



Mid-Year 2019

# Workplace Utilization Index

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# Executive Summary



## 01 — Executive Summary

This report examines more than 10,000 hours of meetings across 60 meeting rooms at a subset of Density customer locations. Generated over a 6-month period by Density's sensor platform—which accurately and anonymously measures how people use space—the data demonstrates the importance of measuring room-level utilization to increase workplace efficiency and improve the employee experience.

In this report, we explore how these evolving trends impact employee productivity and meeting room allocation. Of course, these findings aren't universal truths. It's important to stress that every office is unique. Variables such as industry, headcount, seasonality, team needs, remote working and hoteling trends vary considerably over time.

For the purposes of this report, we've analyzed customer data to demonstrate how to create meeting rooms designed to maximize space efficiency and support the ways people collaborate. This analysis is best understood as the result of a snapshot in time based on a 6-month dataset. While we welcome you to reference these findings when managing your own workplace, you'll need to develop standards based on the utilization patterns of your own employees in order to meet their needs. More on this in the report's conclusion.

For now, happy reading!



1. Meeting rooms were routinely used by just 1 person. According to more than 10,000 hours of tracking in our study, meeting rooms were occupied by a single person 36% of the time.
2. Meetings with between 2 and 4 people represented 40% of all meetings.
3. Large meetings were rare. Only 6% of all meetings included more than 10 people. 85% of meetings had fewer than 7 attendees.
4. The larger the room, the more often it was empty. Even the meetings with the most attendees typically only utilized 45% of the room's capacity.
5. The smaller the room, the more often it was over capacity. The capacity of rooms for 2 to 4 people was exceeded twice as often as rooms for 5 to 7 people.



# A Note from Density



Measuring how people use their workplace has long been limited to anecdotal observation. It has been the purview of architects, consultants, strategists, and designers spending their time counting humans, watching how they use a room, and manually recording what they see.

Expert analysis is not going anywhere. However, the laborious task of measurement and data entry is being replaced with advancements in anonymous sensing technology.

These systems have begun unlocking entirely new possibilities in building design and management. They are giving experts the tools and data to change the world in which we work.

Conclusions are more accurate, more nuanced, and more useful because the data is more accurate, more nuanced, and more useful.

These professionals are also expanding their influence and reach. As a result of inexpensive, always-on, and globally available sensing systems, workplace strategists are measuring and analyzing more quickly and at a substantially larger scale. Their dataset is bigger by orders of magnitude and it's all available from their desks, their phones, and their email.

Workplace strategy is becoming more strategic, building use is now just software, and the new workplace strategist is going to make and save companies tens of billions of dollars.

The following report draws on 10,000 hours of meeting room use, learnings from hundreds of devices, data from dozens of countries and was built by 3 people in 2 weeks.

The rate limiter on better workplace decisions is no longer the data you have, it is now the scale at which you operate and that of your team's ambition.

**—Andrew Farah, Density CEO**

*Note: Inferences from this report should be applied in the context of other factors specific to your workplace. We will update these conclusions based as our dataset grows.*

*Questions or suggestions? Please email: [info@density.io](mailto:info@density.io)*



# Meeting Rooms: An Escape from Open Offices?

## **In Summary:**

Get a baseline. Capture data on how people meet on an ongoing basis.

Uncover unmet needs. If one employee is taking over meeting rooms, it's important to understand why they're choosing these spaces instead of a designated desk. Surveys can help.

Support small meetings. The majority of rooms should support meetings of between 2 and 4 people. To match real-world usage patterns, 4 out of every 10 meeting spaces would need to be allocated for meetings with 2 to 4 people.



## 03 — Meeting Rooms: Refuge from Open Offices?

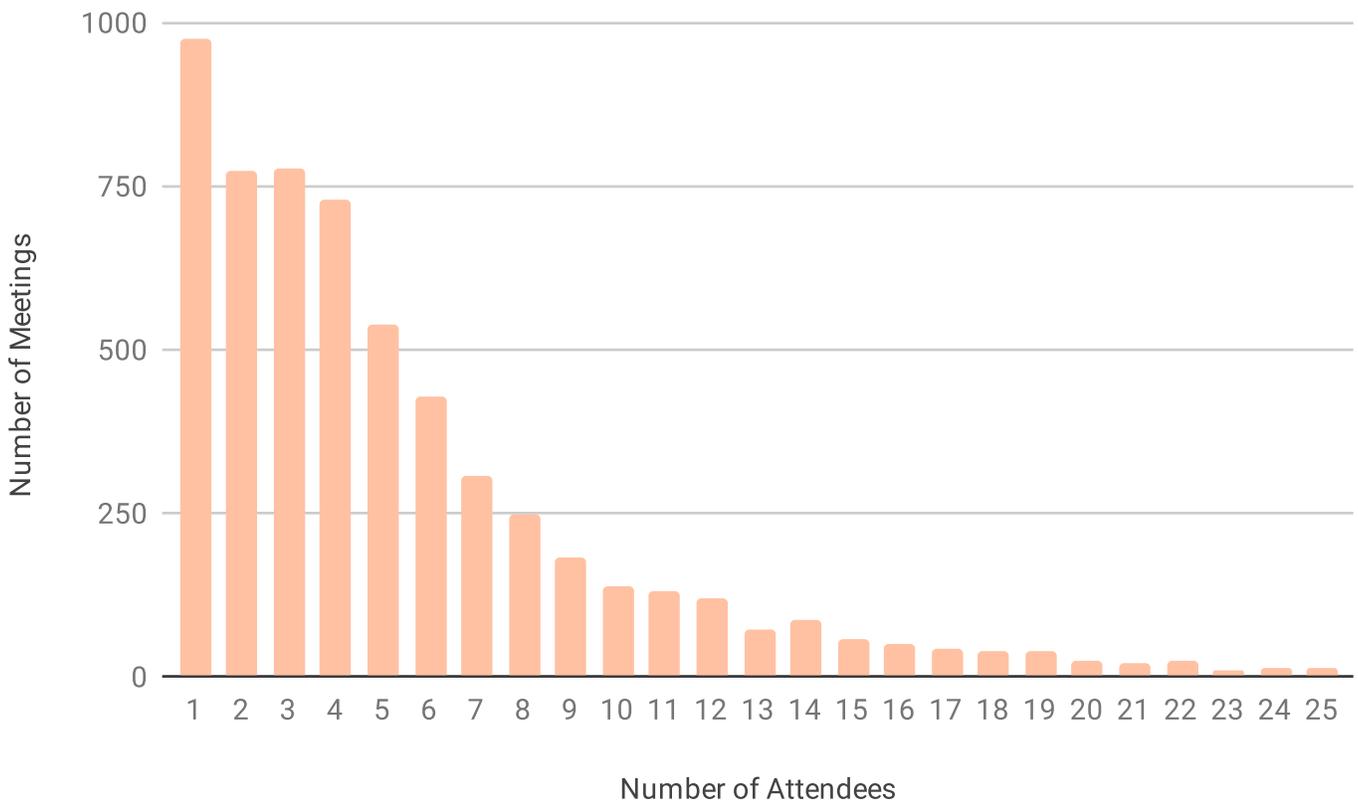
Before you can allocate space efficiently, you first need to collect data on how people collaborate in the work environment. How big is the average meeting at your office? Answering this simple question can uncover some valuable insights.

According to the data we collected, meetings are smaller than you might think. In the nearly 6,000 meetings we analyzed during the busy hours each day, meeting rooms were very often used by just 1 person.<sup>1</sup>

*Meeting rooms were very often used by just 1 person even during the busy hours each day.*

### Number of Meetings vs. Number of Attendees

How many attendees were present for each meeting during busy hours each day?



<sup>1</sup> “Busy hours each day” refers to the period of time when a meeting room had the most number of people in it compared to any other time that day. We identified the meetings with the highest occupancy each day for 60 conference rooms during the first 6 months of 2019.



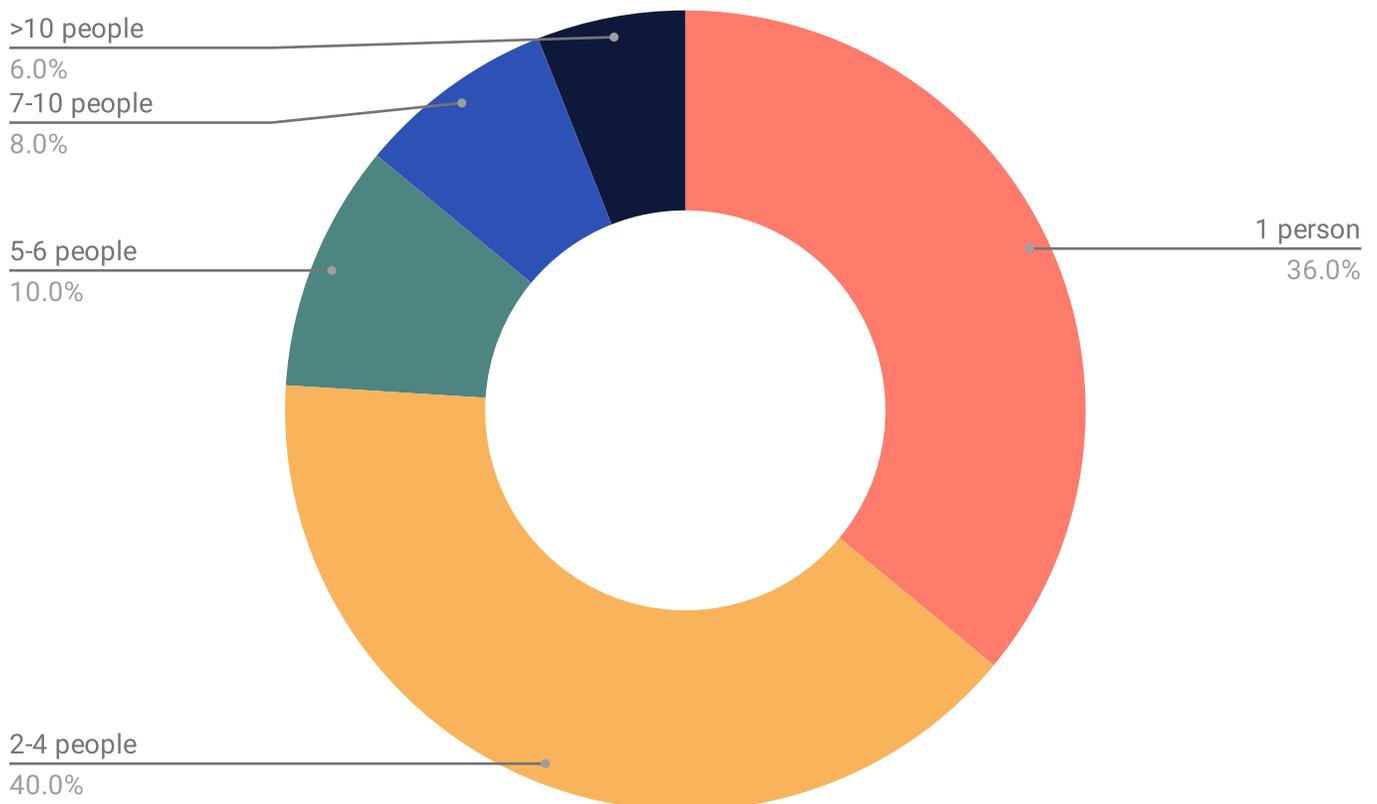
## 03 — Meeting Rooms: Refuge from Open Offices?

When we look at the amount of time each meeting group size spends in meetings, we find a similar trend: Most meetings include just a few people. 76% of the time meeting rooms were in use, they were occupied by 5 people or fewer. Not only that, a full 36% of occupied meeting rooms were being used by just 1 person!

*76% of the time meeting rooms were in use, they were occupied by 5 people or fewer. Not only that, a full 36% of occupied meeting rooms were being used by just 1 person!*

### Percentage of Usage by Meeting Group Size

How long was the room used by each group?



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## 03 — Meeting Rooms: Refuge from Open Offices?

### Behind the Data

The most common meetings on a typical day were relatively small, so there is a clear need for appropriately small-sized rooms. To match usage patterns, roughly 40% of all meeting rooms would need to be designed for 2 to 4 people.

The prevalence of meeting rooms occupied by just 1 person shows another surprising finding: Individuals are using meeting rooms designed for groups. This could be a symptom of the open office, lack of private areas for video calls, or quiet space for focused work.

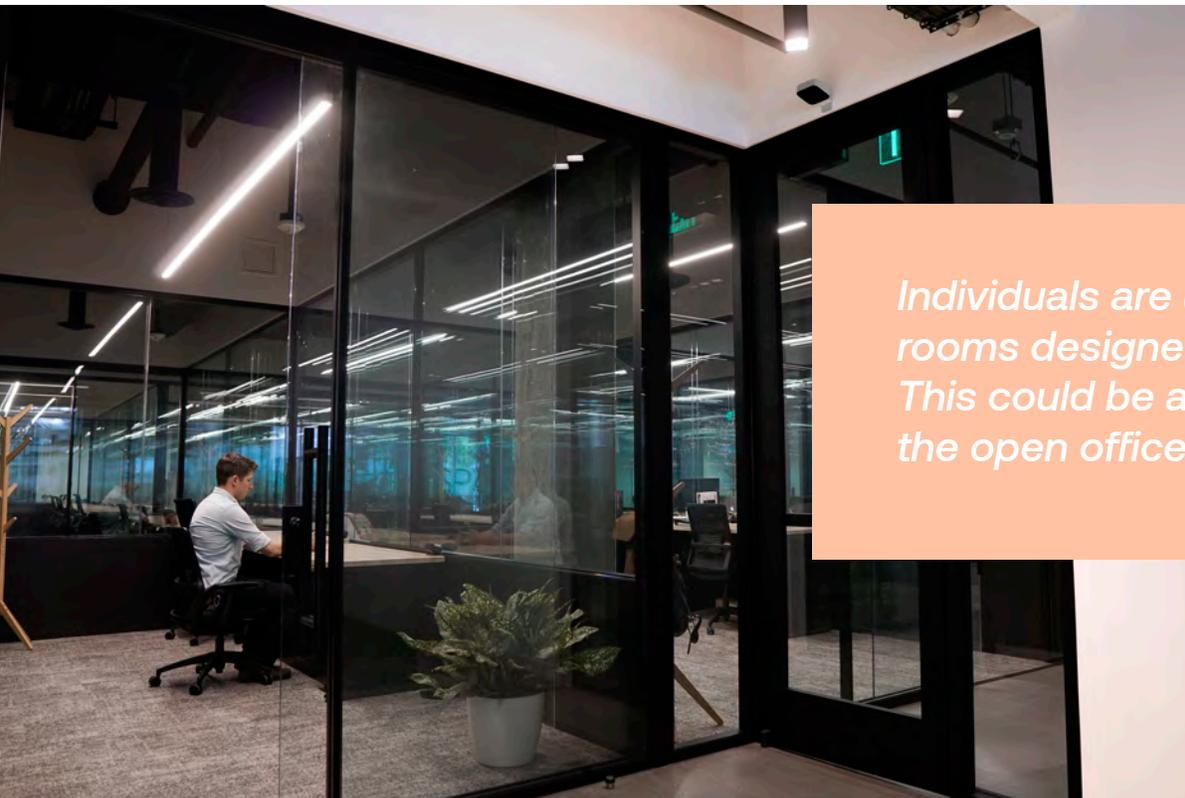
Our hypothesis: With no private spaces to use, employees seek out meeting rooms. At our own San Francisco HQ, for instance, 25% of the meetings in rooms built for 7-10 people were only attended by one person.

### Putting the Data to Work: Start Small

What does this mean for designing a world-class workplace? We have seen real-world evidence that installing phone booths can coax single-person meetings out of conference rooms.

After installing phone booths, one Density customer saw a 20% reduction in 1-person meetings across all other rooms. Another Density customer converted a section of its office floor into a noise-free environment called “The Quiet Office.” The inspiration? The company wanted to recreate the “The Quiet Car” experience preferred by business commuters on trains.

Quiet areas are well-suited for prolonged hours of uninterrupted work, while phone booths can be a great solution for shorter calls. Whichever solutions you try, it’s important to offer the right number of smaller spaces to discourage individuals from taking over shared resources. The data suggests that roughly 1/3rd of meeting rooms would need to be augmented with booths or quiet areas to address the problem.



*Individuals are using meeting rooms designed for groups. This could be a symptom of the open office.*



# Workplace Dollars that Make Sense

## In Summary:

Be a matchmaker. Identify mismatches between meeting room size and the size of groups that typically use the space.

Follow the crowds. Take a closer look at incidents of overcrowding. Providing the right amount of space doesn't just mean identifying daily trends. It requires an understanding why larger meetings don't fit the daily patterns of use. Anomalies matter.

Try it. Experiment with modular spaces and furniture to learn how fixed workplace designs can have multiple uses.

Convert wasted space. A mix of 20-person rooms that can be converted into smaller spaces may help solve the problem of underutilization in the largest rooms.



## 04 — Workplace Dollars that Make Sense

In our study, groups smaller than 4 people spent the most time in meeting rooms. Were the meeting rooms measured in this study designed to support the meeting sizes we've identified? The short answer: No.

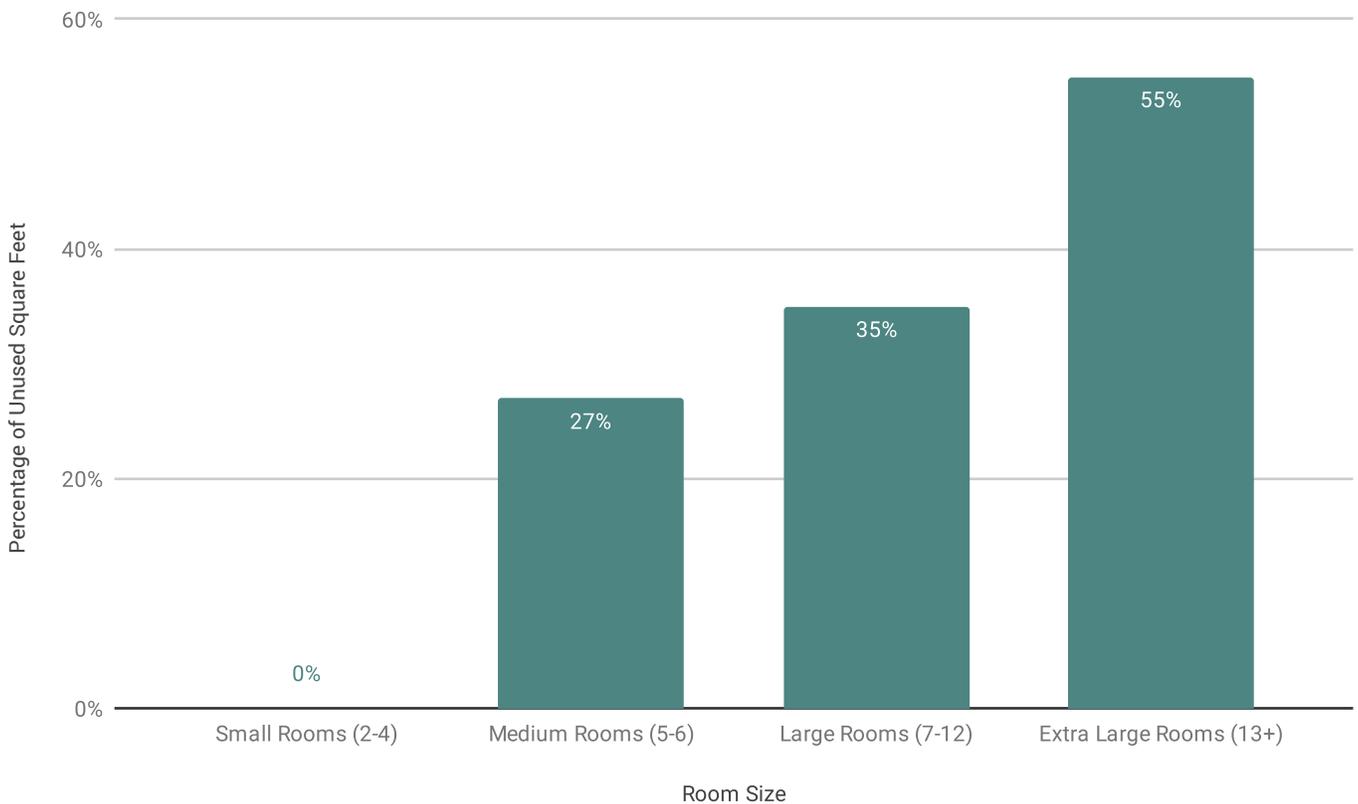
According to the data, when meeting rooms are in use, they're usually occupied by far fewer people than they're designed for.

Rooms for 2 to 4 people are generally used as designed. This makes sense: Small rooms attract small meetings. By contrast, all larger rooms are typically underutilized. When rooms for more than 12 people are occupied, they're usually more than half empty.

For many companies, this type of insight could relieve overcrowding issues and unlock substantial cost reductions. The key is having accurate data on which spaces could effectively be eliminated, consolidated, or reconfigured.

### Unused Space in Meeting Rooms

What percentage of square feet is wasted when rooms are occupied?



## 04 — Workplace Dollars that Make Sense

### Behind the Data

The data suggests that the largest meeting rooms could be half their size and still still support employees' day-to-day needs. Across 100 rooms designed for 20 people (with 400 square feet), this equates to nearly \$1.4 million spent on wasted space every year.<sup>2</sup> During the initial fit out, an additional \$2.8 million could have been saved.<sup>3</sup>

With such clear savings, it may seem like a good idea to get rid of all large and extra-large rooms. But what about the handful of meetings that had more than 10 attendees? These could be meetings that grow in size at the last minute or seldom-occurring events like board meetings. If an office has no rooms with a capacity over 10, how many meetings would be impacted?

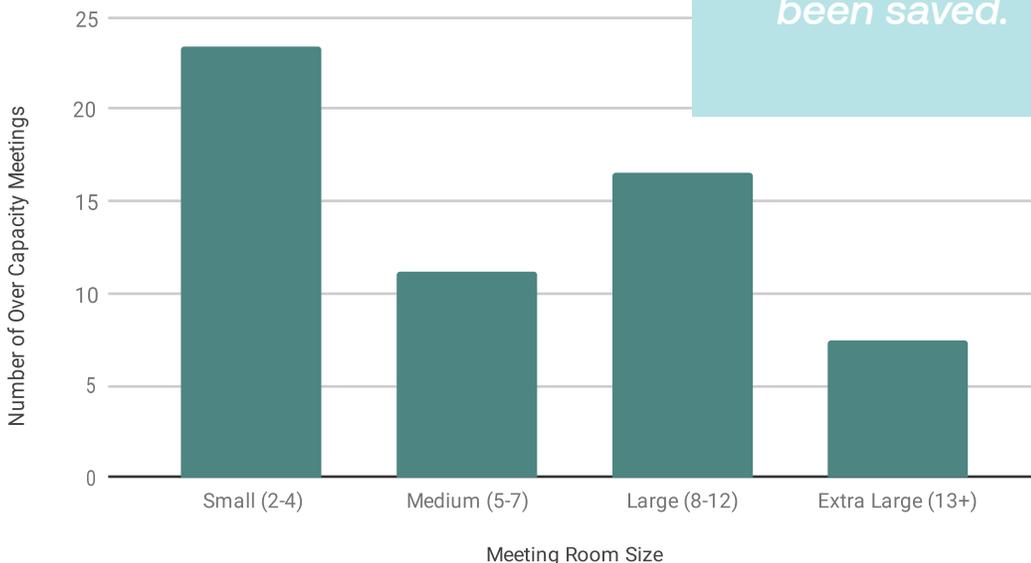
Together, large and extra-large conference rooms exceeded their capacity 24 times over the course of 6 months, each time for just over 30 minutes. Stated differently, over 6 months these rooms had too many people for a total of 14 hours.

Who were these people? For one client, they were the attendees of a board meeting, a vital but infrequent event. For another, they were new employees attending a training session during their first week.

The takeaway: Extra-large conference rooms may be underutilized. But when you need them, you really need them. So consider consolidating down to a minimum number of extra-large spaces with tighter scheduling.

### How Often Meeting Rooms Exceed Capacity

How many times did meeting rooms exceed capacity in 6 months?



*This equates to nearly \$1.4 million spent on wasted space every year. During the initial fit out, an additional \$2.8 million would have been saved.*

<sup>2</sup> Cost savings of \$1.4 million assumes \$50 spent per square foot on office rent and \$17 spent per square foot on expenses, including cleaning, utilities, repairs, and taxes.

<sup>3</sup> Cost savings of \$2.8 million assumes an initial fit-out cost of \$140 per square feet, including hard and soft costs, IT/Security, FF&E, move, and fees.



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## 04 — Workplace Dollars that Make Sense

### Putting the Data to Work: Don't Ban the Board Room

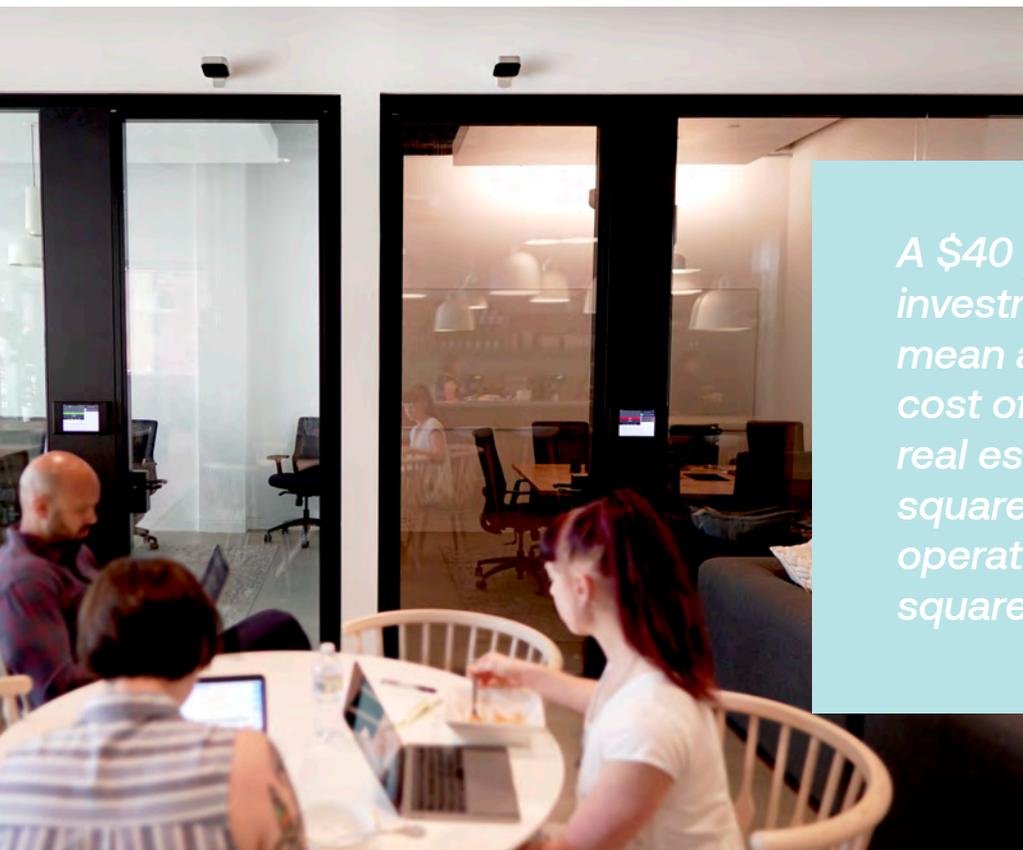
We've seen several clients solve their space issues by providing 20-person rooms that can be converted into two 10-person rooms. It may seem obvious, but hosting two 10-person meetings in a space designed for 20 is a 100% increase in space utilization.

How is it done? Flexible walls and dividers are two solutions to divide the space. Moveable furniture, like Knoll's Rockwell unscripted series, is also becoming increasingly popular.

Why? The investment unlocks more value from the same number of square feet. A \$40 per square foot investment in furniture could mean avoiding the upfront cost of outfitting additional real estate for \$140 per square foot and the ongoing operating costs of \$67 per square foot every year.<sup>4</sup>

Our data suggests that, for every 10 meeting rooms, 2 of them should have dividers. While this solution may not be practical for some organizations or certain spaces, the concept of creating flexible rooms for multiple functions is worth considering. When spaces are flexible, the fixed asset of real estate becomes a modular environment that can actually respond to the needs of its occupants.

Unfortunately, not all rooms can easily be converted into flexible spaces. Boardroom tables, which typically cost more than \$10,000 are not the easiest to move. So before you ban the boardroom, it's important to understand the specific needs of your own organization and use ongoing, accurate utilization data to provide better context for space planning decisions.



*A \$40 per square foot investment in furniture could mean avoiding the upfront cost of outfitting additional real estate for \$140 per square foot and the ongoing operating costs of \$67 per square foot every year.*

<sup>4</sup> Total fit-out cost of \$140 per square feet includes hard and soft costs, IT/Security, FF&E, move, and fees. \$67 per square foot in yearly operating costs assumes \$50 per square foot on office rent and \$17 per square foot on expenses including cleaning, utilities, repairs, and taxes.



# Conclusion: Tracking Success

## In Summary:

Designate quiet areas and phone booths for individuals. The goal is to have enough space for individuals so they don't hog the meeting rooms.

Design meeting room sizes around patterns of use. The most common meeting sizes range from 2-4 people. So why shouldn't most meeting rooms be designed for meetings between 2-4 people?

Convert some rooms built for 20 people into flexible spaces that can easily be split into two 10-person rooms. Experiment with modular walls or moveable furniture.



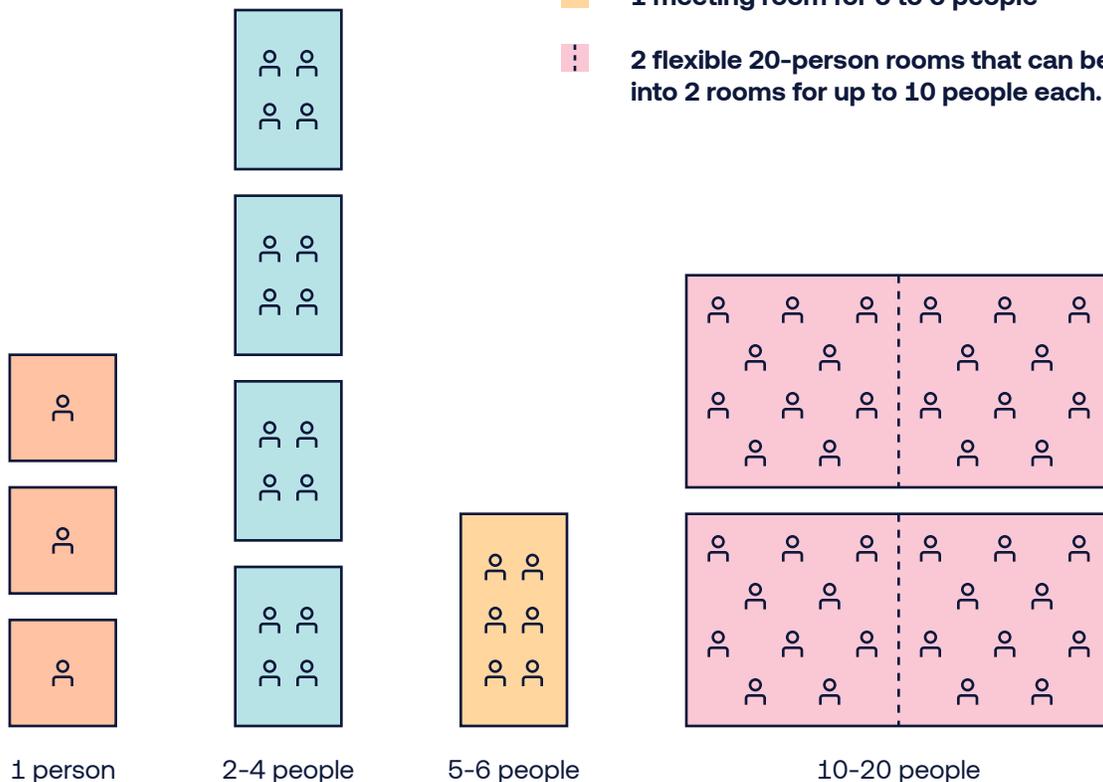
## 05 — Conclusion: Tracking Success

The data clearly shows that meeting rooms were often used by just 1 person even though they were designed to hold far more people. Meeting rooms that were built for more than 10 people, meanwhile, rarely had more than 10 attendees.

*Meeting rooms that were built for more than 10 people, meanwhile, rarely had more than 10 attendees.*

What does this mean in terms of costs? Let's just say your company has 1,000 meeting rooms across all its locations. 400 are designed for more than 10 people, 300 are designed for 7 to 10 people, and 300 are designed for up to 6 people. According to the utilization data, you would be wasting nearly \$10 million every year on underutilized square footage.<sup>5</sup>

What's a workplace or real estate team to do? Shrinking all meeting rooms isn't the answer. The goal is to provide enough space to support common patterns for human collaboration without ignoring the infrequent but important meetings that simply have to happen onsite. Based on our findings, there is some clear guidance for sizing spaces:



- **3 quiet areas or phone booths for 1 person**
- **4 meeting rooms for 2 to 4 people**
- **1 meeting room for 5 to 6 people**
- **2 flexible 20-person rooms that can be converted into 2 rooms for up to 10 people each.**

<sup>5</sup> Cost savings assumes \$50 per square foot on office rent and \$17 per square foot on expenses, including cleaning, utilities, repairs, and taxes, and 139,200 unused square feet.



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## 05 — Conclusion: Tracking Success

Let's revisit those 1,000 rooms. How might the allocation be different if we focus on limiting unused space and supporting the way people actually meet? Taking this approach for those same 1,000 rooms, we would allocate 300 rooms for individuals, 400 rooms for meetings of between 2 to 4 people, 100 rooms for meetings of 5 to 6 people, and 200 rooms as "flex spaces" that can be converted to support anywhere from 7 to 20 people.

Based upon the data we've collected, we think this type of allocation represents a good general benchmark for space utilization. But it isn't some golden ratio or a hard-and-fast rule that will work for all companies.

The strategies and mix of spaces will likely be different for your own organization. Each team likely has a different percentage of in-person vs. remote meetings, for example. Each workplace might support hoteling or non-designated work areas to varying degrees. And different departments use space in different ways (sales might have more meetings than engineering). These differences are not insignificant.

To truly analyze the impact that these differences make, it's important to track your individual utilization data. The key to all of this is understanding your own employees' usage patterns and overall workplace utilization. And it will be important to continue monitoring these trends on a regular basis as the company grows and new teams are formed.

Only when armed with historical and real-time data can real estate teams truly understand how much and—most importantly— what kind of space their workforce needs.



 Density

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