strategic integration of flexible care environments and wellness-focused amenities has generated meaningful outcomes:

- Enhanced resident satisfaction and retention by accommodating evolving health needs without relocation
- Increased market differentiation through integrated medical suites, attracting residents seeking seamless care transitions
- Strengthened occupancy rates driven by the community's ability to appeal to couples with varying care requirements
- Elevated resident experience through thoughtfully designed spaces emphasizing holistic wellness, comfort, and social engagement

Case Snapshot:

Sherbrooke Village of Ascension

Completion Year: 2023

Location: St. Louis, MO

Project status: Completed

Care Type: Assisted Living, Skilled Nursing

Services Provided: Project Management & Installation

What Changed:

When the legacy HVAC system at Sherbrooke Village reached the end of its life, the building began to experience issues with temperature regulation and air quality—affecting resident comfort and threatening compliance with regulatory standards.

To help ensure a safe and comfortable environment, leadership knew a swift and expert-led infrastructure upgrade was essential.

That's when they turned to Direct Supply® TELS® for a fast-tracked HVAC replacement that would meet today's standards for efficiency, performance, and comfort.



Innovative Solutions:

Direct Supply TELS delivered a turnkey HVAC solution tailored to the unique demands of the senior living environment. The team managed the full lifecycle of the project—from assessment and design to equipment procurement, project management, and final installation.

The result: A modern HVAC system that improves indoor air quality, reduces operational disruptions, and supports year-round comfort for both residents and staff.

"I look for a partner that understands my problem and is willing to assess the situation and not just take my word for it. They listen to me, but they also complete a full assessment and listen to the community so they can work with the right vendors and find the right solution.

From beginning to end, the TELS team kept me in the loop. Not once did I have to ask for an update, they were always five steps ahead of me, letting me know what was going on. That right there is one of TELS' strongest qualities. I don't have to worry about what's happening – I know the team is handling it. At the end of the day, TELS is here to help my residents."

Eddie G.

Vice President, Facilities and Emergency Management, Ascension Living

Results:

The strategic HVAC system replacement produced immediate and lasting safety and operational outcomes:

- Rapid restoration of modern HVAC infrastructure allowed the facility to resume compliance with F-Tag 584 guidelines and maintain uninterrupted resident comfort, meeting the regulated indoor temperature range of 71–81°F (Centers for Medicare & Medicaid Services, 2023).
- Improved indoor air quality, ventilation, and humidity control (maintaining ~40–60% RH) supported resident respiratory health and enhanced staff performance (ASHRAE, 2023; U.S. EPA, 2022).
- Infrastructure resilience was greatly improved, with upgraded equipment capable of maintaining performance in extreme temperatures and reducing emergency breakdowns (U.S. Department of Energy, 2023).
- Energy efficiency improved significantly, with estimated reductions of 20–30% in HVAC-related electricity consumption and up to 15–25% overall utility savings, based on Department of Energy and ENERGY STAR data (ENERGY STAR, n.d.; U.S. Department of Energy, 2023; U.S. Energy Information Administration, 2018).
- These improvements are expected to yield tens of thousands of dollars in annual energy cost savings and reduce the facility's carbon footprint, aligning with sustainability goals and ESG strategies (Better Buildings, 2020; Direct Supply, 2024).

Section III

Direct Supply Building Solutions

60% of adults 75+ say they feel decades younger.

Your buildings weren't built for *WHO* is coming next. We'll make sure you're ready. Today's seniors aren't slowing down – they're redefining what aging looks like. They feel younger, live longer, and expect more from where they live. If your spaces don't reflect their evolving desires, you won't compete. Boomers want modern, engaging environments that match their lifestyle. Outdated buildings won't attract them – or their families. Direct Supply® Building Solutions helps communities modernize – fast. With 20,000+ capital projects a year, we bring the scale, speed, and experience to reimagine your spaces for the next generation of residents.

Here's what meeting modern expectations really delivers*

- 3X more tours after common area refresh
- 35% faster unit turnover readiness
- 27% faster capital approvals
- Up to 40% energy savings
- 41% better state survey performance with TELS®

We care for your buildings so you can focus on what matters most.



References

ASHRAE. (2023). ASHRAE Standard 62.1: Ventilation for Acceptable Indoor Air Quality. American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Better Buildings. (2020). Senior care energy savings success stories. U.S. Department of Energy. <https://betterbuildingssolutioncenter.energy.gov/>

Better Buildings. (2020). Senior care center saves \$30,000 annually with HVAC upgrades. U.S. Department of Energy. <https://betterbuildingssolutioncenter.energy.gov/>

Centers for Medicare & Medicaid Services. (2024). Civil monetary penalties (annual inflation adjustments). <https://www.cms.gov/medicare/health-safety-standards/civil-monetary-penalties>

Centers for Medicare & Medicaid Services. (2024). Civil money penalty reinvestment program. <https://www.cms.gov/medicare/health-safety-standards/quality-safety-oversight-general-information/civil-money-penalty-reinvestment-program>

Centers for Medicare & Medicaid Services. (2024). Hospital price transparency fact sheet. <https://www.cms.gov/newsroom/fact-sheets/hospital-price-transparency-fact-sheet>

Centers for Medicare & Medicaid Services. (2024). Hospital-acquired conditions. <https://www.cms.gov/medicare/quality/value-based-programs/hospital-acquired-conditions>

Centers for Medicare & Medicaid Services. (2024). Medicare state operations manual. <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107c07pdf.pdf>

Centers for Medicare & Medicaid Services. (2023). State Operations Manual: Appendix PP - Guidance to Surveyors for Long Term Care Facilities. <https://www.cms.gov>

Direct Supply. (2024). Optimizing operational efficiency through infrastructure upgrades. Internal case study archive.

Direct Supply TELS Platform. (n.d.). Internal data on preventive HVAC maintenance savings. Retrieved from poah.org

ENERGY STAR. (n.d.). Heating and cooling energy savings. U.S. Environmental Protection Agency. https://www.energystar.gov/products/heating_cooling

Lawrence Berkeley National Laboratory. (2016). Cooling tower energy efficiency improvements. <https://eta.lbl.gov/publications/cooling-tower-energy-efficiency>
NIC MAP Vision. (2024). Senior housing data and analytics.

Sanalife. (2023). The importance of energy efficiency in senior living communities. Senior Housing News. (2023, January 25). Senior living 2023 outlook: Opportunity ahead but no short-term fixes. <https://seniorhousingnews.com/2023/01/25/senior-living-2023-outlook-opportunity-ahead-but-no-short-term-fixes/>

Senior Housing News. (2023, August 2). Recovery still 'not a given' even as senior living demand accelerates. <https://seniorhousingnews.com/2023/08/02/recovery-still-not-a-given-even-as-senior-living-demand-accelerates/>

Senior Housing News. (2023, September 28). Senior living operators walk 'delicate balance' in quest for higher margins. <https://seniorhousingnews.com/2023/09/28/senior-living-operators-walk-delicate-balance-in-quest-for-higher-margins/>

U.S. Department of Energy. (2023). HVAC systems and energy standards update. <https://www.energy.gov/>

U.S. Energy Information Administration. (2018). Commercial buildings energy consumption survey (CBECS). <https://www.eia.gov/consumption/commercial/>

U.S. Environmental Protection Agency. (2022). Indoor Air Quality and Health. <https://www.epa.gov/iaq>

U.S. News & World Report. (2024, April 16). U.S. News announces 2024 best senior living ratings. <https://www.usnews.com/info/blogs/press-room/articles/2024-04-16/u-s-news-announces-2024-best-senior-living-ratings>

Varsity Branding. (2023, November 28). 2023's top 11 senior living sales & marketing trends. <https://varsitybranding.com/2023/11/28/2023s-top-11-senior-living-sales-marketing-trends/>

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