

Vertical Urbanization (VU)

THE IMPACT OF HIGH DENSITY DEVELOPMENT IN SANTA ANA, CALIFORNIA

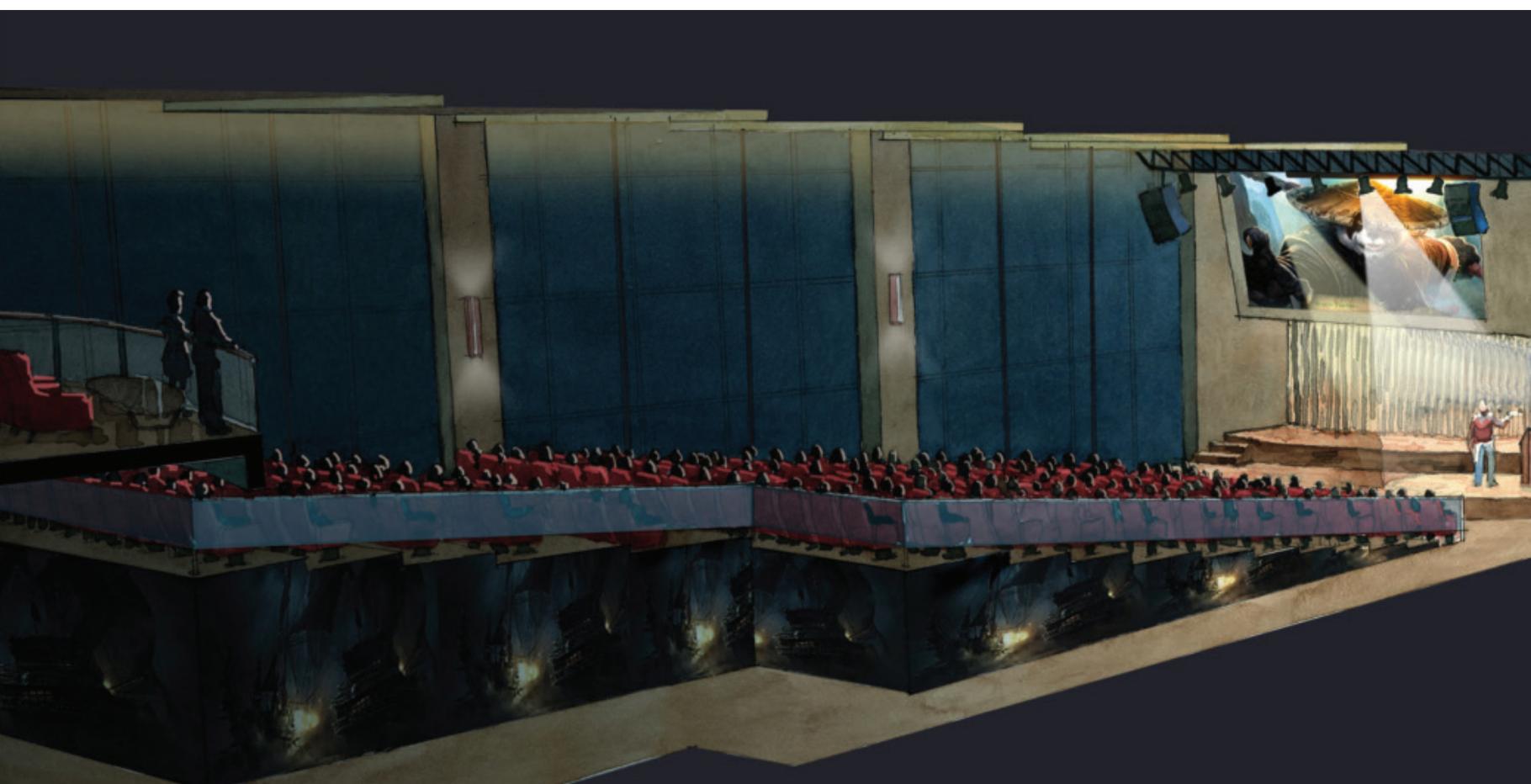
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The City of Santa Ana is the center of Vertical Urbanization (VU) for Orange County, the 6th most populous region in the United States. This is especially so with the imminent groundbreaking of One Broadway Plaza in downtown Santa Ana: the tallest (493'), largest (688,940 SF), greenest (Silver LEED Certified) and safest (latest Seismic Codes) office superstructure in the history of Orange County. There is increasing recognition of the need to increase the density of commercial development, especially in the downtown areas of our towns and cities. The sustainability benefits of VU are relatively well known. For example, less urban sprawl means less need to use greenfield sites and more use of public transportation. However, there is also a powerful economic case for increased commercial density that will be outlined below.

The research underpinning this report is based on a review of previous studies into the economic and sustainable impacts of VU development and tall buildings, discussions with developers and occupiers, and economic modeling of the impact of increasing employment density on output and productivity.

Increased density leads to increased productivity in six key ways:

- 1. Increased Specialization.** There may be enough business to support a general accountant or lawyer in a small town but in a VU downtown environment, there is enough infrastructure to support business advisers who specialise in very narrow fields of work thereby improving efficiency and expertise.
- 2. Knowledge Spillovers.** This occurs between firms in the same sector, between firms across different sectors and within the same large firm which leads to increased innovation.
- 3. Competition.** The presence of a large number of firms offering similar products spurs on competition, innovation and efficiency.
- 4. Larger Labor Markets.** VU offers wider choices for employers and the opportunity to recruit staff with specialist skills.
- 5. Economies of Scale.** These are created by serving larger markets.



6. Reduced Transportation Time and Costs.

This occurs for products/goods/services from one stage to the next, or from producer to consumer and occurs in denser areas where the transportation infrastructure is sufficient. For example, the City of Santa Ana, the capital city of Orange County, is the geocentric focal point for Orange County vis-à-vis transportation. Santa Ana is directly linked to every major mode of transportation in the Western United States: air (John Wayne Airport), train (Santa Ana Regional Transportation Center), auto (convergence of every major California highway) and bicycle (100 Mile Santa Ana River Bike Trail).

These impacts are commonly referred to as agglomeration impacts. Importantly, this link between density (or agglomeration) and increased output has been extensively researched and quantified. In essence, the research shows that a doubling of employment density within a given area can lead to a 12.5% additional increase in output per worker, increase in productivity, in that area. Within the service sector the figure is far higher at 22%. For example, One Broadway Plaza will support between 2,500 and 4,500 employees, all under one roof, substantially increasing the productivity of the employees of the firm(s) occupying the building.

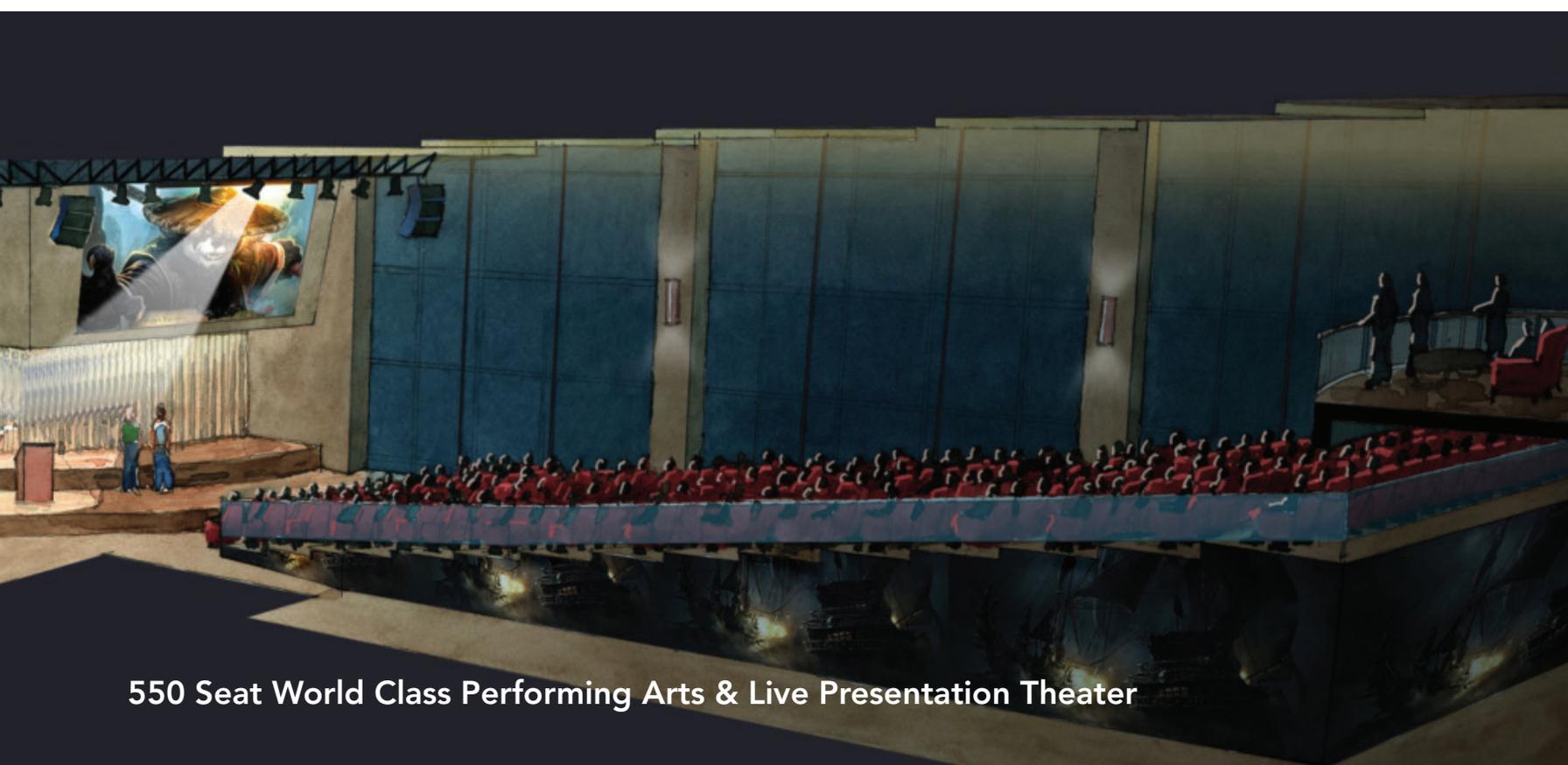
LINKS BETWEEN DENSITY AND PRODUCTIVITY

Cities are economic drivers – the very core of economic growth and development. Scale and density – essentially what makes a city a city – have long been thought to be connected to these productive advantages. The ability to offer a critical

mass of highly qualified labor, support services, information, infrastructure and markets have all been linked to urban competitiveness and economic performance.

Increased Specialization

As levels of economic activity increase, so does the ability of firms to specialise and increase efficiency, due to increased market size and competition. Recently, popular “cluster” theory, developed by Michael Porter (1990, 2000), designates the importance of location to economic success. Porter’s clusters are “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions... in a particular field that compete but also co-operate.” In essence, a cluster is more sophisticated than a simple agglomeration of companies, and the interconnected linkages that give the cluster value give value to that location, rather than just to the individual businesses. This is partly why clusters have become so popular. In the cluster model, close linkages with key suppliers, buyers, and other institutions, such as industry trade groups and universities, are important to efficiency, improvement, and innovation. Clusters are difficult to create or directly encourage from a policy perspective. The best encouragement is indirect – providing the resources, facilities, and communication mechanisms that potential clusters can use as assets. Providing sufficient commercial premises, as is the case with One Broadway Plaza for example, for a downtown, high-density cluster removes this obstacle and will certainly be an integral part of encouraging additional downtown Santa Ana clusters.



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Knowledge Sharing/Innovation

The idea that knowledge spillovers occur and are important to innovation and productivity is widely acknowledged as is the role of location and agglomeration in this process. Knowledge transfer is thought to occur better in close proximity, high-density environments for a variety of reasons:

1. Less clear “sticky knowledge” is best transmitted in person and with multiple contacts. While it can be extremely easy and quick to transfer information from one place to another, knowledge is “sticky” if you will and is often very difficult and slow to transfer without a person-to-person interaction.
2. Communication between individuals creates knowledge spillovers, not just the existence of high levels of knowledge in the region. Putting people next to each other increases the chance of knowledge interaction.
3. In a denser, diverse environment, knowledge can spill over from its initial use to something for which it was not originally intended. These incidental interactions are more likely in close proximity, high-density environments.
4. A significant share of knowledge transfer occurs informally.
5. Knowledge transfer spurs innovation and a high density of economic activity facilitates such an exchange of knowledge and information. Moreover, despite decreasing costs of telephone services and email connectivity, physical proximity still matters. Evidence indicates that a majority of telephone and email contact is between people in close physical proximity. Face-to-face contact is still crucial for communicating complex, tacit knowledge.

In summary, greater geographic concentration of production leads to more, and not less, dispersion of innovative activity. VU is a natural conduit for that concentration.

Increased Competition

As cities strive to be more competitive, a key component is attracting knowledge workers and higher-end service industries. Specific sectors, such as information technology and advanced financial services, have been particularly desirable. These sectors are often tenants of tall, amenity-rich, state-of-the-art buildings. A main reason why many companies are returning to VU environments throughout the world is that housing more employees under one roof can increase a firm’s efficiency. Especially as mergers and consolidation have become the trend in financial

services and the technology sector, a large quantity of office space is required to have everyone under one roof, and this often means tall buildings in key urban areas like Santa Ana – where major global businesses want to be located. Tall buildings also provide a degree of flexibility for tenants, where expanding and contracting can often be relatively easily accommodated, compared to being in a smaller building.

Increased density can increase productivity through access to denser markets – both on the supplier side and on the consumer side. On the supplier side, access to more competing suppliers helps firms procure more efficient, cheaper and more appropriate inputs. Competition encourages efficiency and survival of the fittest firms. This holds true for labor, as well. Firms in denser areas have access to a larger labor pool, aiding recruitment and retention. On the consumer side, better access to potential consumers can mean more exposure to a firm’s products or services within a commutable radius of their trade, increasing the efficiency of their sales and marketing. Increased competition among producers forces further efficiency.

Efficiencies of Scale

Efficiencies of scale can be identified across firms or between divisions of one firm, where more concentrated land use, energy use and service provision create efficiency of scale in providing amenities to workers. Increased density and reduced sprawl mean that fewer service providers, or intra-company resources, can be used to offer support services, utility and energy provision more efficiently.

Efficiencies of scale within firms is widely recognized where increased density (particularly with tall buildings) provides an opportunity for workers from one firm to be located together, rather than spread across different locations or different low-level buildings in a campus setting. In a recent study of tall building occupiers, intra-firm synergy benefits were thought to be derived from amalgamation by the following reasons:

1. Organizational development – promoting intra-firm relationships, particularly among newly merged firms. The overriding comment was that firms that come together in one office tower bring about value-adding synergy.
2. More frequent casual encounters – adding a feeling of cohesion and increasing the frequency of chance encounters that can add value. Companies want the synergy that flows when people bump into each other in the same building, with interaction that can lead to value.
3. Reduced costs of running separate sites and duplicative resources – reduced costs of duplicate

receptionists, security staff, post distribution, food/catering and other support staff and the time spent travelling between offices buildings.

Several examples highlight the value of these efficiencies in the institutional finance and business services sector:

1. A financial institution reduced unit operating costs by 22%;
2. An insurance company's unit-operating costs fell by 10%;
3. A national bank's unit operating costs fell by 15%.

TRANSPORTATION/TIME SAVINGS

Efficient public transportation in a VU area has the advantage of encouraging the use of public transportation. For example, the City of Santa Ana is developing a comprehensive transit solution to serve its residents, workers, local businesses, and the transit-dependent, with the dual goals of improving mobility and strengthening connections to surrounding communities and cities. The Santa Ana Transit solution focuses on development of the Santa Ana-Garden Grove Fixed Guideway (Streetcar-Light Rail) Project through the downtown area and expansion of the Santa Ana Regional Transportation Center. The Streetcar-Light Rail Project will loop around and link the entire downtown Civic Center Area, including One Broadway Plaza, directly with the Santa Ana Regional Transportation Center. This will provide an unprecedented level of transportation and connectivity for the City of Santa Ana's downtown VU area.

OTHER ECONOMIC BENEFITS OF COMMERCIAL DENSITY

Land Take

Simply put, building up means less building out: an equivalent square footage of space can be accommodated on a smaller area of land. This allows more land to be used for public realm, conservation and environmental purposes. At a basic level, a more dense arrangement of economic activity means that a greater quantity of activity can take place within a fixed land area. One way to think of this is that more jobs and output can be accommodated within a fixed space over time. Another way to think about this is that more efficient use of land for commercial space leaves more green space for other uses, such as parks, which users can enjoy. This is both economically efficient and has sustainability benefits.

Occupier Perceptions of Tall Buildings

A study of VU tall building occupiers found that the large quantity of space needed in a desired location frequently drove office space selection for tall building

tenants. These companies often chose tall buildings for the quantity of space, which they could not find elsewhere. While they had not foreseen locating in a tall building, once they determined that they wanted to put all their employees together, they decided that the building would have to be over 400,000 square feet. Given the size footprint, this meant a tall building located in a VU area.

As part of this study, property experts and tall building occupiers were interviewed to learn more about the economics of tall buildings in practice. In particular, we wanted to assess the impact that being in a tall building, or on a tall floor, has on a tenant's bottom line. Combining previous research with our own interviews, four key benefits emerged:

1. Quantity of Space in Key Location

In most cases, many tenants described a VU tall building as the only way to get all their employees under one roof. They stated that tall buildings in VU environments provide large quantities of floorspace near key districts, transportation hubs and amenities.

2. Flexibility

Tenants and property experts agreed that flexibility is often an attractive part of VU tall buildings. Tenants can expand to other floors within the same building, or sub-let floorspace as needed, with relative ease.

3. Prestige

VU tall buildings are one way for a firm to achieve an outstanding branding opportunity or image boost from a prestigious location, particularly through views or a recognizable building title. For example, One Broadway Plaza offers unprecedented 30' x 80' lighted corporate signage, 500' above ground. Over 2 million cars daily and almost every airplane along the main flight paths for John Wayne Airport will be exposed to the largest, highest building signage in the history of Orange County.

4. Amenities

Column-free space, resort style wellness and fitness centers, enhanced, international food emporiums, green roof-top entertainment and outdoor events areas, theater/conferencing/international communication and product presentation stages and floor loading for high-tech laboratories are all important considerations for the 24/7 global office environment. Tall, large buildings, One Broadway Plaza for example, have the critical mass to offer these amenities and provide outstanding 24/7 highly productive office environments.



SUMMARY AND CONCLUSIONS

The City of Santa Ana is the center of Vertical Urbanization (VU) for Orange County, the 6th most populous region in the United States. There is increasing recognition of the need to increase the density of commercial development, especially in the downtown areas of our towns and cities. The sustainability benefits of VU are relatively well known and increased density leads to increased productivity in six key ways: (1) Increased Specialization; (2) Knowledge Spillovers; (3) Competition; (4) Larger Labor Markets; (5) Economies of Scale; and (6) Reduced Transportation Time and Costs. The City of Santa Ana and One Broadway Plaza exemplify the VU trend currently occurring throughout the United States and worldwide.



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