



Decoding Densification

Insights and opportunities for CRE professionals

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Densification has become a watchword in the commercial real estate industry. Dozens of articles, whitepapers and research reports addressing high-density work environments have appeared in recent months. At the 2015 BOMA International Annual Convention & Expo in Los Angeles, a panel of experts discussed the topic in an education session entitled “Densification and the Office of the Future.”

Hosting more people in the same amount of space has important implications for how real estate professionals operate buildings and deliver high-quality work environments for space users. This report briefly summarizes recent research on the subject and suggests opportunities for real estate professionals to develop further capabilities to serve their customers.

Major Themes in Densification

1. Densification is happening, but unevenly.

There is a great deal of empirical evidence that space occupiers are targeting more efficient layouts. For example:

- CoreNet Global has projected that the average square footage per office worker will drop to 151 by 2017, down from 176 in 2013 and 225 in 2010.¹
- According to construction and engineering consulting firm Jacobs, usable square feet per person trended downward from 218 in 2010 to 192 in 2014.²
- A Delta Associates survey of the Washington, DC metro area suggested a decline in rented square footage per office worker from 197 in 2000 to 178 in 2017.³
- Architecture and design firm Gensler has estimated that office space needs could decrease as much as 50 percent by 2022.⁴

¹ Benchmark survey, CoreNet Global (2012)

² Presentation to National Advisory Council, Jacobs (April 2015)

³ *trendlines TWENTYFOURTEEN*, Transwestern and Delta Associates (February 2014)

⁴ *Trends in Office Footprints*, Gensler (February 2013)

Densification is certainly happening, and it has a real impact, as will be explored further below. Nevertheless, it is not a universal, monolithic trend. Rather, it is uneven, variable and driven by a subset of space users, affecting different buildings in different ways.

Studies by both Kingsley Associates and the British Council for Offices suggest a minority of tenants (as small as 11 percent) is pursuing intentional densification.^{5,6} It is true that these tenants tend to be larger, market-leading occupiers, amplifying their impact. It is also likely that the pace of densification will increase with triggering events (such as lease rollovers). However, a large segment of occupiers currently remains in more traditional floor plans.

Even when tenants establish higher density targets, they do not always achieve them in the near term. Regular employee turnover and cyclical hiring processes mean that effective densities are often far lower than targets. Furthermore, many tenants execute lease agreements with planned growth in mind, keeping density below targets at the beginning of the term. These factors tend to mitigate the pace of densification, particularly in multi-tenanted buildings where lease rollovers are staggered.

Workplace models can also impact the effective density of tenant space. A robust teleworking-and-hoteling plan decreases the ratio of square footage to total employees, but it does not necessarily increase the number of people in the space on a given day. Flexible work schedules can increase the overall number of hours a tenant's space is occupied without increasing the effective density at any particular point in time. Obviously, these types of arrangements have differing impacts on building operations.

Density often varies widely within tenant suites themselves. Some "neighborhoods" in the space may house a large number of workstations in a relatively tight area. Others may be far more open, whether designed as collaborative spaces, break rooms, lounges or other more specialized space. Such designs lessen the average density of office space, at least as it impacts the overall building. For instance, some research suggests that for every 2 square feet removed from individual workstation space, at least 1 is added back in shared or public space.⁷ This indicates that, in the quest for the most effective workplaces, occupiers are seeking to *optimize* overall density rather than *maximize* it.

Densification's effects can be profound, particularly at single-tenanted facilities and buildings where one or two tenants occupy a significant portion of the building. At other buildings, changes will likely occur more gradually, giving management staff time to adjust.

⁵ Survey of tenants, Kingsley Associates (2014)

⁶ *Occupier Density Study*, British Council for Offices (2013)

⁷ *Welcome to the Office of the Future*, Georgia Pacific (2015)

2. *Densification is best understood in a larger context.*

The traditional motivation for increased density—cost efficiency—certainly remains a powerful incentive for occupiers pursuing densification. For many, it may still be the strongest motivator.⁸ However, the leading edge of contemporary densification is properly placed within the complex larger trend of *workplace transformation*.

Knowledge work is becoming increasingly creative and collaborative. A new generation of employees prefers new ways of working. And online, mobile technology enables much work to be done from anywhere. Thus, businesses are beginning to ask more of their space. Rather than merely a fixed asset with an amortized cost, they are beginning to think of space as a “strategic communication tool”⁹ or a “high-performance environment.”¹⁰ They are asking less about how much space they need and more about how it will be used.¹¹

Higher density is a component of this broader discussion, which also includes mobile connectivity, environmental sustainability, branded environments and alternative work modes. Controlling occupancy cost will always be important, but the transformed workplace is not viewed primarily as a cost center. Instead, it is a critical contributor to productivity, innovation and employee engagement.¹²

3. *The challenges of higher density are real, but manageable.*

Given that the overwhelming majority of office space consists of the existing building stock designed for more “traditional” densities, densification presents operational and challenges to building managers. The first, and one of the most pressing, starts outside the walls of the building: Parking.

Some estimates suggest that over 80 percent of workers in suburbs and cities underserved by public transit commute by driving alone.¹³ Parking is a major challenge for existing buildings in these areas that were designed with lower densities in view. It also illustrates clearly the impact a few tenants (or even one) can have on the overall building. If one large tenant requires 15-20 percent more parking because of higher densities, that leaves fewer spaces for remaining tenants.

⁸ Survey of tenants, Kingsley Associates (2014)

⁹ “Why we hate our offices,” *Harvard Business Review* (October 2014)

¹⁰ *Trends in Office Footprints*, Gensler (February 2013)

¹¹ *trendlines TWENTYFOURTEEN*, Transwestern and Delta Associates (February 2014)

¹² For just one perspective on this, see reports from *Bisnow’s* “The Future of Office and Creative Workspace” seminar, held in Washington, DC in March of 2015

¹³ Internal portfolio data from Bentall Kennedy

Simply adding more parking will not be feasible in many cases. Space for new parking structures is limited in central business districts, and municipalities and sustainability certification programs discourage accommodating more cars. Solutions will require creativity and flexibility.

Inside the building, more people means more frequent and intensive cleaning (potentially over more hours), more use of consumables and more wear/tear for floors, doors, elevators and other areas. The same applies to energy and water consumption. This not only puts pressure on operating costs, it also adds complexity when attempting to allocate those costs fairly. When suites are built out specifically for higher density, many of these costs can be anticipated, metered and assigned accordingly. Where restrooms and amenity areas are located outside tenant suites, this becomes more difficult. In multi-tenanted buildings with tenants of varying densities, square footage may no longer be the best allocation factor.

Densification's impact goes beyond day-to-day operations to capital budgeting. Equipment such as elevators, restroom fixtures and HVAC systems will run differently when serving more people, altering their maintenance schedules and potentially shortening their useful lives. In some cases, the layout of the space will change equipment replacement decisions. For example, one HVAC system may be optimal for a more contemporary open layout, while a different system would better serve a more traditional "cellular" layout.¹⁴

Maintaining a hygienic work environment is, an under-researched impact of densification. Intuitively, more people means more germs. Furthermore, in some workplace models, employees frequently move from workstation to workstation, rarely occupying the same one for an extended period of time. Whether this leads to more illness has not been proven. Still, it implies the need for a more intensive cleaning and sanitation model, perhaps more similar to that found in hotels. Employee health will be a topic of concern in the transformed workplace.¹⁵

In all this, there is good news for building managers. The British Council for Offices concluded that there has been no evidence in the United Kingdom that buildings constructed to a lower density standard have been subsequently been unable to cope with increased density. Indeed, average density in Britain is already 117 square feet (note: units converted) per person, lower than in the United States. (And workers in Japan and China have long worked in even tighter quarters.¹⁶) This study and others have also pointed out that, for reasons noted above, building operators are unlikely to be confronted with the "doomsday scenario" of fast, mass densification.¹⁷

¹⁴ This point was made in a property management discussion at *Bisnow's Chicago* event on Property Management and the Office of the Future (April 2015)

¹⁵ *Cleaning High Density Workspaces*, Georgia Pacific (2015)

¹⁶ Ray Torto lecture on office markets (September 2012)

¹⁷ *Occupier Density Study*, British Council for Offices (2013)

Managing the operational, capital and tenant service challenges of higher density will not be easy, but there is ample evidence that the industry can adapt successfully, especially since the pace of change is structurally limited by current lease terms.

Opportunities Associated with Densification

CRE professionals have several opportunities to address densification proactively and constructively, helping occupiers navigate the trend:

- Large occupiers with robust corporate real estate and facilities management expertise are the primary drivers of densification. Other tenants may want the same benefits, but lack the in-house expertise. Building managers in a multi-tenanted environment are well positioned to serve such tenants. Large management firms can leverage their platforms to provide benchmarks and change-management case studies from similar tenants. Smaller management firms can also guide tenants on how best to leverage TI dollars to achieve *effective* workplaces with appropriate designs that encompass higher density. Well-informed property managers can help tenants (particularly smaller ones) avoid the pitfalls of mere copycatting, guiding them toward choices that maximize productivity and innovation rather than merely minimizing space.
- Modern workplaces need modern payment models. Inside tenant suites, this may mean enhanced metering and delegated vendor management. Outside the suite, workers all benefit from common areas, and tenants with more workers benefit more than tenants with fewer workers. Property managers can get creative—and perhaps even radical—in allocating costs based on usage or headcount rather than square footage.
- Technology is changing how individual workers interact with their workplaces. Online, mobile-enabled tools such as Comfy, CrowdComfort and Lane allow workers to access common amenities, bring issues to management’s attention and even request brief periods of warm or cool air directly from the building automation system. Densification implies greater adoption of such tools, democratizing the relationship between office workers and building management. Owners and managers with a mindset of “workplace management” rather than “property management” will be at an advantage.
- Contemporary workers are using space differently, demanding a choice of work modes and workstations. Many tend to use public or common areas for impromptu meetings or individual work away from distractions. Even lobbies and rooftop areas can become alternative workplaces. In addition to touches like comfortable seating, semi-private areas, natural light and rock-solid wireless Internet connectivity, workers would benefit from actively programmed

amenities in these common areas. Buildings that offer maximum flexibility and comfort will be more attractive; owners and managers that anticipate and accommodate this trend physically and operationally will benefit.

- As it has always done in response to the evolution of the CRE industry, BOMA International will continue to provide educational content and best practices for its members. Resources such as BOMA's *Tenant Leasing Density Checklist* can help building owners and managers deliver best-in-class service in the context of transforming workplaces.



ADDENDUM – Densification and Opportunities for the BOMA Federation

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Densification—and, indeed, the broader “workplace transformation” trend—presents BOMA International and its affiliates with a tremendous opportunity to fulfill the federation’s traditional role of industry and professional education. Members need reliable guidance. They need to know what questions to ask and what data to collect. They need to understand the impact a high-density tenant will have on building operations, and they need to negotiate cost allocation accordingly. Here are a few suggested ways for BOMA to help:

- BOMA’s own members are its readiest source of best practices. Resources like the forthcoming *Tenant Leasing Densification Checklist*, compiled by BOMA’s research task force, will help members ask the right questions to densifying tenants. BOMA should seek to understand what other tools members already using to address densification.
- *How dense is too dense? What positive—and negative—experiences have tenants had after transforming their workplaces?* A BOMA-sponsored research effort to answer these questions, identifying critical thresholds and relating them to tenant outcomes, would arm members with insight to serve customers better. For example, a word of caution may be in order to tenants—especially smaller ones without in-house corporate real estate expertise—who are merely following a hot trend without considering the possible negative implications of transforming too radically. Many relevant stories are already out there; BOMA can collect them in a systematic way that members can trust.
- BOMA can further research transformed workplaces to set programming guidelines for members to share with tenants. Such research could answer questions like:
 - *What is an appropriate target ratio of space types (focus, collaboration, learning, leisure, etc.)?*
 - *How does the ideal layout change by tenant size, industry or location?*
 - *Are large suites more efficient than smaller ones? Are they more effective?*
 - *How important is office design relative to other factors (industry, building location, etc.) in engaging employees?*
 - *What is the relationship between density and health/wellness at the office?*

- BOMA can quickly produce a catalogue or resource guide that compiles and defines the latest mobile tools that allow office workers to engage directly with their buildings. There are apps that allow workers to reserve conference rooms, adjust temperature settings and explore local retail amenities. Awareness of such tools would benefit members and their customers.