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PLACE AND URBAN EXPERIENCE IN THE  
SUBURBS:  
MICROSOFT'S CAMPUS LOCATION AND ITS  
LONG-TERM COMPETITIVENESS

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# ABSTRACT

## PLACE AND URBAN EXPERIENCE IN THE SUBURBS: MICROSOFT'S CAMPUS LOCATION AND ITS LONG-TERM COMPETITIVENESS

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Microsoft is located in Redmond, WA on a sprawling suburban campus, which at one time was a competitive advantage. The desirability of suburban locations has waned and they now are faced with adapting their campus, which they are heavily invested in, to make themselves more competitive and effective as a company in the future. Engineers who wanted to live in the Pacific Northwest also have many more potential employers, which only intensifies the competitive pressure on Microsoft. This thesis examines ways in which the experience and layout of spaces can impact recruiting, business outcomes, and competitiveness then applies these lessons to Microsoft's Redmond Campus. The role of transportation, connectivity, mixing, and embeddedness are all considered and the growing region and its impact on Microsoft is taken into account, particularly in regard to Link Light Rail. Microsoft's Campus contains areas with the qualities of a prototypical suburban office park; the experiential qualities, promotion of car travel over other modes, and individual isolation of a typical suburban office park are found to be a liability for Microsoft and solutions are offered that address these deficiencies and synthesize the lessons learned are offered.

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# BACKGROUND

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*“It is a fact that we could have saved money by instead building in the suburbs, but for us, it was important to stay in the city. Urban campuses are much greener. Our employees are able to take advantage of existing communities and public transit infrastructure, with less dependence on cars. We’re investing in dedicated bike lanes to provide safe, pollution-free, easy access to our offices. Many of our employees can live nearby, skip the commute altogether, and walk to work. Though I can’t prove it, I also believe an urban headquarters will help keep Amazon vibrant, attract the right talent, and be great for the health and wellbeing of our employees and the city of Seattle.” –Jeff Bezos, in Amazon.com Inc’s April 2014 Letter to Shareholders (3)*

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Microsoft has a recruiting problem. They are less competitive for the fresh hotshot talent coming out of universities, as well as their peers a few years further down their career path. They make up for this lack of competitiveness by paying about 15% more to an engineer of the same level than Amazon, Inc, their top-tier tech firm pier across Lake Washington (Glassdoor.com 2016a; Glassdoor.com 2016b). This competitiveness gap has been related to me by both current Microsoft employees (Microsoft Project Manager A 2016; Microsoft Project Manager B 2016) and a Senior Manager there (Stanton 2016). People don’t want to work at Microsoft as much as they want to work at its immediate competition, such as Alphabet (i.e. Google), Amazon or Apple. The reasons for this are complex and have to do with (amongst many factors): the specific position within the company, Microsoft’s location, its campus, its reputation (both recent and over the last decade), transportation and housing, personal considerations, and compensation. A potential Microsoft employee has a lot to consider when weighing an offer but the bottom line is Amazon in South Lake Union – a company with a reputation for quick turnover, a.k.a. ‘churn and burn’ – can pay an engineer \$100,000 and Microsoft has to pay the same person \$115,000 to work in Redmond.

Microsoft moved to its current Redmond, WA headquarters in thirty years ago, in 1986. They moved from Albuquerque, NM with a brief stopover in Bellevue, WA to the collegiate, sprawling, picturesque

campus that they still occupy to better attract workers (Microsoft Corporation 2016) – for a time, being located in a nice suburban office park was considered a competitive advantage for a company. Today, there has been a national push toward urbanization and cities are in high demand for both residential and office space (Cortright 2014). On the Eastside, urban places are proliferating (particularly in Redmond and Bellevue) and the transportation landscape is also changing dramatically. In less than a decade, there will be new access to transit, new bus rapid transit, and new light rail options connecting Microsoft to the region (Puget Sound Regional Council 2016).

Microsoft itself has invested in several billion plus dollar plans, subsequently derailed, to transform its headquarters. In 2006 they planned “to [add] the equivalent of two Googles” (Dudley 2006, 1) to Campus and just last year, in 2015, they employed Skidmore, Owings, & Merrill to look at a major overhaul reportedly in the “multi-billion dollar” range (Yu and Bass 2015, 2). Neither of those plans have come to fruition.

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*“Microsoft wants to make the most of its suburban setting, by leveraging more of its outdoor areas, said the people with knowledge of the matter.*

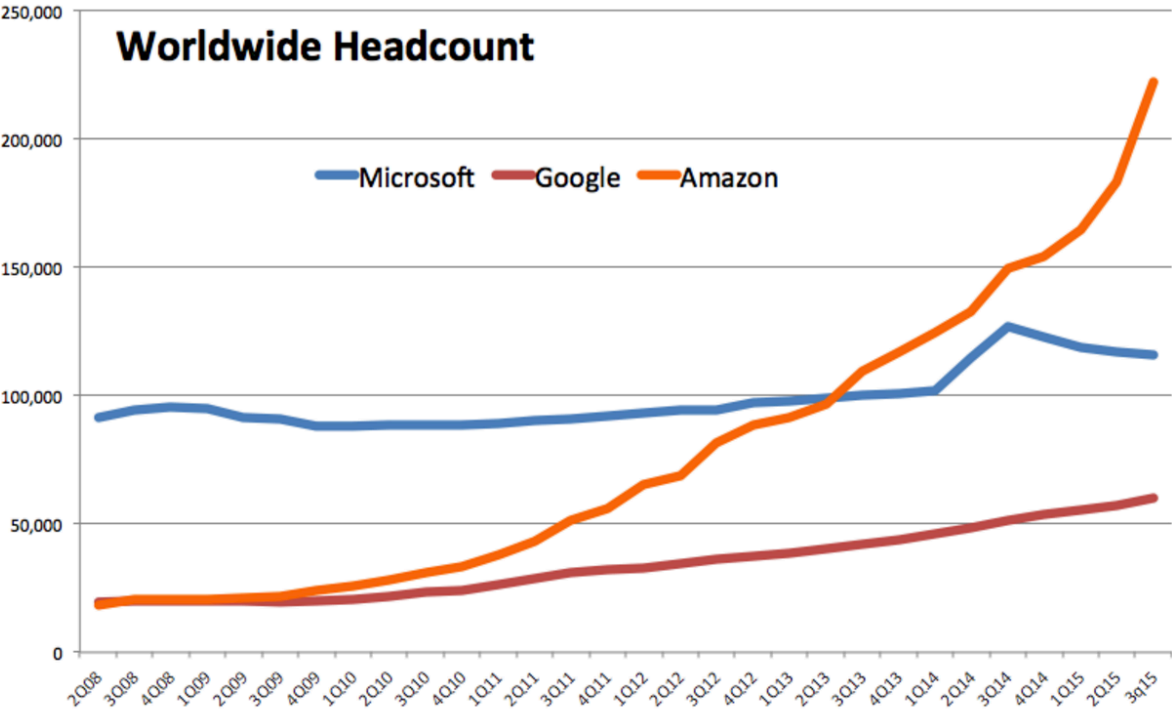
*‘Employees’ tastes have changed,’ said Matt Griffin, managing partner of Seattle-based commercial developer Pine Street Group. ‘Thirty years ago, they wanted to be on a college campus. If Microsoft thinks they’re losing employees, they might try to make it more of an urban campus’” (Yu and Bass 2015, 3).*

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This thesis aims to understand what Microsoft should do to work toward solving its recruiting challenges and take greatest advantage of both Link Light Rail and the changing Eastside, and subsequently will take the first steps toward visualizing and applying the lessons learned spatially.

# Campus Location and Physical Attributes

Microsoft has grown long-term at their Redmond Campus (Campus); they officially moved from offices in Bellevue just a few weeks before going public on March 13th 1986. They now own 10,194,984 square feet in the Puget Sound Area across 80 sites employ over 43,000 people in the roughly 14.8 million square feet of combined leased and owned Puget Sound Area office space (Microsoft Corporation 2016). As shown in Figure 1, Microsoft has kept a fairly stable global headcount, particularly in comparison to their peer firms, despite a growing metropolitan area and growing business.



Sources: Amazon, Microsoft, Google \*Not including Motorola

Figure 1. Top-Tier Tech Firm Employment over Time Source: Soper via Geekwire

The physical form of Microsoft’s campus is fairly typical for a 70s/80s office park, with a landscaped, vaguely collegiate feel. Buildings are medium to low rise and have landscaped and hardscaped buffers around them of parking and greenery, with connections to well-maintained low speed roads. The State Route 520 highway (SR-520) runs between the east and west sides of Microsoft’s campus, with pedestrian and vehicle access across SR-520 provided by bridges at NE31st/36th St and NE 40th The two bridges are fairly widely spaced – they are a roughly 4,100 foot walk apart from each other on the east side of the highway, which is a major barrier between the two halves of Campus.

The context of Microsoft's campus is, currently, predominantly suburban in nature. Many of their neighbors are single family houses, many of which are on cul-de-sacs. There is currently some development toward the north end of the Bel-Red corridor in an area known as Overlake Village, with big-box amenities such as Goodwill, Ihop, and Ross Dress for Less in the strip mall at NE 20<sup>th</sup> st, near Campus. There are also high-tech office spaces near Microsoft campus, but not owned or operated by Microsoft. Figure 3 illustrates the level of amenity nearby, using Walkscore as a proxy for the availability and accessibility of goods and services. Campus, in the center of the figure, has generally poor connectivity and public amenity levels (Walkscore does not factor in Microsoft food services, which are not open to the public).

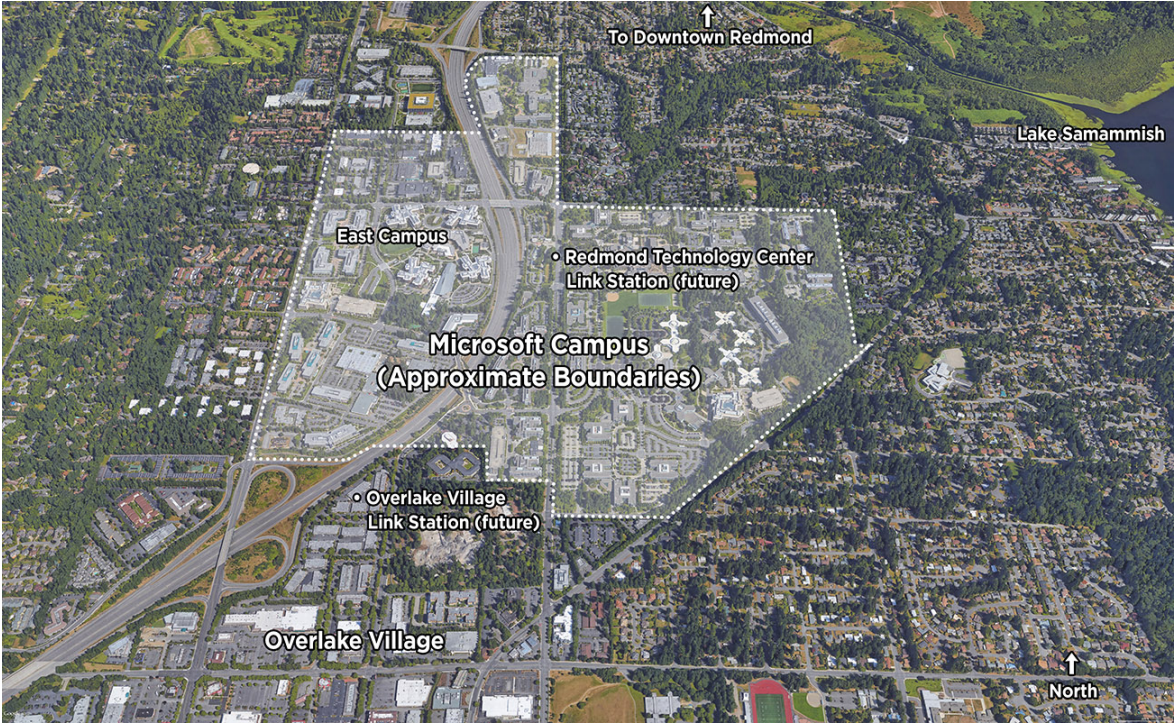


Figure 2. Microsoft Campus and Immediate Context. By Author.

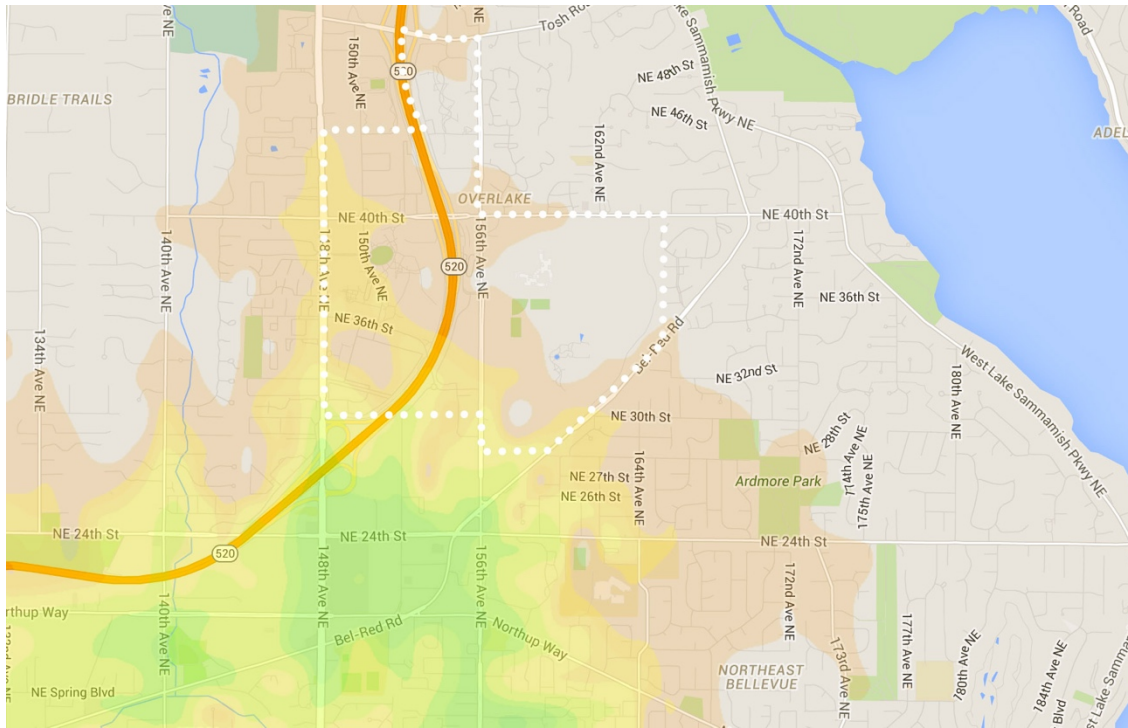


Figure 3. Walkscore Heat Map for Campus Area, with approximate Campus Boundary. Orange: 25 Green: 100. Source: Walkscore.com. Modified by Author.

## Campus Transportation Access

SR-520 provides a high level of service and access for motorized vehicles, cars and busses alike. It connects Seattle in the West and Redmond to the Northeast (amongst other destinations, naturally) to Microsoft. It is a heavily managed roadway compared to many in the US, with transit and 3 plus person HOV lanes, and tolling on the bridge portion over Lake Washington. These efforts, particularly the HOV/transit lanes help to manage demand and increase mobility, the number of people who use the road per vehicle, and subsequently decrease congestion. When fully built, WSDOT projects that their management projects will be able to increase the number of people SR-520 carries by 15 to 17 percent, with only 5 to 10 percent more vehicles (Washington State Department of Transportation 2016).

Some of the major users of the SR-520 highway are transit users. At 156<sup>th</sup> Ave NE and NE 40<sup>th</sup> St, there is a transit center and Park-and-Ride. The Overlake Transit Center has 222 parking spaces and,

according to internal King County numbers collected by the author<sup>1</sup>, is typically filled to or slightly beyond capacity. For the first service change of 2015, which roughly corresponds to the first quarter, Overlake Park-andRide averages over 1,961 transit boardings. This is nearly 4 times the average of 513 daily boardings. It is served by King County Metro routes B Line, 232, 244, 245, 249, 268, 269, and 982 and Sound Transit routes 542, 545, 566, and 567. This is all to say that for those relying on private vehicles and public transportation Campus is served by a range of high capacity options, connecting to a great number of places with single-seat rides.

Redmond has also specifically called out improving pedestrian and bike infrastructure around Microsoft, both to the north and south of campus, in their long range plan (City of Redmond 2014). The combination of road, rail, bike, bus, and pedestrian access mean that, despite a relatively suburban context, Microsoft has a high level of connectivity and access at their Redmond Campus. Future in transit and non-motorized infrastructure will significantly improve these resources.

## Research Methods

This document relies primarily on secondary sources, with supplemental and corroborating information gathered through primary sources. The secondary sources are a mix between quantitative, qualitative, and subjective publications. Different sources are appropriate for different lines of inquiry. For examples of each data type, self-reported salary data and statistically accurate studies on commuter behaviors are used as quantitative secondary sources, and interview-based publications about preferences and motivations are used as qualitative secondary sources. Articles in *The New Yorker* or *Atlantic* which tread the line between academic publications (citing sources) and subjective (editorial) journalism are examples of subjective secondary sources. Primary sources are limited in this inquiry and primarily fall into one of two categories – interviews about experience and opinions with tech workers, and notes from Independent Study work done in Autumn Quarter of 2015, prior to work on this thesis. The Independent Study related to campus planning at Microsoft and was done with two other students, with Jim Stanton, Sr. Community Affairs Manager/Development Manager at Microsoft, and University of Washington College of Built Environments Affiliate Instructor David Blum.

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<sup>1</sup> Lot utilization figures are from quarterly surveys (counts). Route and ridership information are collected from a database which collects automated passenger count information. Not all busses are equipped with counters, which do not always work flawlessly; ridership information should be considered a descriptive sample.

## Document Overview

This thesis is organized into Background, Literature Review, Cases and Context, Analyses, Recommendations, and Designs for a New Heart of Campus chapters. The first four chapters establish the theoretical framework which guide the design and recommendations in the final two chapters. An emphasis is placed in exploring the mechanisms behind people's behaviors and preferences, to better understand how to respond to a changing competitive landscape.

In the Literature Review, I start by looking at macro-scale patterns in the competitive landscape – the movement out of the suburbs by businesses and people alike. I examine what motivates these moves and additionally examine what drives mode choice decisions for commuters. I found that the preference for urban locations amongst tech workers is quite durable, remaining in spite of life changes such as adding a child to the household. I also found that for mode choice changes, neither 'carrot' nor 'stick' strategies are as effective individually as they are together. Experiential qualities of housing, employment, and commutes were consistently found to be of paramount importance. I then transition into an examination of Microsoft's context, locally, regionally, and in terms of its competition. In the Cases and Context chapter, Redmond's evolution, the shift from suburban to urban campuses being in demand for tech firms, and Amazon's response to a similar challenge are examined. The planning context is also examined: the local transit agencies' plans to substantially increase service to Microsoft's Campus and rapidly changing areas near Microsoft are examined in detail.

In the Analyses chapter, I look at the advantages and disadvantages different spatial arrangements have for companies. From cubicles to regional clusters, I found that across scales chance encounters are extraordinarily important to creative people and industries. These encounters lead to conversations and knowledge workers are forced to expand their horizons. As a result, there is 'knowledge spillover' that creates a positive feedback loop and leads to better products from both individuals and companies. I suggest that these lessons – already being applied to 'non traditional' workspaces at Microsoft – need to be applied across campus. Microsoft needs to make its many diverse groups feel interconnected and give them places and reasons to be around each other without pretext, leading to knowledge spillovers. I then look at the role of transportation again, using the exact same framework as in the Literature Review to apply lessons specifically to Microsoft. This leads into my final two chapters, where I look at specific ways in which Microsoft's campus could be changed and their competitiveness improved, using the lessons from the previous chapters.



# LITERATURE REVIEW

<http://www.madrona.com/seattle-tech-universe-poster/>

## The Urbanization of Firms

A major trend, which started before The Great Recession but has been more pronounced during the subsequent recovery, is the resurgence of urban life in America. Young college graduates, struggling to avoid underemployment or unemployment during The Great Recession, staying in cities instead of moving to suburbs, buying houses, cars, and the like. This has evolved into a durable set of preferences toward urban amenities and lifestyles generally amongst this group (Smart Growth America 2015). The generation born from, roughly, 1980-2000 are known as Millennials and a great deal of urban redevelopment has been catering to their perceived tastes – the tenant-less brewpub and ‘hip’ marketing of the Spring District is a good example of this (Wright Runstad & Co. 2016).

Not all cities are seeing their core areas growing faster than the suburbs, but the fastest growing places over the last decade have overwhelmingly been urban centers (Berg 2012). Part of the draw of urban life is the convenience that being close to so many things offers and as such, many people who prefer to live in cities also have a preference toward working in cities. Firms have seen a great deal of pressure to locate near their workers, which in broad terms means that companies of all stripes – particularly knowledge industry firms – have been flocking to urban offices (Smart Growth America 2015). Smart Growth America, analyzing data from the real estate services company Cushman & Wakefield and other sources between 2010-2015, found nearly 500 firms that moved from the suburbs to downtown locations. These companies were mostly professional, scientific, or technical firms (29%, by far the most of any industry), and categorically, the new locations for all firms were more walkable, bussable, and bikeable (Smart Growth America 2015). The dramatic differences in the transportation environments are seen in Figure 4, with walkability being the most dramatic change.

It is clear that amongst people aged 18-35 in 2016, aka Millennials, there is a significant preference to live in cities, particularly amongst highly educated Millennials. According to the the US Census’ American Community Survey data, two-thirds of the nation’s 25-34 year olds with a BA degree live in the nation’s 51 largest metropolitan areas – those with a million or more population” (Cortright 2014, 12). Further, Cortright finds (via Census data) that Millennials moved to areas within 3 miles of the city center at nearly twice the rate as the city as a whole; young people with degrees are moving to city centers. A common theory is that Millennials, the largest generation so far has monolithic yet unique, aberrant tastes and prefer urbanity, convenience, and walkability – traits that are obviously anti-suburban.

Other more technical analyses also found similar patterns of both companies and professionals moving to urban locations (Sleutjes 2014; Strange 2008; Whitfield 2013). When specifically looking at knowledge workers, preferences toward dense, urban environments were stark and resilient, persisting even with changing incomes and household sizes (Sleutjes 2014). The research is clear that the groups Microsoft wants to recruit from strongly prefer urban places; adapting their Redmond campus to mitigate this disadvantage is a major challenge, but a key one if Microsoft intends to attract and retain talented workers.

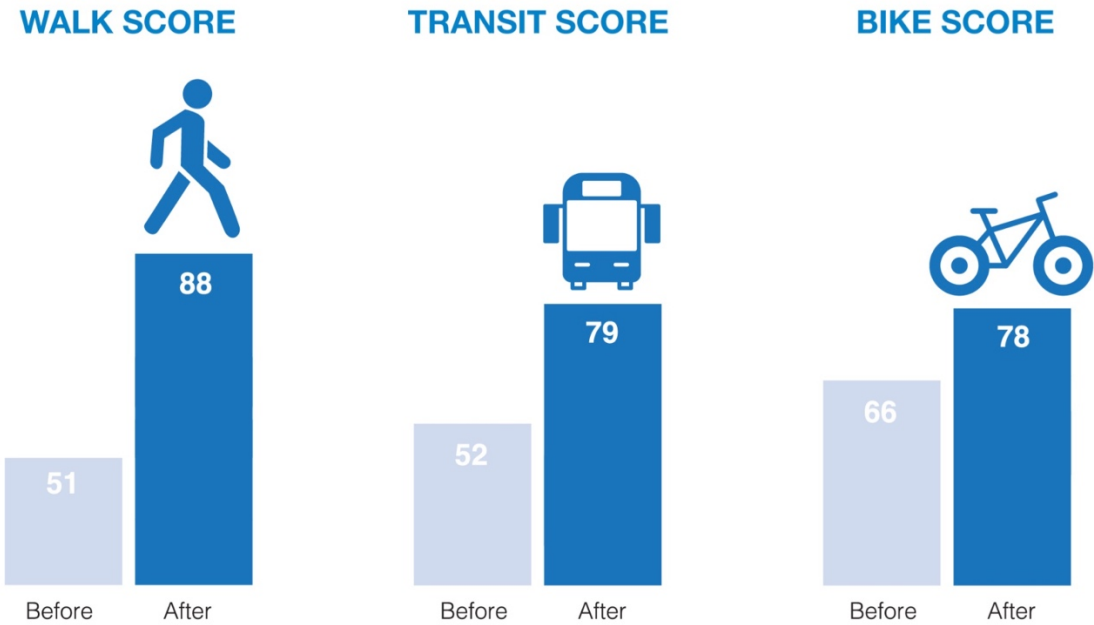


Figure 4. Transportation Scores for Companies, Before and After Moves from 2010-2015. Source: Smart Growth America

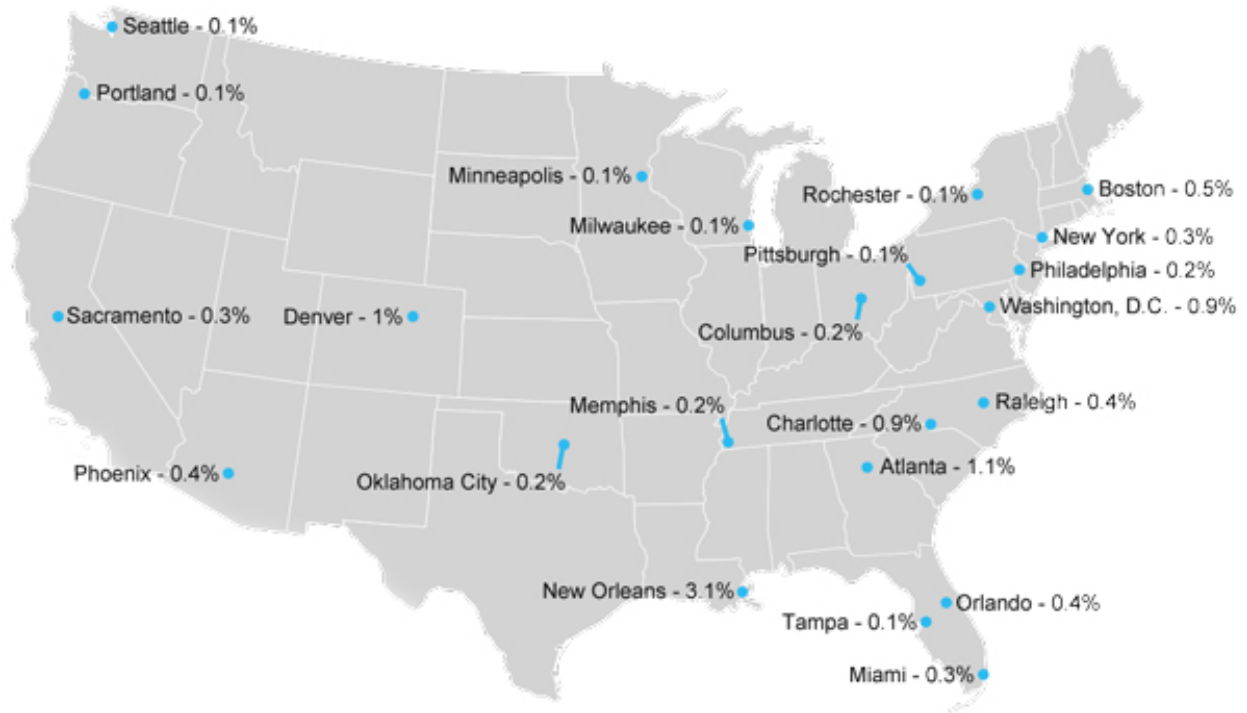


Figure 5. Higher Rate of **Urban** Growth. Source: Berg via CityLab

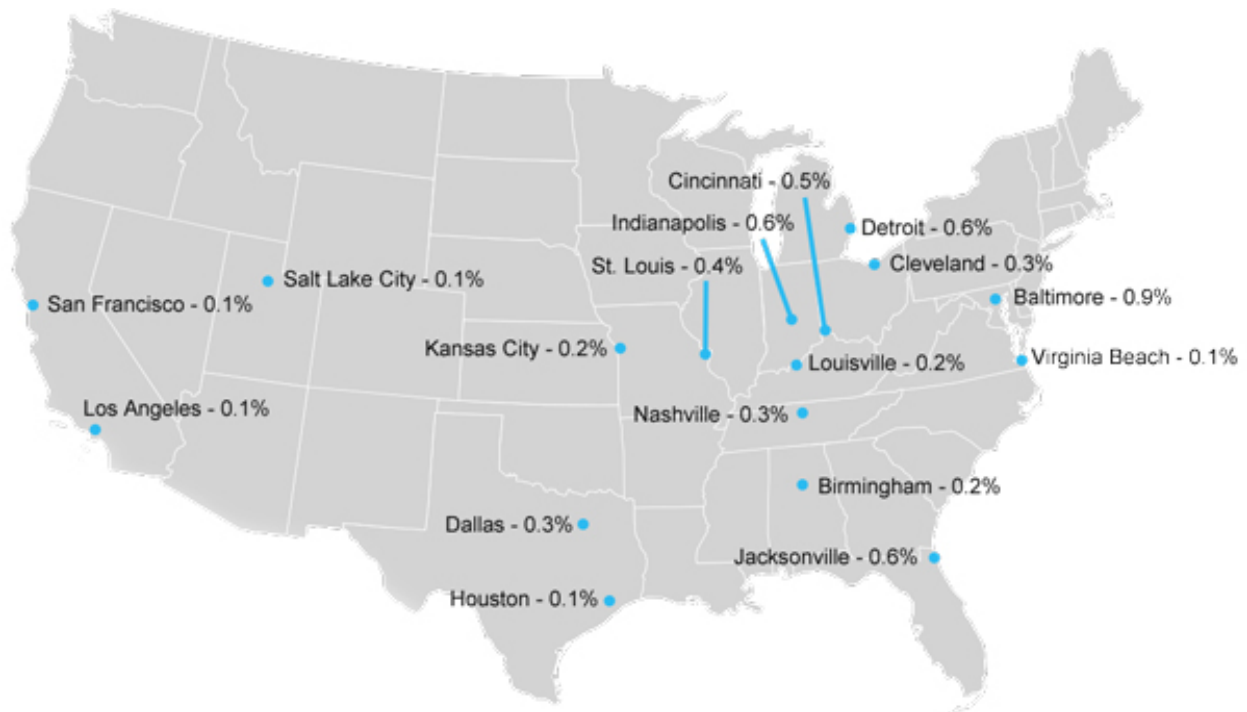


Figure 6. Higher Rate of **Suburban** Growth. Source: Berg via CityLab

Whether in traditional downtowns or urban centers in suburban cities, companies have been facing increasing pressure to leave the suburbs for the city. The pressure from employees to locate in urban locations is so great, some companies are even forced to spend to undo recent (and do doubt substantial) investment in the suburbs. Smart Growth America (SGA) used the example of Biogen:

---

*In Cambridge, MA in 2010, global biotechnology company Biogen moved its headquarters to a large suburban campus in Weston, a town 25 minutes outside of Cambridge. After just a few years the company reversed its decision and in 2014, the company relocated again—to two new facilities totaling 500,000 square feet of space back in the heart of Cambridge.*

*“Although the new facility in Weston was spectacular, Kendall Square was home to Biogen and we decided to move back,” said Chris Barr, Associate Director of Community Relations at Biogen. “Coming back to Cambridge allowed us to reunite with the rest of our campus, and there is so much going on here—it is such a vibrant place to live and work—that it’s been a great move back for us.” (Smart Growth America 2015, 5)*

---

The 2015 SGA report did a great deal of primary research, interviewing decision makers at firms that moved into downtown locations (Smart Growth America 2015). Clearly, in the case of Biogen, if a firm invests in ‘spectacular’ new facilities then abandons them four years later, they had compelling reasons to do so; the workers they are trying to attract are exerting a substantial pressure on their employer to not locate in the suburbs. Biogen saw a place that, ostensibly, was great as such a liability based on its location it was willing to make a costly move twice in half a decade.

A team from the University of Amsterdam and VU University Amsterdam studied movement patterns of 1,254 foreign knowledge workers from 1994 to 2012 in the Netherlands, releasing a report in 2014. Because the study focused on highly educated foreign workers, they looked at a pool of talent whose preferences it relevant to the people Microsoft is recruiting, and further they were able to avoid Dutch having people be biased toward where they are from as they looked at international arrivals only, rather than the industries/sector as a whole. They also examined where these workers moved after they arrived – their second housing location in the Netherlands – under the hypothesis that after arriving in a foreign country for a job, a worker may take housing that is convenient out of need and move later to a location they prefer more after learning the place and ‘settling in.’ They overwhelmingly found a preference for urban locations amongst knowledge workers – the studied population predominantly arrived at and stayed in urban locales (Sleutjes 2014).

The Dutch study found some trends based on demographics which are also relevant. Synthesizing the results from three studies in Scandinavia, Israel, and Australia, they concluded that “younger knowledge workers – especially singles or couples without children – prefer inner city districts with large concentrations of (cultural) amenities, whereas older and settled knowledge workers more often prefer suburban residential milieus. The decision to move is informed by a complex set of push and pull factors whose importance varies across the life cycle” (Sleutjes 2014, 16). In their own analysis they found that “The likelihood to relocate is mainly related to changes in household situation, especially a change from no children to a household with children,” (42) though these new parents’ moves were more significantly associated with increased space, rather than a change in density. In other words, new parents needed another bedroom but didn’t necessarily want to give up the urban amenities they already enjoyed. They also found a strong correlation between rising household incomes and moving to more affluent areas. Overall, 76% of people who moved moved to a denser area, while only 13% moved somewhere less dense. Both higher house values and larger houses (traits which are linked to each other) are often associated with suburban areas, though Sleutjes suggests that when given the option, international knowledge workers in the Netherlands will avoid a more suburban – less dense – environment when moving to a larger or pricier home (2014). For Microsoft this means that aging Millennials who are starting families may not flock to the Eastside suburbs, given alternatives, but the less-dense housing around Microsoft is still potentially an asset.

The resiliency of knowledge worker’s preference for urban housing is a positive. This means that tens of thousands of new urban housing units that are being connected to Microsoft by Link will remain valuable. According to the leadership of dozens of firms which moved to downtown offices in the last six years, they did so to: attract and retain talented workers, build brand identity and company culture, support creative collaboration, be closer to customers and business partners, centralize operations, and to support triple-bottom line business outcomes (Smart Growth America 2015). Microsoft, however, is firmly entrenched in its Redmond. Microsoft’s Redmond campus and its 10,000,000 square feet across 80 buildings is heavily specialized and valuable; it is unlikely they could relocate their Redmond operations in a remotely economical fashion. To better understand what is valuable about ‘urban’ environments, we need to better understand who is demanding companies locate there.

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*“There are probably 20 or 25 startups just within a few blocks of our office. That sort of collaborative environment—where you’re bumping into people that you know and getting together after work or to socialize—just doesn’t happen in places that are more spread out.*

*That kind of camaraderie doesn’t happen in places where your closest colleagues are a 15-minute drive away.*

*—Steven Cox, Founder and CEO, TakeLessons, San Diego, CA (Smart Growth America 2015, 15).”*

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*“We looked at moving to Research Triangle Park and suburban North Raleigh, but part of the reason to relocate was to grow our company and attract engaged, creative talent. When we put the models all together and looked at the cost of renovating a space downtown and what we could get out of it in terms of talent and value, downtown was by far the best option.’*

*—Ashton Smith, Community and Employee Engagement Project Manager, Operations, Citrix, Raleigh, NC” (Smart Growth America 2015, 14).*

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*“We were originally located in a very corporate office space—our address was actually on a street called ‘Corporate Circle.’ And when you drove up, there was no evidence that anything unique lived in that building and we didn’t want that to be our corporate identity. ... The move [to downtown Las Vegas] was really about maintaining and growing our culture as a company.’*

*—Jamie Naughton, Chief of Staff, Zappos” (Smart Growth America 2015, 16).*

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## The Creative Class and Workplace Preference

The reasons why coveted workers view the prospect of employment at Microsoft as attractive or unattractive is a difficult one, and is central to this thesis. To be confident in the analysis of knowledge worker preferences, Millennial preferences are informative. The generation, by many accounts, thinks differently than its predecessors (Smart Growth America 2015) in terms of workplace preferences. There is even more-specific information about what makes a workplace both attractive to and effective for tech workers, much of which emerged during the dot com boom of the late 1990s. Richard Florida is a leading thinker in this realm and has coined the the *The Creative Class* to describe the group Microsoft wants to recruit, suggesting that the Creative Class has unique preferences, attributes, and needs.

The details of workplace design and the Creative Class as they impact a firm's attractiveness and competitiveness are examined in detail in the *Analyses* section of this document. In the *Literature Review* section, I will only summarize key takeaways from the research about knowledge workers and the Creative Class.

Richard Florida, in *The Rise of the Creative Class: Revisited*, states that to be attractive to a knowledge worker, a place must possess good and current technology, have a wealth of peers for the prospective employee to collaborate with, and exhibit overt tolerance of diversity (2012). These are all present in abundance at Microsoft and in Seattle generally. Microsoft also has put considerable effort into keeping their workspaces contemporary and amenity rich (Yu and Bass 2015), even working with the same interior design firm that worked on AOL and Facebook campuses in Silicon Valley, Studio O+A. The open plan office forces employees out of cubicles and into chance interactions with each other. These interactions, also referred to as casual mixing, create 'knowledge spillover,' which is key in fostering creativity and ultimately improving business outcomes in creative fields (Page and Schmidt 2002; Gladwell 2000; Florida 2012; Union 2016; Amazon 2013; Lehrer 2012). Microsoft has kept pace with its peers by renovating interiors, but I believe that the persistence of the college-like suburban campus layout is extremely limiting. The buildings are contemporary on the inside but the experience of getting to them makes these changes effective and unattractive to prospective talent.

Because Microsoft has so many diverse business activities and over 40,000 employees in Redmond alone, I believe that they function more like a collection of firms than a single firm. The same

mechanism where social interaction, casual mixing, and the presence of diversity creates knowledge, creativity, and prosperity on an intra-personal level (Page and Schmidt 2002; Gladwell 2000; Florida 2012; Union 2016; Amazon 2013; Lehrer 2012) functions at a regional inter-firm level. Research into why regional clusters in particular industries find success or failure strongly suggests that the formation of local and regional contacts both within and outside of a company's industry is key to success (Tallman et al. 2004; Granovetter 1985; Krippner and Alvarez 2007; Breznitz and Taylor 2011). I look into this concept, known as embeddedness, and how it can apply to Microsoft in detail in the *Analyses* section.

## Mode Choice and the Built Environment

The relationship between the built environment and transportation is one of the most-studied subjects in planning. In the multitude of studies on the subject, there is a wide variety of which aspects are studied, sample size, and analysis technique. The amount of literature on the subject is so vast, there are two reviews of the numerous reviews of only qualitative research on the link between the built environment and travel (Ewing and Cervero 2010). Critically and succinctly summarizing all the relevant literature is a monumental task and as such, I have relied on a thorough meta-analysis of hundreds of studies, by two of the leading authors in the field, Reid Ewing and Robert Cervero. This lets me more effectively draw on more studies and leverage the superior statistical and analytic skills of professors Ewing and Cervero.

The meta-analysis focused on extracting statistically significant elasticity scores, which measures the amount of influence change in one variable has on change in another. For instance, if X% change in the number of public meetings had an elasticity score of .30 for its influence on a development's profitability, then for every 10% increase in public meetings, a developer should see a 3% rise in profits. They also had reasonably stringent standards for sample size and other commonly accepted statistical best practices. One unique thing they focused on was studies which controlled for residential self-selection:

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*“Nearly all of [the studies on residential self-selection] found ‘resounding’ evidence of statistically significant associations between the built environment and travel behavior, independent of self-selection influences.<sup>2</sup> However, nearly all of them also found that residential self-selection attenuates the effects of the built environment on travel” (Ewing and Cervero 2010, 3).*

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In other words, people who seek out urban environments are likely to report valuing urban environments. Self-selection effects are particularly relevant to Microsoft and this thesis as both young educated people (Cortright 2014) and tech workers (Sleutjes 2014) have been shown to significantly prefer urban housing over less-dense options. This housing choice is correlated to changes in transit use; thus there is a self-selection bias. Thankfully, these urban-biased preferences have a positive effect on a person’s likelihood to take walking and transit trips, and Microsoft has the ability to influence variables at the work side of the journey meaning that this does not make the data from the research less relevant. Though young tech workers are more likely to live in places with good transit, each part of a commute trip influences behaviors (D. F. Ettema, Abenoza, and Susilo 2016) and therefore changes to Campus will have an impact in spite of any self-selection biases in play.

Using Ewing and Cervero’s meta-analysis, the following have the largest effect on mode choice and can be related to decisions Microsoft faces about physical spaces and their programming on Campus (2010):

<b>MODE</b>	Weighted avg. Elasticity of Mode (e)	Variable	# of Studies in Meta-Analysis
<b>Transit</b>	0.29	Distance to Transit Stop	3
<b>Transit</b>	0.23	Intersection Density	4
<b>Transit</b>	0.12	Land Use Diversity (Entropy Index)	6
<b>VMT</b>	0.22	Distance to Downtown	3
<b>VMT</b>	0.20	Job Accessibility by Auto	5
<b>Walking</b>	0.39	Intersection Density	7
<b>Walking</b>	0.25	Distance to a Store	5

Figure 7. Table of Mode Elasticities from Meta-Analysis. By Author. Source: Ewing and Cervero 2010.

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<sup>2</sup> Ewing and Cervero 2010 cite Cao, X., Mokhtarian, P. L., & Handy, S. L. (2009a). Examining the impacts of residential self-selection on travel behaviour: A focus on empirical findings. *Transport Reviews*, 29(3).

Physical characteristics of a site are important. That is clear from Figure 7, in which land use, street layout, and physical sites (distance to transit stops) are among the most powerful determinants of mode choice. A key finding from an analysis of California TOD is that even if a commuter lives near a light rail station, “the farther [the user’s job] was from the station, the less likely it is the employee uses transit” (Lund, Cervero, and Willson 2004, 7). The entirety of a journey is impactful in a user’s mode choice, not just the main mode (e.g. driving, light rail, etc.) (D. F. Ettema, Abenoza, and Susilo 2016). This speaks to the power of the experiences that make up a particular mode, regardless of which part of the journey the relevant experience is. Microsoft needs to ensure a high quality door-to-door experience; letting transit deposit employees in a placeless space far from their office will suppress transit ridership and ultimately make them less competitive.

## Mode Choice and Incentives vs Disincentives

Transportation Demand Management (TDM) has two main classes of tools when attempting to effect behavior change: incentives such as social reinforcement or monetary rewards, and disincentives such as time lost to congestion or parking pricing. There is evidence that both rewards and penalties can be effective (Ben-Elia and Ettema 2011). Individual TDM projects have mixed results independent of their balance between reward and penalty, but in cognitive and psychological terms, there is substantial evidence that people respond better and are more motivated by rewards/incentives (Kahneman and Tversky 1984).

The fact that incentives are better received and may be ultimately more effective does not mean that incentives ought to be the only strategy Microsoft pursues to reduce VMT and improve the non-auto mode share of its employees. Pricing of parking and roads can be extremely effective: “policy makers interested in reducing demand for auto travel should place at least as much emphasis on financial disincentives for auto use as they do on improving the supply of alternative travel modes” (Washbrook, Haider, and Jaccard 2006, 14).

## Mode Choice and Experience

When a commuter is evaluating the different mode choices they have access to, the entirety of the journey matters. Ewing and Cervero's meta-analysis of research found that the distance to a transit stop and local intersection density were the two most impactful factors that determine transit ridership (2010). While these factors are due to the built environment, they are factors that affect the pedestrian trip on either end of a transit trip. They also affect the time-certainty of a transit commute and therefore it is less the built environment and more the experience that most affects transit mode share. A door-to-door survey satisfaction survey in Stockholm had almost identical findings; means of access to a transit service was more important than vehicle design (D. F. Ettema, Abenoza, and Susilo 2016). They also found that disruptions in the experience – such as unreliable bus scheduling or construction obstructing pedestrian access – were powerful. Supporting this assertion, it was found that in Los Angeles, transit punctuality was both correlated with higher transit ridership (Chakrabarti 2015) and identified as important to surveyed riders as very important to their decision making (Iseki and Taylor 2010).

Supporting the importance of experience in mode choice, design (Iseki and Taylor 2010; Wylant 2008; Lund, Cervero, and Willson 2004; Meyer 1999), wayfinding (Whitfield 2013), safety (Zacharaki and Giannopoulos 2010; Iseki and Taylor 2010), and information availability (Tseng, Knockaert, and Verhoef 2013; Chakrabarti 2015) all were found to have an effect on users' likelihood to use transit. These are more 'nice to have's' compared to the effects of the pedestrian experience and system reliability, which have larger effects, but holistically, experience matters. Make one mode better or conversely make another worse, and you will see impacts in mode share.

Some research indicates that the experience of one's commute is so important that it can impact a user's emotional wellbeing (D. Ettema et al. 2012). According to the same Ettema et al. survey, users value a positive experience so much that a longer commute can actually be more satisfying than a shorter one when that commute is a relaxing transit journey, free of stresses (such as freeway unpredictability) and filled with time to browse the internet and message friends (2012). An attitudinal survey in Illinois firmly supports the value and utility transit users find in lower stress and more time to spend on personal devices compared to other modes (Popuri et al. 2011). Clearly, whatever Microsoft can do to improve the transit experience for employees will be advantageous.



# CASES AND CONTEXT

Microsoft, despite their less-than central Campus, is an integral part of a dynamic and growing region. Seattle is, in many ways, the United States' second tech hub behind the San Francisco Bay Area. There is a rich ecosystem of talent and competition in the area, which is a relatively recent development. According to Tech Crunch, "the last 10 years have seen a sea-change ... the home-grown tech industry in Seattle now has a sizeable number of companies not only at the \$100 billion valuation, but throughout the \$10 billion, \$1 billion, or \$100 million valuation ranges" (Partovi 2016, 2). Partovi notes the relatively recent ascension of 'mid-sized' Expedia, Zillow, Zulily, and Tableau as having a big impact, and helping to fill out the space between behemoth and startup. Silicon Valley firms have also opened up locations in the Seattle region, further increasing the pressure on Microsoft. Google was so excited to join firms such as Adobe and Facebook they have opened two offices here, in Seattle and Kirkland (Partovi 2016).

The net effect of this from Microsoft's perspective is more pressure to retain talent than ever before. Previously, if a worker enjoyed life in the Northwest, their top-tier employment prospects were essentially just Microsoft and Amazon, or Intel and Nike if Portland was somewhere they would consider. Now, with so many other peers and up-and-coming firms in the area, a Microsoft engineer can get headhunted by all the biggest names in tech and enjoy the luxury of not even needing to change apartments if they accept a new position with the competition. For Microsoft, there is more pressure than ever to maintain their primacy as one of the top tech firms in the region.

## **Redmond, Technology, and Transportation**

As much as Microsoft is feeling the pressure of an evolving labor marketplace, Redmond is used to seeing the effects of shifting popular demands. Throughout its history, Redmond has been defined in significant ways by the transportation connecting it to the broader region, and by the technology firms that have long called Redmond home. Before the first bridge was built across Lake Washington, Redmond was a small agricultural community; the construction of a bridge dramatically changed its outlook and led to a population boom. The Evergreen Point Bridge (SR-520 today) had a similar effect, and Link Light rail in 2023 will also bring a host of changes to Redmond's built form and economic makeup.

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*“Redmond’s high-tech industrial growth began slowly in the 1960s, and by century’s end helped push the population to 45,256. The first tech companies to locate here included United Control (1961), which made aircraft electronics. United Control was bought by Sunstrand, then by Allied Signal. This company is today owned by Honeywell Corporation. Rocket Research Company started operations in Redmond in 1968. Today named Aerojet Rocketdyne, its heritage includes manufacturing thrusters for NASA’s Mars missions. Nintendo of America moved its corporate offices to Redmond in 1982, and Microsoft arrived in 1986. Along with smaller tech companies, those corporate giants brought an influx of workers, and their families, from other countries” (Hardy 2001, 2).*

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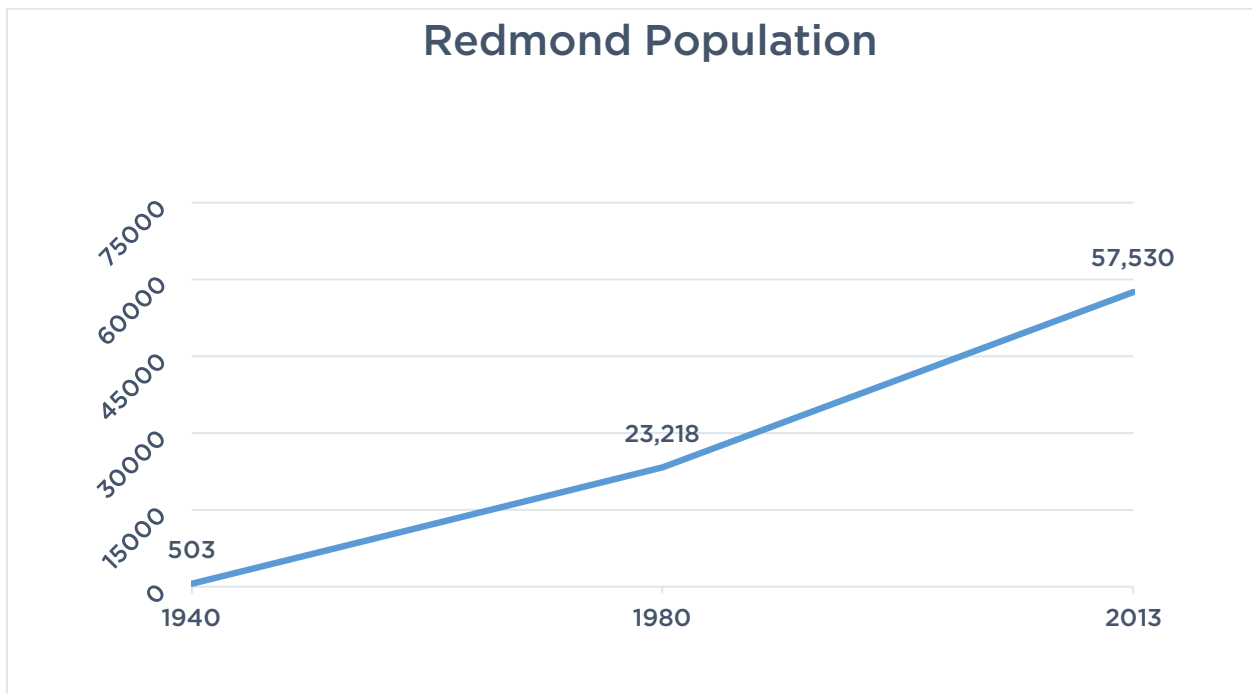


Figure 8. Redmond population at key times. Source: Redmond Historical Society, via the US Census.

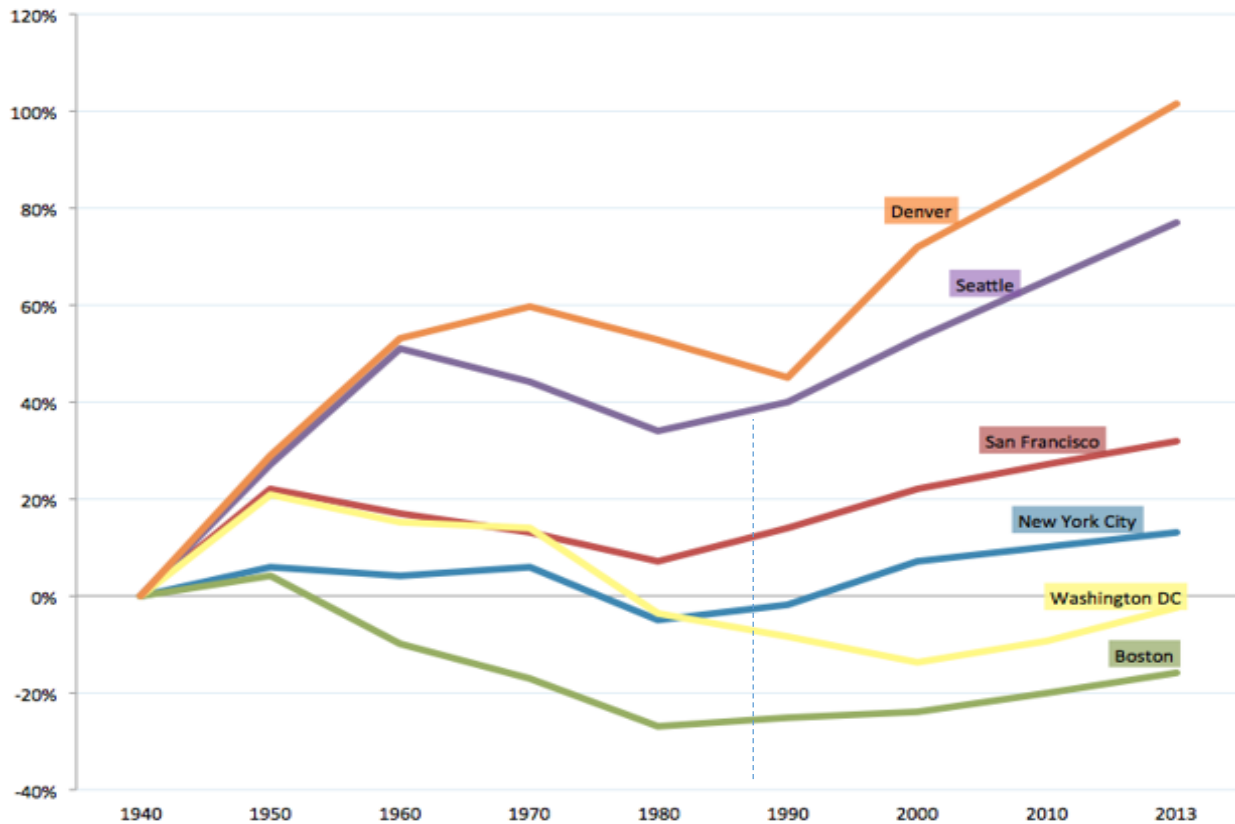


Figure 9. Growth rates in cities, relative to 1940 levels, to present. Note that Microsoft moved to a Seattle suburb near the local nadir of urban population. Source: CityLab via the US Census.

Microsoft, originally founded in Albuquerque, NM, moved first to Bellevue, then to Redmond, WA in 1986 (Microsoft Corporation 2016), in part because they had trouble recruiting engineers in the desert. When Microsoft moved to Redmond, it was nearly simultaneous with the low point for cities across the US. The post-WWII suburban boom eventually reversed and as explored later in this document, urban locations are now in much higher demand than suburban ones. For a time, however, suburban office parks were seen as an ideal location, and in fact some still value them: “On the most fundamental level some individuals, given a choice, prefer a suburban office park or campus environment as a place to work. Its horizontal orientation, groomed lawns, trees, auto friendliness with access to parking and likely proximity to one’s residence makes it extremely desirable for a segment of metropolitan residents” (Sommers et al. 2000, 9). The sprawling, collegiate campus that Microsoft relocated to in the 1980s was once advantageous, but as preferences have shifted it has become a major liability. It is no longer a desirable built form for many potential employees, and the convenient access that employees once enjoyed is being eroded by congestion as more people move to the region and drive themselves. For a time, Microsoft invested in satellite offices in a ‘best of both worlds’ approach that offered urban

workplaces to some employees and suburban ones to others. Recently, however, they have been closing them and moving back to a more centralized model. They have even closed local and regional offices in Seattle and Victoria, BC to concentrate on Redmond (Rosoff 2016) and (Mahardy 2013). No company's locational choices offer a greater contrast to Microsoft's suburban campus than their regional peer, Amazon.

## Amazon, Inc. and South Lake Union

Amazon, the other Seattle technology giant, is a natural counter-example to Microsoft's suburban Campus. In 2012, Amazon committed to moving out of the suburbs and into an urban environment by purchasing its 11 building headquarters from Vulcan – they had already been leasing in the area, but committed \$1.16 billion to purchase 1.8 million square feet in South Lake Union (Martinez and Pryne 2012). In addition to these buildings, Amazon is building and evolving its campus which will eventually be nearly as spacious as Microsoft's with 10 million sq. ft. planned by 2021. The highest profile projects are three 36-story towers and a public plaza featuring 'biodomes.' The first of the three towers has been occupied since December, 2015 (May et al. 2016).



Figure 10. Amazon South Lake Union Offices and Biodomes. Source: NBBJ

The urban campus is explicitly blending public and corporate spaces, with specific efforts to get employees out into the surrounding area and interacting with each other and their neighbors. According to Amazon's director of global real estate and facilities: "We really wanted people to have a place to have chance meetings... we want people to go out and be in the neighborhood" (May et al. 2016, 2).

According to May et al., the new building has several floors open to the public, outdoor grilling spaces,

picturesque dog facilities, meeting spaces that morph into basketball courts, and despite all these amenities, in-building food services only have the capacity to serve one third of the employees – all efforts reinforcing the focus on chance meetings and integration into the neighborhood (2016).

## Long Range Planning Outlook

The Puget Sound Regional Council – a planning and research body that coordinates planning efforts across municipalities and organizations in the region – projects that by 2030, the region will have grown in population to 4.51 million people, nearly 18% growth from the 3.84 million who lived here in 2014 (Puget Sound Regional Council 2016). A great deal of that growth will be on the Eastside where cities like Bellevue and Redmond have ambitious plans to soak up tens of thousands of new jobs and new residents. One of the primary catalysts for the areas of future growth on the Eastside is Sound Transit’s East Link Extension, light rail which will connect Downtown Seattle to Bellevue and Redmond. There are plans to extend Link to Downtown Redmond, but no funding presently; the terminus station will be Redmond Technology Center, on the current site of Overlake Park-and-Ride, in the heart of Microsoft’s Campus. Many of the station areas will see intensive transit-oriented development (TOD) and will additionally be served by increased bus service and in some places substantially upgraded bike and pedestrian infrastructure. Please note that the Overlake Park-and-Ride and Redmond Technology Center Link station are referred to as Overlake Transit Center in this document. The transit center has several components beyond the Link station, and Sound Transit has changed station names before. The various transit resources on the site are, collectively, referred to as Overlake Transit Center to avoid confusion.

In short, the Eastside is growing, and a great deal of that growth will be concentrated around East Link, which terminates in the center of Microsoft’s Campus. The arrival of light rail in 2023 will be transformative, providing high speed and high capacity links to a diverse range of urban places whereas today there are fewer urban places on the Eastside and only lower quality transit options connect them.

## Sound Transit 2 - A Regional System Plan for the Puget Sound

Sound Transit 2, colloquially known as ST2, is a plan and associated funding package dramatically expand mass transit in the Puget Sound region. It was approved by voters on November 4th, 2008. The

various projects are still being executed or even waiting have ground broken on them at the time of writing. The package is primarily focused on expanding the light rail system, though there are heavy rail, express bus, and other components. Though ST2 was approved in 2008, 8 years later we are seeing some significant 'firsts' for the projects; The first new stations were opened in Capitol Hill and the University of Washington, and ground was broken in Bellevue for rail projects on the Eastside of the Seattle metro area.

ST2 is focused on major rail projects and site-specific improvements (highway access ramps for instance) and is an important part of the effort to support the growth the region expects. The 2008 proposal specified 36 miles of rail across 19 new stations. There is also funding for about 17% more ST Express regional bus service. Figure 12, a map showing the combination of Sound Transit and King County Metro LRPs, shows the extent of the ST2 projects and their supporting investments. The context of how these capital projects fit in with their surroundings and wider network is important, both to understand their effects and their significance. The East Link Extension, a central component of the ST2 package, will have an enormous impact on the Eastside. There are commuters in Seattle who work on the east, and commuters in the east who work in Seattle and they currently have transportation options which do not rely on congested highway bridges, SOV, HOV, and transit included. Cities on the Eastside are also working on plans to concurrently develop new urban spaces around the future transit network, which will leverage the investment and make it even easier for people to use Link to access Microsoft and other destinations. Construction on the East Link portion of ST2 began in 2016 and will deliver light rail service to the Microsoft campus in approximately 7 years (2023), if all goes according to plan.

Figure 11 shows the ST2-funded light rail stations for the East Link Extension. As mentioned, ST recently broke ground in Bellevue in the spring of 2016. This document examines all stations from the Spring District through Downtown Redmond, which while not currently funded, may be completed within a year of Overlake TC (aka Redmond Technology Center) according to the yet to be finalized ST3 funding package. The final ST3 may include, if passed, a bigger system built sooner than initially proposed (Shaner 2016). Bel-Red/130<sup>th</sup> is the only station not examined between Downtown Redmond and the Spring District as it is very similar to the Spring District in terms of current conditions, but does not have the same level of comprehensive planning yet.



Figure 11. East Link Extension System Map. Source: Sound Transit

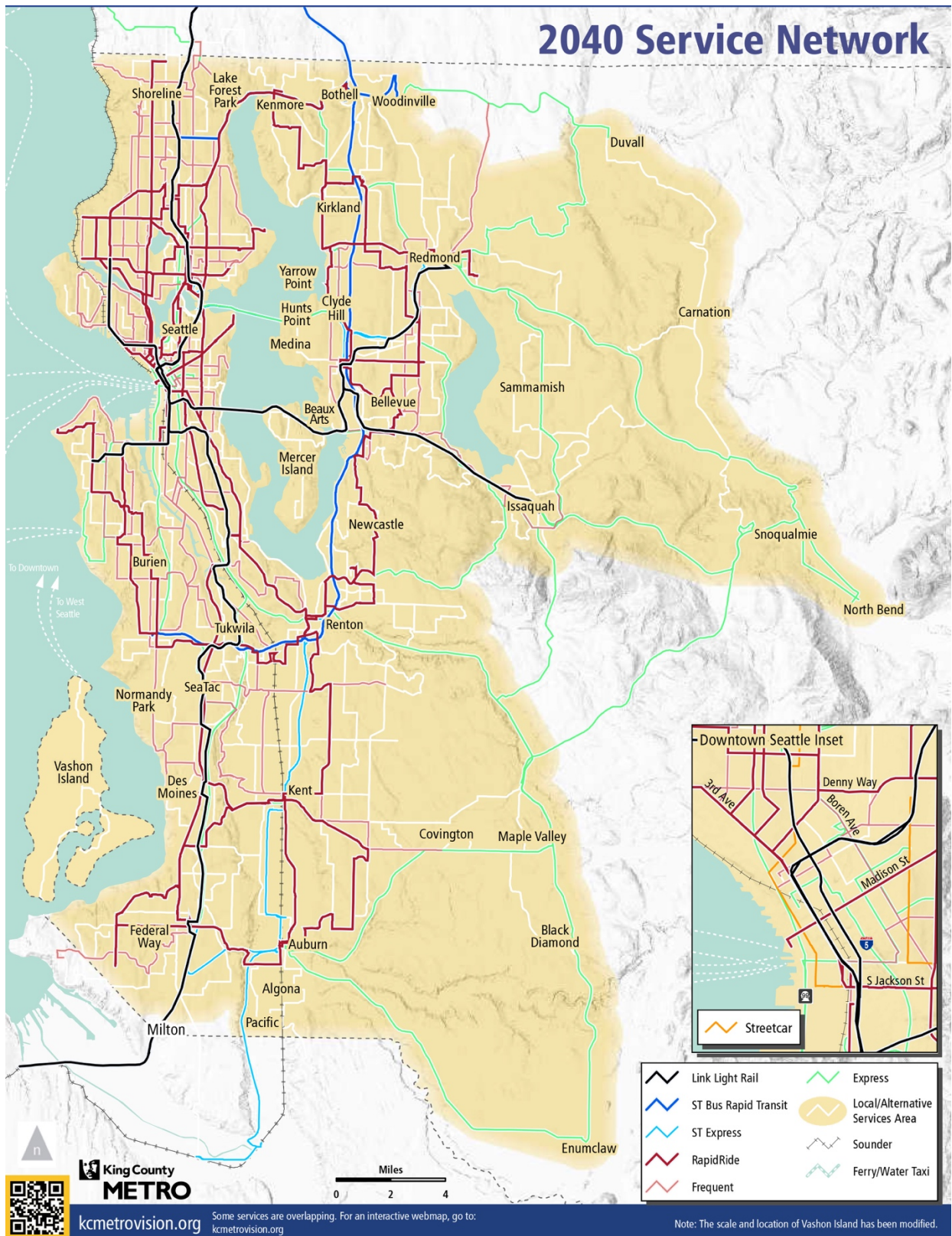


Figure 12. King County Future System Map - 2040. Source: King County Metro

While ST2 will have a large impact on Microsoft's Redmond Campus, it is only one of many planning and investment efforts working in concert to transform the region as it grows. The Puget Sound Regional Council (PSRC) has a transit oriented development strategy, named the Growing Transit Communities Strategy (GTC) which aims to enable growth around transit resources and coordinate efforts for better concurrency (Puget Sound Regional Council 2013).

## Metro Connects – King County Metro Long Range Plan

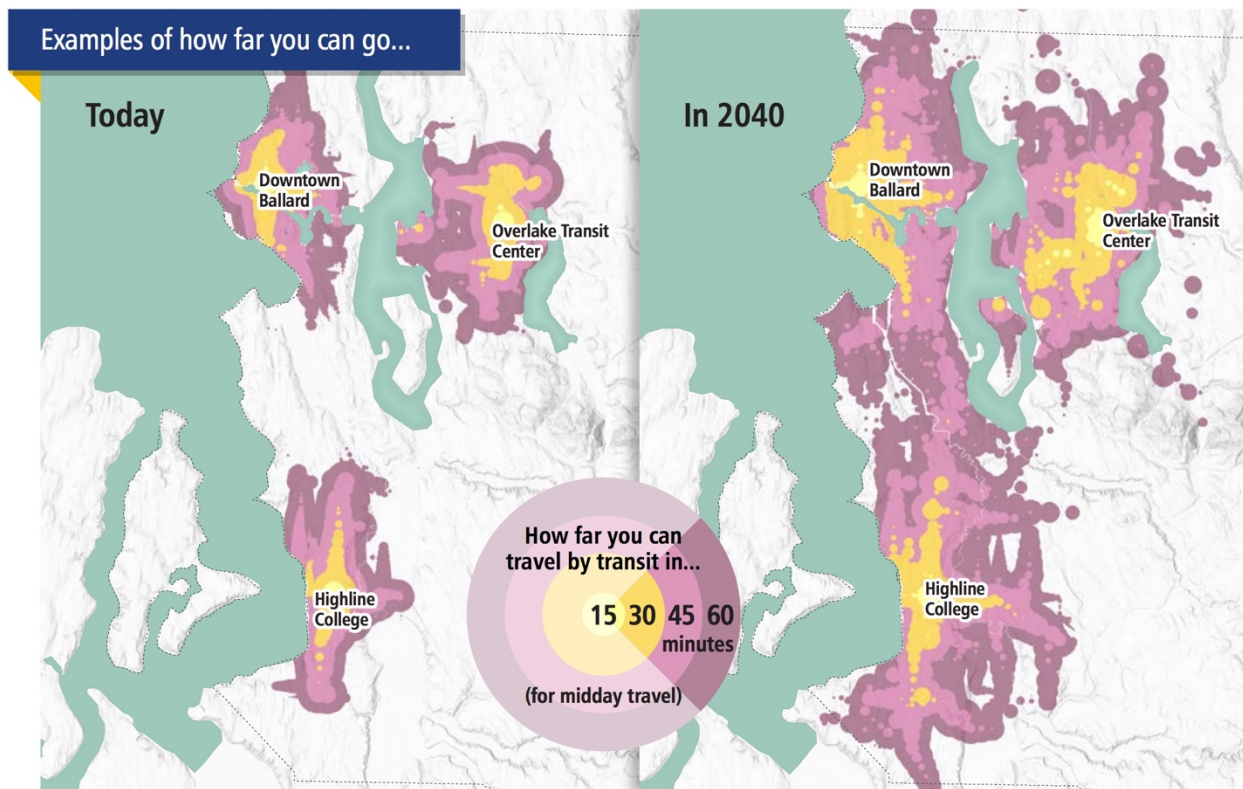
King County Metro (KCM), the primary transit operator in the region is currently revising its long range plan (LRP), and has published a draft. As a result of a public feedback process, KCM is focusing on building a network of frequent service, which they describe as service which runs every 5 to 15 minutes so “you’ll be able to just show up and go” (King County Metro 2016, 6). Metro Connects is an exciting and ambitious plan, but as it is unfunded and in subject to revision at the time of writing, it should be taken with a generous grain of salt. The vision includes 100% growth in ridership, and 70% growth in service, from 3.5 M to 6M service hours across the system – the imbalance points to a focus on high-capacity service. One of, if not the, biggest accomplishment would be more than tripling the percentage of King County residents who live close to frequent transit – from 20% today up to 70% by 2040 (King County Metro 2016). The focus on a frequent network would mean that people living in the communities planned along East Link would have quick, easy, and reliable connections to a vastly increased range of destinations than if Metro Connects is not implemented. It would also give people living outside of these new, dense, and typically expensive developments access to the region including to Microsoft. Many people make Campus ‘work’ outside the highly paid engineering staff; Metro Connects has a strong equity component and would benefit all the people Microsoft employs in Redmond. It also would make it easier to enjoy a more suburban residence without being auto-dependent which light rail alone does not accomplish.

The connections both ST2 and Metro Connects offer to Seattle will be a major draw for Microsoft employees. According to a 2010 presentation to the Washington State Transportation Commission by Jim Stanton, the ‘markets’ of Ballard, Fremont, First Hill, Capitol Hill, Queen Anne and Belltown together make up 31% of all ridership on the Connector, Microsoft's private shuttle service for employees (Stanton 2010). The connections in the transit agencies LRPs would provide a faster public option that does not need users to be reserve space and runs more frequently compared to The Connector.

Kirkland is an attractive, affluent lakeside community<sup>3</sup> with a mix of urban, semi-urban, and detached single family homes. It is potentially an attractive location for Microsoft employees working in Redmond who don't want the distance of a commute to the more urban locales on the Eastside and in Seattle, or those who want the space that single family housing typically offers. It is not on an ST2 rail line. Using Juanita Bay Park in northern Kirkland as a destination, Overlake Park-and-Ride is a 7.3 mile drive, which according to Google estimates takes 20-35 minutes at 5PM on a weekday. The same journey takes about 45 minutes by bike and 51-66 minutes by transit. If a Microsoft employee values the type of housing and amenity Kirkland offers, a private vehicle is currently the quickest option by an appreciable margin. The planned LRP transit improvements could cut the transit time in half, as shown in Figure 13, making transit competitive with a private vehicle for travel time. The isochrones in Figure 13 show how dramatically the proposed bus service in Metro Connects would increase regional access to/from Microsoft – Overlake Transit Center is in the heard of Campus.

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<sup>3</sup> Estimated median household income in 2013, according to <http://www.city-data.com/city/Kirkland-Washington.html> is \$93,655, 160% of the Washington average of \$58,405. Accessed 5/5/2016.



The travel sheds shown on the maps above include walking time, average amount of time waiting for the bus (assumed to be half the frequency), travel time, and any transfer time between buses.

The starting point for each example is: downtown Ballard—15th Ave NW and NW Market St; Overlake Transit Center—NE 40th St and 156th Ave NE; Highline College—S 240th St and Pacific Hwy S.

Figure 13. Metro Connects LRP Travelsheds. Source: King County Metro

## Redmond - Downtown and Overlake

The City of Redmond has ambitious plans to grow over the next several decades, without substantially altering the urban character of its downtown areas. They are utilizing an Urban Centers strategy to focus growth as infill in designated areas, preserving single family and natural spaces such as Marymoor Park (City of Redmond 2014). The table in Figure 14 details this strategy, showing that for the Downtown area they plan to add 7,080 residents and 2,700 jobs without increasing the currently zoned floor area ratio (FAR).

<b>REDMOND DOWNTOWN</b>	<b>Existing (2010)</b>	<b>Planned (2030)</b>
<b>Residents</b>	4,270	11,350
<b>Dwelling Units</b>	2,300	6,170
<b>Residential Density (units/gross acre)</b>	5.3	14.2
<b>Employees</b>	8,100	10,800
<b>Employee Density (jobs/gross acre)</b>	18.72	24.95
<b>Maximum Zoned Building Intensity</b>	3.5 FAR	3.5 FAR

Figure 14. Redmond Downtown Urban Center Growth Plan. Source: City of Redmond (2014)

The Overlake area encompasses the entire southwestern portion of Redmond’s city limits and is bounded, roughly, by Bel-Red Rd and 148<sup>th</sup> Ave NE. It contains Overlake Village and Microsoft’s Campus and is the focus of the most intensive development in Redmond, with maximum FARs exceeding the Downtown area by 30%. As described in the Redmond Comprehensive Plan, Overlake “has become an urban, mixed-use neighborhood with a sense of place and activity that makes it attractive for living. It is part of a larger commercial area that extends west into Bellevue with a mix of activities and uses and is a destination for many in Redmond and in the region” (City of Redmond 2014, 26). Redmond envisions the Overlake Village to be an intensively developed, vibrant place with taller buildings, a neighborhood core along 152<sup>nd</sup> Ave NE, and an improved bike and pedestrian network. As shown in Figure 15, they expect 703% growth in the number of residents in the area over a 20 year horizon – Redmond has grand ambitions for the level of development that will take place directly to the south of Microsoft. There will also be a Link station at 156<sup>th</sup> (Overlake Village), giving the area excellent connectivity to other employment and housing centers.

REDMOND OVERLAKE	Existing (2010)	Planned (2030)
Residents	1,500	10,550
Dwelling Units	840	5,730
Residential Density (units/gross acre)	1.7	11.5
Employees	21,650	36,350
Employee Density (jobs/gross acre)	43.29	72.69
Maximum Zoned Building Intensity (Overlake Village)	5.35 FAR	5.35 FAR
Maximum Zoned Building Intensity (Employment Area)	1.47 FAR	1.62 FAR

Figure 15. Redmond Overlake Urban Center Growth Plan. Source: City of Redmond (2014)

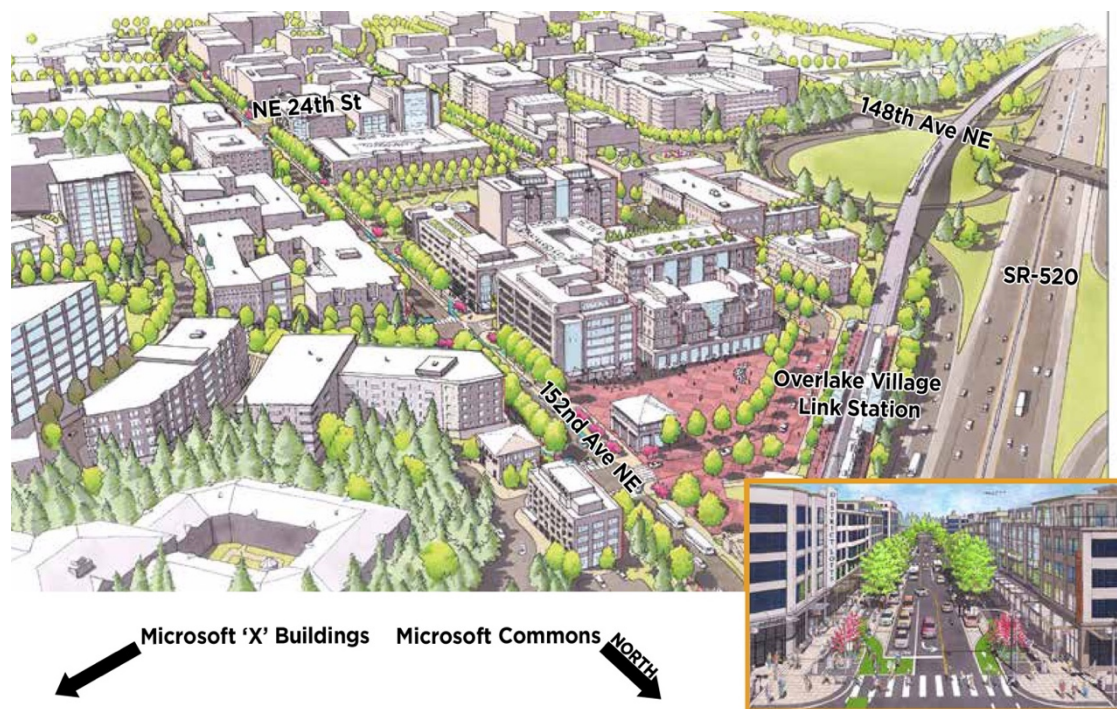


Figure 16. Artist's Rendering of Overlake Village 2030, with Annotations. Source: City of Redmond Overlake at a Glance. Modified by Author.

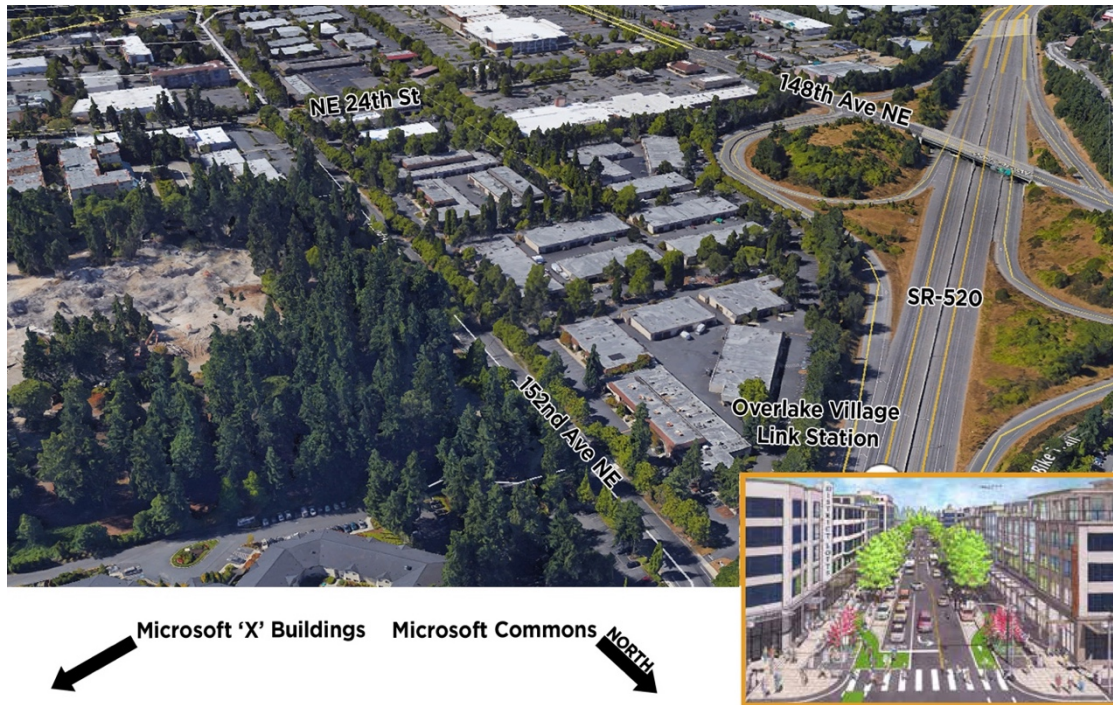


Figure 17. Overlake Village Current Conditions and Future Intersection. Source: Google Earth. Modified by Author.

The Overlake Business and Technology zone (OBAT) is a development overlay, essentially but not technically only, for the Microsoft Campus. The OBAT regulations are a unique compromise regarding building envelope and development intensity: they specify 148-foot height limits (ten stories) but a maximum FAR of just 1.55<sup>4</sup>, including all available bonuses (Redmond Zoning Code 21.12.190). The OBAT zone is dominated by Microsoft, and the code revision which implemented these height limits was proposed by Microsoft itself (City of Redmond Ordinance 2781). Microsoft additionally had negotiated a development agreement with The City of Redmond in 2005, giving them to develop up to 2.2 million<sup>5</sup> additional square feet across of their 42 parcels (Microsoft Corporation and City of Redmond 2005). Plans to build to accommodate up to 12,000 new employees, announced in 2006, were shelved when the sub-prime housing crash and related recession (The Great Recession) hit shortly thereafter. (Yu and Bass 2015). In effect, Microsoft seems as though they are able to negotiate the

<sup>4</sup> 1.55 FAR means, for example, a 100,000 sq. ft. parcel could have a maximum of 155,000 sq. ft. built on it. With the 10 story height limit, that would only be 15,500 sq. ft. per floor. If the parcel and building in the example were both squares, the land would be about 315' a side, and the building would only be 124' on each side. It would be a very tall and skinny structure with a great deal of open space.

<sup>5</sup> This represents 83% of the total area they have the right to develop based on a prior agreement (the "BROTS Cap"), about 15.5 million square feet.

restrictions they develop within based on what suits their plans at the time and, barring further regulatory changes, they have flexible agreements in place allowing a large volume of space to be developed, and flexibility to go up to 148 feet.

As the plans stand, Redmond's two funded Link stations – Overlake Village to the south of Campus and Redmond Technology Center (RTC), formerly Overlake TC – will have very different characteristics. Microsoft, though it has areas of campus with a fairly generous height limit, will retain its spaced out, open feel thanks to a fairly low maximum FAR of 1.55. The OBAZ regulations would preserve the open, collegiate, suburban feel on Campus due to the low maximum FAR. Overlake Village on the other hand, with its maximum FAR of 5.35, will be one of the most intensively developed places on the Eastside, almost in achieving the same levels of development intensity as parts of downtown Bellevue, which have a maximum FAR between 5-8.

## Bellevue – Spring District

Between Downtown Bellevue and Overlake, the Spring District in Bellevue is a 36-acre master-planned infill development that will hundreds of new residences and create a new employment center, focused around a Link station at 120th Ave NE. The City of Bellevue describes it as such:

### **Current Character**

- Primarily light industrial uses.
- Large flat expanses of concrete and asphalt.
- Auto-dependent, designed for larger trucks and buses.

### **Future Character**

- Spring District development will include 900 residential units, over 3 million square feet of office space at build out, and will also include retail and open space.
- Additional mixed-use development potential on adjacent properties.
- Mixed residential, retail and office in transit-oriented development (TOD).
- Buildings up to 150 feet tall.

(The City of Bellevue 2016)



Figure 18. *The Spring District Rendering, with Bellevue and Seattle in Background. Source: Wright & Runstad*

Wright & Runstad is the primary developer of the Spring District and several partners have broken ground on buildings at the time of this writing. They eventually expect a total of 5.3 million square feet of new buildings in the development (Wright Runstad & Co. 2016). Their marketing is aggressively pitching a hip, upmarket experience. They are so intent on having a Millennial-friendly impression, the leading images on the project’s website are a 20-something in sunglasses leaning on a fixed-gear bike and a brewpub, which is being built without a tenant secured to operate it; they are explicitly programming the space independent of tenant wishes. The Spring District is reacting to current market forces and should deliver an attractive urban experience that is amenity-rich and Instagram-friendly for the 900 residents and the hundreds more who work there. REI has announced intentions to be headquartered there (Tu 2016).



Figure 19. *Spring District Renderings of Brewpub and Views from Link Station. Source: springdistrict.com. Modified by Author.*



# ANALYSES

## The Creative Class and Other Lessons from Last Millennium

The current tech boom, while unique in the types of companies it is creating, is neither the first nor the last tech boom the United States will see. Like the democratization of the smartphone, which opened up a new frontier for app developers, the democratization of the personal computer in the 1990s opened up a new frontier for web developers. The ‘dot com’ boom saw myriad companies rise and fall in the process. As these fledgling companies were doing their utmost to wring the most out of their designers and engineers, certain lessons about productivity and creativity became clear, particularly to Larry Page and Richard Florida. Mr. Page managed to turn a search engine into an incredibly creative, incredibly diversified, and incredibly large company called Alphabet (née Google). Mr. Florida wrote his seminal work, *The Rise of the Creative Class*. They both noticed the large role that one’s environment plays on the output of creative professionals, and how important being part of a group was:

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*“Perhaps the most critical issue is the ongoing tension between creativity and organization. The creative process is social, not just individual; forms of organization are necessary. But organizations can and frequently do stifle creativity... Although creativity is often viewed as an individual phenomenon, it is an inescapably social process. Even the lone creator relies heavily on contributors and collaborators” (Florida 2012, 22).*

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Google’s famous office culture, according to the company’s founders, is organized along similar lines of small, social groups (Page and Schmidt 2002), which will be examined later in this document. Google and Richard Florida, who were both working in the late 90s and early 2000s on growing their ideas about culture and creativity, focused on the collaborative, group-based nature of those who are successful in those fields – no software engineer is an island. Before examining these macro-level lessons too closely, it is important to understand Florida’s conception of who these lessons apply to:

## The Creative Class

Florida amorhously defines the Creative Class as a group whose “members engage in work whose function is ‘to create meaningful new forms’” (6) with a core of scientists, engineers, novelists, artists, architects, and so on whose profession is to create these ‘meaningful new forms’ and solve problems. Beyond the core, he identifies a group who “work in a wide range of knowledge-intensive industries ... [engaging] in creative problem solving, drawing on complex bodies of knowledge to solve complex problems” (Florida 2012, 8). In essence Florida says that professionals which rely on lateral thinking – creativity – to do their jobs and create value have similar values and behaviors, despite that group being large and diverse.

In the updated version of *The Rise of the Creative Class* (the 2012 version cited in this work), Florida addresses some of the criticisms of his definition – it’s vague and seems like he’s just describing college graduates – by pointing to regression analysis and other research that seems to uphold his original definition, despite the Creative Class being a large cohort composed of a full spectrum of professions. Florida describes the antecedents to his theory of the Creative Class as such: “During the 1960s, Peter Drucker and Fritz Machlup described the growing economic role played by ‘knowledge workers.’ Sometime later, Daniel Bell identified a meritocratic class structure of scientists, engineers, managers, and administrators that had been engendered by the shift from a manufacturing to a ‘postindustrial’ economy. The sociologist Erik Olin Wright has written extensively about the rise of what he called a new ‘professional-managerial’ class. ... All of these observers picked up on economic aspects of the emerging class structure that I describe here” (35). This reinforces the idea that this diverse cohort is indeed an entity that can be described, and has particular attributes.

Whomever, precisely, the Creative Class consists of it is clear that engineers and the professionals that are the tech industry’s bread and butter are located firmly at its core. Florida explains that this cohort indeed acts, in certain ways, monolithically: “Class membership follows from people’s economic functions. Their social identities as well as their cultural preferences, values, lifestyles, and consumption and buying habits all flow from this” (37). This essentially means that the Creative Class (and the tech workers at its core) acts as a predictable block. All of the young professionals moving to cities for its amenities are moving for the same reasons that tech workers are likely to. What the Creative Class

values is on a broad scale are the same things that the employees Microsoft and other top tier tech firms covet.

Richard Florida distills what about a potential place to live or work is most important to a member of the creative class down to three essential things: “For a city to attract the Creative Class,” he argues, “it must possess ‘the three T’s’: Talent (a highly talented/educated/skilled population), Tolerance (a diverse community, which has a ‘live and let live’ ethos), and Technology (the technological infrastructure necessary to fuel an entrepreneurial culture)” (2012, xviii). In *Rise of the Creative Class*, Florida argues that members of the Creative Class value meritocracy, diversity and individuality, and look for these characteristics when they relocate. Unfortunately for Microsoft, already possess an abundance of talent, tech, and tolerance, yet still have a recruiting problem.

Tech, talent, and tolerance (particularly tolerance) were once excludable goods and Microsoft possessing them in spades was a distinct competitive advantage. Contemporarily, these once-exclusive attributes are relatively commonplace. Such are contemporary American mores that places which exhibit a lack of tolerance are exceptional rather than the norm. This is a reflection of broader societal values shifting: At one time, Microsoft’s location in the progressive but rainy Northwest was a huge asset to someone looking for a place to feel ‘at home’ in their own skin. This is especially relevant to someone who grew up a bit of an outsider, feeling ‘weird’ or ostracized. Nerdy misanthropes from, for instance, the Midwest and South have more options than ever to feel embraced in a given locale. What used to be a competitive advantage – Northwest nerd culture – for Microsoft has been diluted by a cultural shift. Anecdotally, this national change can be seen in the subject matter of HBO’s flagship show. *The Sopranos* (1999-2007) was a show about traditional machismo and suburban gangsters. *Game of Thrones* (2011- ) is an adapted fantasy series which features nobility interacting with their same-sex partners (nude on screen on several occasions), magic, dragons, and ice zombies. Popular culture has become vastly more embracing (or at the very least tolerant) of nerdy and other non-traditional groups in a short amount of time. Fortunately for Microsoft, Florida has more insights beyond telling Microsoft assets it already has are valuable.

The proliferation of once-scarce amenities that Florida identifies as prerequisites for participation in the creative economies clearly presents a problem for Microsoft. The more these niceties become commonplace in urban and suburban places alike, the more they transition from perks or distinguishing characteristics into the ‘price of admission’ for attracting talent, which more and more locales are able

to meet. In its built form, Microsoft is behind the ball; formerly sleepy suburbs are ‘catching up’ to cities in ways Microsoft is not yet making progress on. Microsoft faces a threat from its rapidly urbanizing context, by way of contrast. Major destinations along East Link such as the Spring District and Downtown Bellevue throw the sleepy, collegiate Campus into sharp relief. When everywhere around Microsoft is transforming into something that is more and more attractive, Microsoft will look less and less attractive by staying the same.

The basic prerequisites for attracting talent seem to be met by Microsoft, according to Florida’s research, but he also has insights into what ‘creativity’ ‘requires’. I take this to have dual meanings – first in a literal sense, the act of creativity needs certain things in the environment in which it occurs; it is dependent on certain things. Secondly, creative people require these things by extension. If one fosters creativity, one will simultaneously foster those who engage in it. Much like a professional sports team supports its athletes with training, nutrition, equipment, and facilities that are designed to make them more comfortable and produce at higher levels, tech firms like Microsoft need to take the lessons on what helps creativity and internalize them. In a fiercely competitive market for talent, the best will likely put themselves in the situation that will enable them to succeed rather than impede their efforts, all else being equal.

## Workplace Diversity as a Cultural Indicator

One of the enduring traits of tech workers is that they are, pardon the colloquialism, nerds: generally, smart, passionate about ‘unusual’ things, and not stereotypically cool. These personal traits can lead to unpleasant, adversarial interactions growing up, as so many television and movie tropes of ‘jocks vs nerds’ make light of. Given that tech firms employ tech workers, creating an overtly safe space is for these people is, obviously, wise. Richard Florida says that ‘nerds’ favor diversity “first of all out of self-interest; it can be a signal of meritocratic norms. A number of Creative Class people have told me that they always ask if a company offers same-sex partner benefits when they are interviewing for a job, even if they are not gay themselves. What they’re seeking is an environment that is open to differences—of gender, sexual preference, race, or even personal idiosyncrasies. Many highly creative people, regardless of their ethnic background or sexual orientation, grew up feeling like outsiders, like they were different in some way from most of their schoolmates” (Florida 2012, 58). This acceptance of diversity in all its forms is in essence a part of workplace culture. And has been for decades in certain professions. Richard

Florida describes an anecdote from Spring 2000 where he felt sorely over dressed in khakis and a polo shirt at a prestigious Pittsburgh law firm. Dress codes, time flexibility/scheduling, office layouts, and other aspects of ‘traditional office culture’ increasingly don’t apply to workers in creative fields, particularly technology. This cultural shift was already old news in some circles while the rest of us were still worried about the Y2K bug precipitating some worrisome yet vague cataclysmic string of events.

Florida dubs this relaxed professional environment the ‘no-collar workplace’ – a pun on blue or white collar – and while he doesn’t make much of a fuss over it, he recognizes a key attribute that comes with doing away with the dress code and cubicle: “the no-collar workplace integrates elements of the flexible, open, interactive model of the scientist’s lab or artist’s studio into the machine model of the factory or the traditional corporate office... You can’t pump work out of creative people, assembly- line style. Motivating this kind of mental work requires a new kind of workplace—one that at the very least appears to be nurturing, attuned to individuality, and ‘fun’” (Florida 2012, 107). Florida’s association with ‘old-style’ offices and the Henry Ford assembly line production style is extremely apt. Leading technology companies such as Google and Microsoft are moving more towards the Ford-antithetical Honda style of production<sup>6</sup>. The less-traditional office layouts and cultures embrace individuality and as a result encourage collaboration and mixing and get better results because of it. That is not to say that being accepting of individuality is the only thing that leads to mixing and business advantage, but it is an indispensable ingredient. Talent seeks it and without it, all the interaction in the world won’t let people who are scared of speaking out collaborate loosely.

In May of 2002, Larry Page and Eric Schmidt gave a wide ranging talk at Stanford about their company’s culture, and Google in general. They spoke about a number of aspects about Google’s culture, including:

- Taking the *whole company* on a ski trip to Tahoe every year (it was a smaller organization then)
- A dog policy, taken from Netscape
- A cafeteria featuring the Grateful Dead’s chef
- Couches
- Communal events, such as a surprise performance by the Stanford Band

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<sup>6</sup> Honda, and to a degree Toyota, is famous for encouraging employees to provide feedback, participate in parts design, and even stop assembly lines to improve and collaborate when they see a problem with how things are being done. Contrast this to Henry Ford’s single-job specialization in an assembly line, which focuses on quotas and keeping production going without input from workers. The modern equivalent would be assembly robots, instead of assembly workers.

Larry Page then describes Googlettes, their explicit effort to “try very hard to maintain an entrepreneurial culture” where small teams are expected to commit deeply to a project, try many things, and have “a healthy disregard for the impossible,” groups which he credits for a number of very innovative projects that large teams could not have produced (Page and Schmidt 2002). At the core of all of these ideas and workplace features is the idea of casual mixing and collaboration. Every single one of the bullets above bring people together who don’t necessarily work directly together. Google values these small teams and flexibility so much that they recently reorganized into Alphabet, to reinforce that ‘try anything’ culture.

Google was also inherently friendly to individuality. They maintained a culture that was so level (raising the ‘lowly’ worker to the same tier as the company’s founder that the following occurred: according to Page, when another company’s executives made a surprise visit to sign a major contract – at 9 PM – about 80 people gathered round and ‘snooped’ on the executive as he signed the contract to provide search and ad results for AOL. As AOL was the previous ‘king of search’ and it is now, indisputably, Google this event was quite momentous. The fact that that many people were milling about around within eyeshot of the founder’s office, at 9 PM, and felt comfortable enough to gather ‘round is in many ways extraordinary and speaks, again, to the collaborative culture at Google.

Indeed, the ability to express oneself – whether to an executive or simply to do so comfortably with your peers – is a key trait in successful creative workplaces. “Members of the Creative Class exhibit a strong preference for individuality and self-expression. They are reluctant to conform to organizational or institutional directives and resist traditional group-oriented norms” (Florida 2012, 56). Florida, in fact, links self expression and individuality as important to the Creative Class in the same substantial way that well being and quality of life are. He links this back to the outcast status many nerds attained in middle and high school, making the ability to be one’s self uniquely valuable to this group. A successful organization will not only allow self expression through accessible executives, open floor plans, and relaxed pet/dress policies, they will actively enable self expression. A firm could also be proactive in creating flexible spaces for self-expression, encouraging employees to project their interests and personalities onto their work culture, rather than simply being tolerant and installing whiteboard walls. I believe that it would be prudent for firms to create lightly-programmed common spaces that encourage workers to project their interests and personalities on to the spaces. In addition to encouraging knowledge spillover, this will allow a culture to form organically.

## The Evolution of Interior Spaces



Figure 20. Studio O+A Office Renovations. Source: home-designs.com. Modified by Author.

It is clear the culture and layout of an office matter for creative professionals. This is a field where Microsoft has already learned from their competition and is working to adapt. In a longform about creativity, collaboration, and productivity, Jonah Lehrer told the story of a radar lab which was hastily constructed at MIT in the 1940s – Building 20. It was a sprawling three story structure slapped together and framed in plywood and shingles, which was later adapted to house an almost random assortment of groups. “By the nineteen-fifties, Building 20 was home to the Laboratory for Nuclear Science, the Linguistics Department, and the machine shop. There was a particle accelerator, the R.O.T.C., a piano repair facility, and a cell-culture lab. Building 20 became a strange, chaotic domain, full of groups who had been thrown together by chance and who knew little about one another’s work. And yet, by the time it was finally demolished, in 1998, Building 20 had become a legend of innovation, widely regarded as one of the most creative spaces in the world” (Lehrer 2012, 9). Lehrer credits open workspaces – customized by inhabitants – (and even the chaos resulting from abysmal wayfinding) as contributing to the legendary creativity. He sees the form as inextricable from the function it created. One of “the most creative places in the world” (9) created a locational advantage that functioned in the same way that industrial clusters give rise to local and regional powerhouses in a particular field – by facilitating interaction:

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“In a vertical layout with small floors, there is less research variety on each floor. Chance meetings in an elevator tend to terminate in the lobby, whereas chance meetings in a corridor tended to lead to technical discussions.’ The urban theorist Jane Jacobs described such incidental conversations as ‘knowledge spillovers.’ Her favorite example was the rise of the automobile industry in Detroit. In the eighteenth-twenties, the city was full of small shipyards built for the flour trade. Over time, the shipyards became centers of expertise in the internal-combustion engine. Nearly a century later, those engines proved ideal for powering cars, which is why many pioneers of the automotive industry got their start building ships. Jacobs’s point was that the unpredictable nature of innovation meant that it couldn’t be prescribed in advance” (Lehrer 2012, 10).

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As mentioned, Microsoft has invested in adapting their workspaces to keep pace with trends and adhere to these tenets. O+A was hired to renovate one of Microsoft’s distinctive original X-shaped buildings – Building 4 – and showcases their work on Building 4 in their online portfolio. The language they use to describe their work at Microsoft aligns with what Lehrer, Page, and Florida have all said in various ways: “Building 4 is one of the oldest on Microsoft’s Redmond, Washington campus—it once held Bill Gates’s private office. But in 2011, when Microsoft hired O+A to remake the space, the orientation was distinctly eyes forward. Microsoft maintains a division of planners whose job it is to anticipate how offices will work and what they will look like in the next 15 years. Their workspace is a lab for workspace development. These ‘futurists’ occupy Building 4” (O+A Architects 2016, 5) Note in Figure 21 how individual work and presentation spaces force interaction with others working *in* Building 4: “O+A’s challenge was to make Building 4 a prototype of the work being done there. The first step was to move Microsoft’s employees out of 10×10 offices into more collaborative and creatively stimulating spaces” (10).



Figure 21. O+A's 2011 Renovation of Microsoft's Building 4: Collaborative and Open Spaces. Source: O+A. Modified by Author.

There is a direct relationship between the theories which underlie the interior renovations at Microsoft and broader urban form. Jane Jacobs, whose work seems to be more evergreen than the Pacific Northwest, identified the value of the 'urban ballet' of the West Village in New York in creating vibrant communities where individuals learn from each other in unexpected ways. Malcom Gladwell, in a December 2000 essay for *The New Yorker* also presciently linked Jacobs' work to the office environment, like Lehrer does in his examination of MIT's Building 20. After all, if your average NYC resident can gain so much from a chance encounter, then so can your average NYC worker.

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*"The parallels between neighborhoods and offices are striking. There was a time, for instance, when companies put their most valued employees in palatial offices, with potted plants in the corner, and secretaries out front, guarding access. Those offices were suburbs-gated communities, in fact-and many companies came to realize that if their best employees were isolated in suburbs they would be deprived of public acquaintanceship, the foundations of public trust, and cross-connections with the necessary people. In the eighties and early nineties, the fashion in corporate America was to follow what designers called*

*‘universal planning’—rows of identical cubicles, which resembled nothing so much as a Levittown. Today, universal planning has fallen out of favor, for the same reason that the postwar suburbs like Levittown did: to thrive, an office space must have a diversity of uses—it must have the workplace equivalent of houses and apartments and shops and industry” (Gladwell 2000, 62).*

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The metaphor of the suburbs seems more apropos than ever for Microsoft; they have embraced these ideas and eschewed the suburban-equivalent rows of cubicles for the urban-equivalent open plan offices, but this adaptation and innovation ends in the same place the drywall does. The exterior of their buildings and the fabric of their campus is still very much formally modeled after in the isolated, regimented, and anti-creative suburban ideal past. Inside, buildings are nurturing, creative places with urban-like chaos and mixing. Outside, buildings are stifling, distant structures which are made, literally, in the suburban style.

Microsoft, despite their prototypical office park buildings, has embraced the benefits of the ‘creative-style’ offices and chance encounters. Academic thought on the subject agrees that “the best ideas in any workplace arise out of casual contacts among different groups within the same company” (Gladwell 2000, 64). In an interview with a project manager at Microsoft, I asked about any chance encounters they had experienced in the office:

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*“[They have been] super useful to me actually. When we moved, two teams became much closer to each other, fundamentals and engineering systems. When I was grabbing coffee, I ran across people I’d never met before that could answer questions that I had wondered who to even talk to in that situation. We’re over 10,000 people in engineering ... He happened to be the exact right person to talk to and we managed to make a partnership [which] led to a whole bunch of really really valuable projects”*  
(Microsoft Project Manager A 2016). Emphasis added.

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The venue for this fortuitous interaction, which the project manager said had substantial business impact? Getting coffee at one of the machines in a hallway. Project Manager A went on to describe how over only a few months their group experienced big moves in which they ended up sharing office space with other teams working on similar subjects, allowing groups of engineers working on different problems using different tools to bump into each other at the coffee machine. While they were not privy

to the decision making process, the Project Manager speculated that Microsoft “understand[s] that hallway interactions are important and lead to good things and will lead to cooperation between teams. When you put smart people together, good things happen. I think that creating centers where people can come together, with a center at which they can gather, is part of their management strategy” (Microsoft Project Manager A 2016).

The adoption of casual mixing spaces, to affect better business outcomes for creative professionals, has become accepted best practice it seems, at least in tech circles. There is, however, substantial skepticism about the scalability of these concepts, from the office scale to offices’ broader environs. This skepticism is explained though the following hypothetical example, which simultaneously lauds the idea of a mix of teams in a work space: “If you are designing widgets for Acme.com, for instance, it is unlikely that a breakthrough idea is going to come from someone else on the widget team: after all, the other team members are as blinkered by the day-to- day demands of dealing with the existing product as you are. Someone from outside Acme.com—your old engineering professor, or a guy you used to work with at Apex.com—isn’t going to be that helpful, either. A person like that doesn’t know enough about Acme’s widgets to have a truly useful idea” (Gladwell 2000, 63)

Doubt that the chance-encounter theory can scale beyond the walls of the office is curious as the theory Gladwell is proffering is *explicitly* derived from Jane Jacobs’ study of New York, but makes some intuitive sense. Where Jacobs was talking about the vibrancy, acquaintanceship, public trust, community, and social benefits that come from, say, leaving a set of keys behind the counter at the corner bodega, or hearing the longshoremen’s voices spill from an open pub door. Gladwell is discussing transfer of knowledge across specialized, but related fields. He is suggesting that these same chance encounters documented by Jacobs in the West Village can occur within a group of particular office mates, given a lack of cubicles. He does not believe this benefit – knowledge transfers and increased creativity – can apply at a broad scale through chance interactions with just anyone. There are others, however, who are vociferous proponents of maximizing diversity within a group of creative people. In the history of MIT’s Building 20, Lehrer believes that its nearly random assortment of residents and the resulting “intellectual diversity” is to credit for some of the biggest innovations to come out of the famous place. “Even longtime residents of Building 20 were constantly getting lost, wandering the corridors in search of rooms. Those looking for the Ice Research Lab had to walk past the military recruiting office; students on their way to play with the toy trains (the Tech Model Railroad Club was on the third floor, in Room No. 20E-214) strolled along hallways filled with the latest computing

experiments. The building's [layout] spurred interaction" (Lehrer 2012, 10). Lehrer does not share Gladwell's hesitation about 'too much' mixing and intellectual cross-pollination. Because all of the Building 20 residents were working within MIT, perhaps that loose association of tens of thousands of bright, motivated intellectuals was all they needed in common to benefit from knowledge spillovers. In fact, according to Lehrer Amar Bose was "procrastinating in writing his dissertation [and] decided to buy a hi-fi. He chose the system with the best technical specs, but found that the speakers sounded terrible. Bose realized that the science of hi-fi needed help and began frequenting the Acoustics Lab, which was just down the hall." The serendipitous arrangement that collocated an electrical engineer and an acoustics lab led to the rise of the Bose corporation (Lehrer 2012, 10). Where Gladwell in 2000 believed that people too far outside each other's academic orbits would not be additive with their discussions of your projects. Again, for emphasis, "a guy you used to work with [at an unrelated firm]— isn't going to be that helpful, either. A person like that doesn't know enough about [your products] to have a truly useful idea" (63).

There is, then an impasse between the two ideas. Microsoft appears to subscribe to Gladwell's theory, by having a wealth of interior mixing spaces for coworkers in the same building and a dearth of public mixing spaces for all Microsoft employees (or even truly public ones with non-employees present as well). At the same time, the parallels between a university and Microsoft's Redmond operation are difficult to ignore. They are organizations of similar sizes that trade in knowledge and creativity across a wildly diverse range of specializations. Microsoft even has a college-like Campus. The Microsoft Commons are an exception to Microsoft behaving as if the benefits of mixing are limited to the interior of office spaces. The Commons are a collection of large buildings on the west side of 520 that are near a playfield, a popular plaza, and contain a variety of food options and several services in small storefronts, like banking and a bike shop<sup>7</sup>. This building, due to the geographic isolation caused by SR-520, is not very accessible to employees coming from most of Campus's 80 buildings by foot or bike. The question about whether a more narrow or extremely broad set of perspectives is more valuable to members of the Creative Class when learning from casual encounters can be answered to some degree by looking at firms. Different geographically grouped firms, working in similar fields, have been more successful than other groups of firms. There is research which examines the effect that other firms (and which types of firms) in the area have on the fortunes of a particular company.

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<sup>7</sup> Selected retail tenants in Microsoft Commons, as observed by the author during a visit in fall of 2015.

In my opinion, the extension of these ideas into the wider built form of Campus is one of the most essential lessons from both Google and Richard Florida. It is also an area in which Microsoft is uniquely positioned to create an unparalleled competitive advantage given the level of control it has over its environment. Amazon is pursuing these casual mixing spaces in their urban environment, but is at the mercy of planners, developers, landlords, and restaurateurs to produce the spaces that create these interactions in their most ideal forms. Another suburban tech giant like Google or Apple can create these interactions through interior architecture and things like longer lines for coffee and lunch, but they do not have the urban contextual advantages that Microsoft does. Palo Alto and Mountain View are not going to be urban places, nor are they going to have quick and easy access to urban places in the same way the Seattle and the Eastside will once East Link is built in 2023. If Microsoft creates common spaces that are informally inhabited and are extensions of the creative workspace – canvasses for self expression and casual mixing – they have the potential to achieve a unique mix of assets that appeals broadly and both attracts the best talent and gets the most out of their abilities.

## Scaling Knowledge Spillover – Lessons from Regional Clusters

Microsoft is not ‘just a software company’ any more than Apple is ‘just a phone manufacturer’. They produce software, and it is a major part of their business, but Microsoft is extremely diversified into different industries, products, and services. For the fiscal year of 2015, they employed nearly 120,000 people, whose work was worth nearly \$94 Billion in revenue (Microsoft Corporation 2016); their business is vastly larger and more complex than Office and Windows. A ‘regional cluster,’ sometimes also called an ‘industrial district,’ is “a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities” according to Michael Porter (2000, 3), the author whose work was most commonly cited<sup>8</sup> in my research on regional clusters. I believe that Microsoft is itself, in effect, a regional cluster and the lessons from academic literature which apply to regional clusters apply directly to Microsoft. In specific terms, there has been a relatively recent trend toward looking at regional clusters not as sources of competition, but economic engines that create knowledge and prosperity (Tallman et al. 2004); a tide that raises all ships.

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<sup>8</sup> Google Scholar credits this specific Michael Porter paper with 3919 citations, at the time of writing.

I refer to this as ‘the firms theory’ of Microsoft wherein instead of being treated as a single entity, a company of 120,000 people, they should be treated and viewed as an associated grouping of independent firms. This academic framework, this intellectual conceit reconciles the fact that Microsoft produces tablet pens, game consoles, email networking software standards, cell phones, a search engine, a web ad platform, the world’s most ubiquitous desktop operating system, a Major League Soccer team sponsorship, and many many other things, services, and software yet they are technically one company and are often thought of as a single group. If we conceive of Microsoft as a grouping or association of specialized firms, who share common directions, resources, social networks, and (for 40,000 employees in Redmond) physical locations then we can apply a substantial body of planning, economic, and social geographic research to learn what would be prudent for Microsoft to do, in specific spatial terms, in order to be more competitive in the future.

A firm’s local system of social relationships, across individuals, firms, and industries is its embeddedness (Granovetter 1985). Embeddedness can provide information benefits, shape identities, endow legitimacy, and be the difference maker in regional economic fortunes differentiating between success and the slide into irrelevancy (Krippner and Alvarez 2007). In fact, in a review of at least 8 other published sources, Breznitz and Taylor found “One of the most consistent findings is that companies embedded within regions ... have a regional advantage over companies that are not” (2011, 5).

Regional clusters create improved economic outcomes and knowledge spillover between firms, and the most successful clusters, such as Silicon Valley and Route 128 in Boston, are highly integrated and embedded within and across industries – the firms in the cluster have strong social ties. In fact, Tallman et al. suggests that various studies of technology-focused clusters have concluded these social ties have an incredible impact: “political, social, institutional, and other noneconomic factors are as important to sustaining these [new industrial districts] as are spillovers of technology” (2004, 260). Further, interpersonal interaction creates a mutually beneficial, interdependent, exchange of knowledge which exists outside traditional market mechanisms (Tallman et al. 2004). That is to say that tech workers in clusters interacting create value without, in economic terms, having an exchange.

The thing that makes clusters so valuable to their component firms is not licensing, meetings, poaching staff, formal collaborations, etc. but the social mixing that comes with being collocated. Informal interactions are what *create* knowledge in high tech clusters, spur knowledge spillover, and ultimately

lower transaction costs<sup>9</sup>. Even when engineers are limited in their work-related conversation with one another, to protect proprietary information, it has been shown that the social exchanges are extremely productive in the generation of knowledge despite limited ‘shop talk’ (Dahl and Pedersen 2004).

In a study of what makes some clusters successful, and what makes some ineffectual, (Breznitz and Taylor 2011) found that embeddedness and social ties were the key differentiator between somewhere globally successful in technology like Seattle or Silicon Valley and a perennial failure, like the Atlanta. In the specific case of Atlanta, firms were found to have very little interaction with each other and generally relied on external venture capital (from Silicon Valley, not Georgia for instance). The locational advantage of collocation was essentially nil as firms were socially siloed. Social fragmentation, according to Breznitz and Taylor is a major factor in the failure for Atlanta to emerge as a globally relevant technology cluster. The failure to produce a community or successful firms is reflected in only 5 tech IPOs from Atlanta from 2001-2011, and none since 2005 (Breznitz and Taylor 2011). In fact, firms were so disconnected from their community in Georgia, Breznitz and Taylor found that over 40% of the companies founded in Atlanta left the state within a few years (2011).

The lesson from technology clusters is clear; interconnectedness, embeddedness and social networks are absolutely essential to taking advantage of the benefits of being physically clustered.

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Effective clusters allow members to “access to capabilities, information, expertise, and ideas... to quickly perceive new buyer needs and new technological, delivery, or operating possibilities. This allows members to identify new opportunities far more readily than those residing outside the cluster” (Wylant 2008, 3).

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If Microsoft wants to improve its business outcomes, then they must create the context in which the essential connections and social networks are formed. They must produce a place that connects people from all of Campus in informal ways in order to take advantage of having so many employees in one place.

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<sup>9</sup> In economic theory, the cost of doing business or participating in a market. As applied to workers on Microsoft’s Redmond Campus, this is the difficulty sharing files, the time spent booking meeting rooms in other buildings and the half hour spent walking there. It is a worker attempting to navigate a complex corporate structure so they can find the right person to ask a question to, or someone to collaborate with, and so on. The barriers to getting things done – doing business – are transaction costs.

There is evidence that quality of place is extremely important to the Creative Class as well; in summarizing the findings from a poll of over 40,000 people, conducted with the help of Gallup, Richard Florida said a quality of place was a key factor, consistently trumping quality of life. “Quality of place can be summed up as an interrelated set of experiences. Many of them, like the street-level scene, are dynamic and participatory. You can do more than be a passive spectator; you can be a part of the scene” (Florida 2012, 281).

Applying the firms metaphor, Microsoft must make participatory spaces and ensure their employees are interconnected on Campus, to avoid the mistakes of the Atlanta tech scene which generally failed to create lasting companies or very much prosperity. Atlanta has the challenge of coordinating funding, legislature, land use, and private enterprise to affect improved outcomes in their local cluster. Microsoft is in an advantageous position because it controls so much and is capable of affecting change in a faster, more sweeping, and more ambitious way than a city or region would be able to. Further, cities don't have the luxury of nigh-unlimited latent demand from firms looking to locate there; Microsoft is the collection of firms and also has control over that aspect. It can choose to locate whichever parts of its business on Campus it finds appropriate. Microsoft can reap the substantial benefits of regional clustering and does not face the same operational challenges that a municipality wishing to be 'the next Silicon Valley' would. Reaping these benefits starts with having employees gather in common spaces under natural pretenses; transit stations provide a perfect premise for the creation of these spaces.

## Transportation Factors - Driving Ridership and Leveraging Link Light Rail

Microsoft should make a specific effort to drive ridership, especially to Link Light rail. Doing so is in their interest due to a number of factors. The environmental benefits of higher transit mode share have local and global effects, and help corporate image. Financially, it is expensive to have employees arrive by car, rather than other modes. The highest capacity mode, by far, is light rail. It is also an enviable amenity which provides a high quality experience and excellent access to the kinds of urban spaces that have been shown to be so important to the talent Microsoft is recruiting. Finally, the transit station can act as an anchor and focal point in improvements to Campus from a spatial perspective. Creating urban experiences is important from a competitiveness perspective, but more importantly, I have shown the immense value of casual mixing spaces and increased embeddedness; the Redmond Technology Center Link station should be a major node in changes to campus which increase embeddedness and mixing spaces.

The arrival of 5,000-10,000 employees a day via Link Light Rail, starting in 2023, at one of two stations on Microsoft's Campus, is a natural catalyst and node around which new common spaces which encourage the kinds of interactions Microsoft needs to take advantage of their cluster of firms -like attributes. A natural barrier to the Campus operating like a whole with casual mixing and abundant knowledge spillover is SR-520. Creating common spaces, a sense of place, and venues for employee self-expression and social networking will require substantial investment. Buildings will need to be replaced and sites reconfigured to do it fully; Microsoft should not feel tied to building footprints and setbacks laid out in the 1970s and 80s.

The more employees arrive on campus through the RTC Link Station, the bigger the potential for knowledge spillover and improved embeddedness. Driving ridership would compound the positive effects of the spaces I am advocating for by creating a captive audience of users to occupy said spaces, which in turn would be leveraging any new investments Microsoft makes into its Campus.

Several things stand out in the literature as determinants of ridership: experiential commute attributes, positive/negative incentives, and the effect of the built environment. If Microsoft chooses effective tools from these categories, the strategy has the potential to be very effective for them in changing how

they are perceived, improving their groups' embeddedness as clusters, and of course driving ridership. Microsoft also has an unusually high level of control over these three determinants of ridership as they have freedom to change land use, incentives, the driving/parking environment on campus, and the commute experience from the station area to the office. As shown in the *Literature Review*, all parts of a journey have an impact on mode choice and therefore the on-campus experience is important. Microsoft needs to improve connectivity and access, and most of all they need to improve the pedestrian environment. Slogging through fifteen unpleasant minutes as a pedestrian in a suburban, car-dominated Campus can ruin what would otherwise be a top-notch experience of riding a brand new train on your way to innovative, recently renovated office space.

## Mode Choice and the Built Environment

In a meta-analysis of data-driven studies, Ewing and Cervero found that the most impactful physical design elements for decreasing automobile commute mode share were the distance to a transit stop from home/work, intersection density, how far away stores were, how diverse land uses were, and how easily workers can drive to their jobs (2010).

The presence of retail, the connectivity of the street grid (intersection density), and the accessibility of transit resources all increase the use of walking and transit mode shares; the built environment on Campus has a significant effect on people's willingness to get out of their cars. Additionally, the further people's destinations are from urban places and the easier it is to access their job by car, the more people drive. Microsoft can simultaneously drive ridership and suppress single-occupancy vehicles. The difference between a walkable campus core with a diversity of uses and conveniently spaced amenities and the current suburban placelessness can be measured in ridership. As mentioned, higher transit ridership has compounding benefits for Microsoft if they invest in better spaces around the transit resources. Microsoft ought to make pedestrian connections and highly visible transit resources (including shuttles and The Connector) a priority in future changes to Campus.

## Mode Choice and Incentives vs Disincentives

As established in the *Literature Review*, both incentives and disincentives can be effective in changing commuter behaviors. Pricing is a common tool to manage demand, and both

The Seattle Children's Hospital's TDM efforts are an example of leadership in highly effective institution demand management policies. According to their Comprehensive Transportation Master Plan, they have reduced the drive-alone mode share "from 73% in 1995 to 38% today" (Seattle Children's 2008, 1). Children's uses a number of approaches to achieve this staggering reduction in SOV commuters, and several strategies stand out as avenues Microsoft either does not participate in or could make more robust. From their transportation plan:

- Invest millions in bicycle and pedestrian improvements throughout Northeast Seattle to make their region of the city better to walk and bike in.
- Shuttle links to transit hubs.<sup>10</sup>
- Innovative bicycle programs.
- Parking charges and managements, including financial incentives, disincentives, and gamification.
- Good campus design which supports non-SOV transportation plan priorities.

(Seattle Children's 2008)

The final two bullets – innovative parking management and coordinated campus design to support bike and pedestrian modes – stand out as particularly distinct from Microsoft's strategy, which is very auto-oriented in form and offers free parking.

Rewards can be difficult to implement in ways which create lasting effects, rather than a short-term change whilst participants are still being incentivized. A 13-week field study in the Netherlands found that the 'endowment effect' was vastly more effective in effecting lasting behavior change – essentially if people feel ownership and as they saw their reward grow with time they are far more motivated than if given simple monetary rewards (Ben-Elia and Ettema 2011). Specifically, users who were given a cell phone to log trips with and had the opportunity to earn ownership of the device had equal or worse stated pre-test preferences than the group given a monetary reward which added up to a similar value as

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<sup>10</sup> This strategy is similar to the Microsoft Connector, but drops employees at transit hubs rather than providing the whole commute. This strategy could be used once East Link Light Rail is completed in 2023.

the phone. After the experiment, those trying to earn the device had better results in changing their habits to avoid rush hour by leaving earlier or later.

In terms of Microsoft, the example of Seattle Children's and the Ben-Elia and Ettema study (2011) point to the value of involving a component to TDM that goes beyond simple fee penalty and monetary reward strategies, and idea which is supported by numerous other studies (D. F. Ettema, Abenoza, and Susilo 2016; Lund, Cervero, and Willson 2004; Kahneman and Tversky 1984; Washbrook, Haider, and Jaccard 2006; Schiefelbusch 2015; Popuri et al. 2011). Two studies specifically point to people being highly motivated toward avoiding emotional losses that come with losing something of value – social standing in a workplace competition or a partially-earned cell phone (Ben-Elia and Ettema 2011; Kahneman and Tversky 1984). In simpler terms, Microsoft ought to focus on creating a positive incentive that people feel attached to, like Seattle Children's making a game out of *not* using parking where employees and groups compete against one another. This will build culture and have positive outcomes on commute mode choices, though simply charging for parking (or offering a few dollars each day you don't park) would be a good start.

## Mode Choice and Trip Experience

Intuitively, one might think that Microsoft has little to no influence over the experiential qualities of their employees' commutes. After all, Microsoft does not design the road network, lay out bus routes, nor make the trains run on time. Though many aspects of their employees' commutes are out of Microsoft's hands, there are a number of strategies which can be applied to Microsoft's Campus. This is, in my opinion and is a very, very significant opportunity for Microsoft. Much like Microsoft's suburban Campus and Florida's 'three T's' – competitive advantages that faded in popularity or stopped being exceptional – Link access to Campus will not always be that significant of an advantage. Other firms are free to locate along the same service, such as REI in the Spring District, and overall, the Link Light Rail experience, in my opinion, is fine but not exceptional. Link service is unexceptional in many ways. It isn't all that, fast, comfortable, or extensive (yet) and most stations are platforms that are functional but pop you out onto a street corner which generally, lack a sense of integration into their environment and context sensitivity.

Link will offer a relaxing, quick, comfortable trip, and will have tight headways that will mitigate negative effects from any schedule variation that may arise. These are all important experiential qualities which will positively impact ridership (D. Ettema et al. 2012; Tseng, Knockaert, and Verhoef 2013; D. Ettema et al. 2013; Ewing and Cervero 2010). They are, however, qualities of the transit network and are not unique to Microsoft's specific location, nor transportation resources.

The two newest Link stations at the time of writing – Capitol Hill and UW – are far more architecturally interesting than the rest of the system, but are still weak in terms of placemaking and local integration. The King County system of Park-and-Rides (P&R's) is even less exceptional even though they are some of the region's foremost transit assets in terms of the access they provide and the ridership at the associated transit stations. Microsoft will have both Link and P&R facilities in the heart of campus at the current Overlake Transit Center/P&R and a Link station at Overlake Village, on the southern edge of campus. Figure 22 illustrates a slow and circuitous transfer at Mount Baker Transit Center, a poster child for placeless and poorly integrated Link stations.

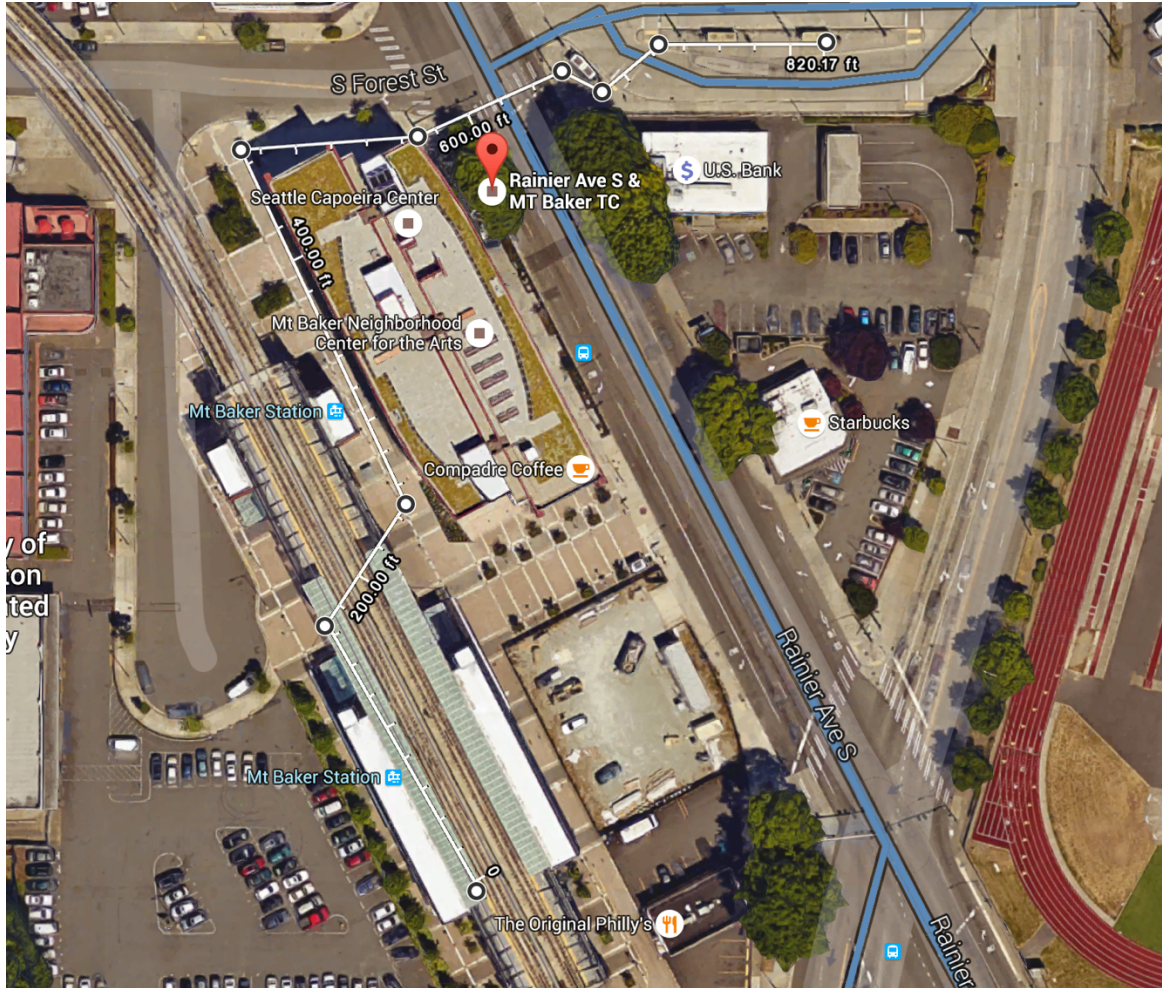


Figure 22. Mount Baker Transit Center, with an 820 ft. Pedestrian Journey. This measured pedestrian path connects the Link platform to a bus stop and includes an escalator/elevator and crosswalk. Source: Google Maps. Modified by Author.

The boring, unexceptional, and sometimes frustrating nature of the Link system is actually a positive thing for Microsoft. If they are successful in integrating the transit resources into an exceptional place, they will have an advantage over competing firms that they will be unable to replicate. Microsoft's wealth of land and control over that land means they can create a place in a way that not even Amazon with their urban neighborhood and biodomes can equal. I also have some original ideas about how, as a technology company, they could leverage their resources to further improve the transit experience for employees. My interpretation about how to best take advantage of this opportunity and create the kinds of mixing spaces I have called for are explored in the *Recommendations* section.



# RECOMMENDATIONS

Microsoft needs to build a better experience into the built form at their Redmond Campus. This will let them improve their brand's standing, leverage resources, get more out of employees, recover salary at on-campus retail/amenity, stay more competitive, and eventually stop paying higher salaries than the competition for the same talent. In effect, they have the opportunity to create a place that accomplishes all of that and recaptures their locational advantage. Their suburban Campus was once an advantage but is now a major liability, and by creating a better sense of place on campus they can remedy that. Figure 23 provides an overview of campus. Specific features on the map will be addressed slater.

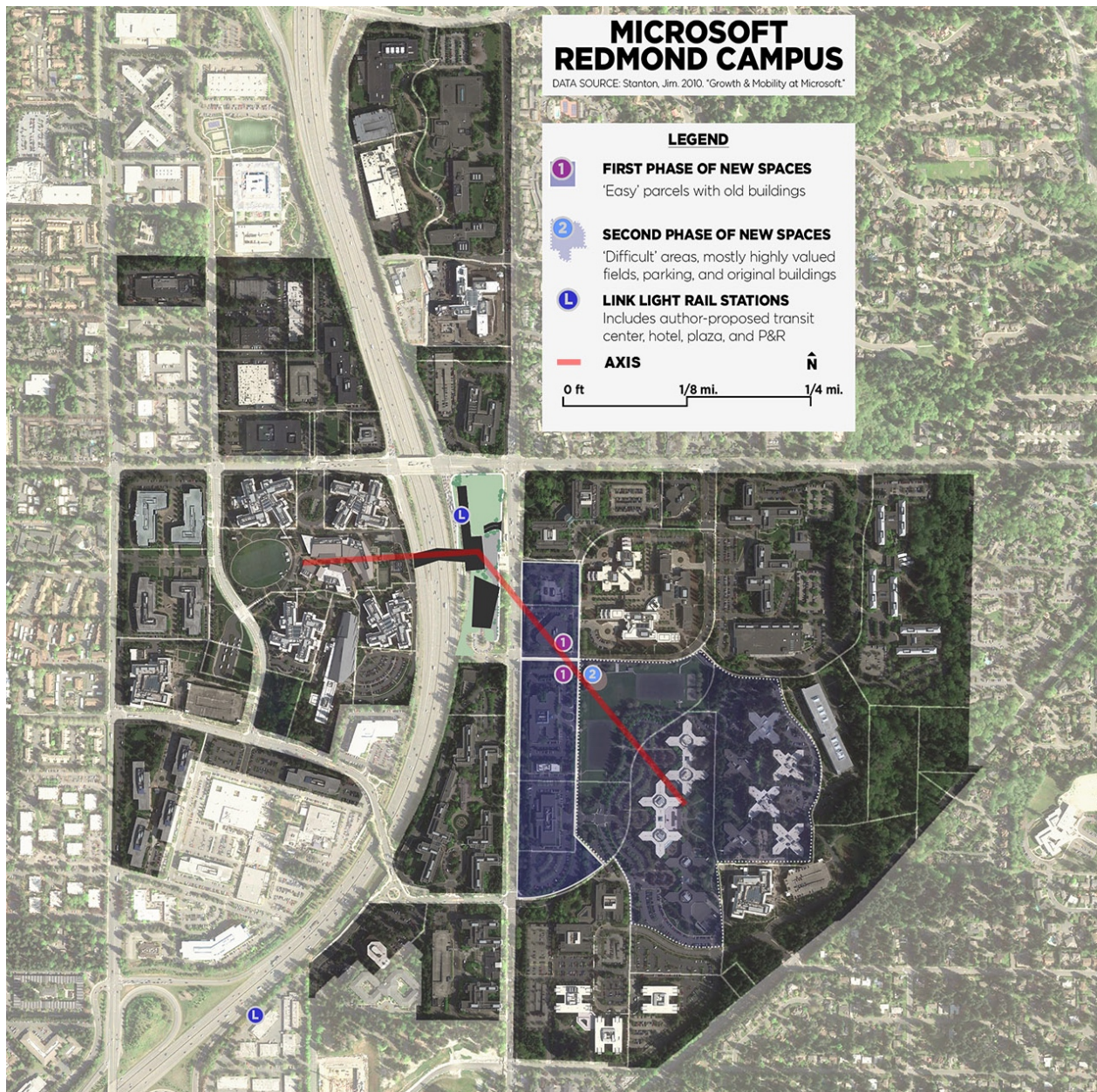


Figure 23. Central Portion of Microsoft's Redmond Campus, with Recommended Transit Center, Phasing, and Axis. By Author.

## To change the on-campus experience, Microsoft should do the following:

- Improve access: connect and densify campus to bring more workers closer together.
- Improve amenity: provide for start and end of day needs of employees, to reduce the need for trip chaining and recapture their salary when they spend money on campus.
- Drive ridership on Link and RapidRide to leverage their investments and compound benefits. Use parking pricing and gamification to effect long lasting changes in behavior and engage employees with each other. Don't make driving so great it is people's default choice.
- Increase embeddedness – use centralized spaces and amenities to connect employees from across the company in unexpected ways.
- Provide lightly programmed spaces that encourage and enable self expression, which will help organically grow culture on Campus.

These steps will address many of the practical issues addressed in this document. The lack of connection and embeddedness directly contribute to experience. One of the biggest problems, which would persist even after the above steps are implemented, is the 'feel' of the campus. It is not distinct, imageable, nor memorable. In short, it lacks a sense of place.

## Most importantly, Microsoft needs to:

Make Campus a compelling destination – a worthwhile place independent of the transit services. Make it somewhere people want to spend time, bring friends, interact with coworkers in, and ultimately brag about. The Overlake Transit Center, as currently planned, is a prototypical continuation of suburban placelessness. The group of buildings on campus that are most problematic are also amongst the oldest, which makes some logical sense as to why they would be pro-car and anti-place. The original 'X' buildings occupy a huge area in the center of campus, adjacent to the play fields. They are surrounded by sprawling surface parking lots, lush trees, expansive and lawns. The land use surrounding the 'X' buildings is so sparse that there is ample room to construct infill buildings in the leftover spaces. These leftover spaces are a huge part of what makes this part of campus so anti-urban and such a mediocre experience. The buildings are simply not suited to a contemporary and competitive experience that fosters creativity and embeddedness. Instead they offer attractive landscaping and a feeling of isolation.



Figure 24. 'X' Buildings. 157th Ave NE/Microsoft Way at bottom. Source: Google Earth.



Figure 25. Upper Level Interior of Building 10 (Post-Renovation). By Author.

One of the problems that stands out is the prominence of surface parking lots. They inherently take up a lot of space and need to be reasonably close to the destinations they serve. While structured or underground parking is substantially more expensive, Microsoft has been investing in it – The Commons, for example, has a large garage underneath – reducing the demand for parking is a more productive way to mitigate the negative spatial and experiential presence that most garages create. Parking does not necessarily need to be an eyesore, buried out of sight, or a sprawling surface lot. Investing in parking that has a positive effect on its surroundings (beyond the utility of providing parking) is especially important in central, high-visibility areas such as Overlake TC.

### In creating a Place on Campus, the following is important:

- Access for employees
  - With limited access to shared spaces and central Place, the beneficial effects of knowledge spillover, embeddedness, and social networking will be severely limited. To that end, improved pedestrian networks are essential, and a very different shared transportation system should be implemented, with app-enabled autonomous electric vehicles and electric bicycles. Shrink campus temporally and show off prowess and a technology company. Give alternatives to get around when the weather is ‘too Seattle’ to enjoy walking.
    - Extend electric automated shuttle service area to include amenities in Overlake Village
  - Avoid having employees self-impose isolation due to access barriers to various destinations, including The Commons – don’t make people avoid interaction due to a hostile built environment.
  - Fix the 520 problem, truly connecting east and west campus (NOT like the ST bridge)
- Mixing spaces
  - Provide a more urban experience, like many competing firms in Seattle.
  - Reap benefits of having employees socializing, eating, getting coffee, holding meetings, etc. in new mixing spaces.
  - Reinforce internal cross-firm embeddedness.



*Figure 26. Meeting Space 99 at Microsoft Commons, a good, fun mixing space that is in a place which is only easily accessed by employees at The Studios on West Campus. By Author.*



*Figure 27. An impromptu meeting in the parking lot outside Building 11. The built form is dictating how people interact. By Author.*

- Bridge the urban/suburban divide. Support the access to urban residential assets with urban experiences on campus. Maintain what makes Microsoft unique, such as the (roughly) 85' evergreen trees all over campus.



Figure 28. Building 8 and a renovated atrium, with hanging travel time data visualization. By Author.

- Assert a Positive and Contemporary Corporate Image
  - Recognize that image matters. Complete the company overhaul that has been underway with product-based efforts (The Surface tablets, Windows Phone, Windows 10, redesigning the company logo for the first time, sponsoring the Seattle Sounders, etc.)
  - Assert your relevance in the contemporary and future landscape of top-tier tech firms

## Keys to Increase Access and Create Place:

As mentioned at several points, there are specific ways to create a sense of place and dramatically increase employees' access to new transit and Place assets. The centerpieces of this effort should be:

- A public space-rich corridor which connects The Commons, RTC Link, parcels due for redevelopment, and the core of campus.
- Tight integration of the RTC Link station into the look, feel, and experience along the new corridor.
- A pedestrian-focused (but multi-modal) freeway cap linking The Commons, RTC Link Station, and the corridor
- A hotel which provides amenity spaces to everyone on campus, using the 24/7 hotel guest population to enrich the service level available to employees. This is an opportunity to compete with Seattle's "18 hour district" ambitions for SLU. Accomplishing this through apartments would probably not be 'highest and best use,' thus the hotel option satisfies several needs simultaneously.



# DESIGNS FOR A NEW HEART OF CAMPUS

[https://www.microsoft.com/presspass/imagegallery/images/corporate/campus/campus\\_aerial\\_2\\_print.jpg](https://www.microsoft.com/presspass/imagegallery/images/corporate/campus/campus_aerial_2_print.jpg)

## A Statement Project: A Site-Specific Response

The Overlake Transit Center serves as the Campus landing pad for employees and the public alike. It is the front door to one of the most important corporations in modern history and as such, its programming needs to be far, far more intensive than as currently proposed by Sound Transit and the design needs to be much, much better. Starting with Overlake Transit Center, Microsoft needs to dramatically reshape the built form in the center of campus. The activities there need to connect with their surroundings, draw people in, make the right impression, and set the tone for the new Campus. If this is accomplished, then Overlake Transit Center has the potential to be very powerful for both Microsoft and Sound Transit. It also needs to visually communicate the new Microsoft's values and position as an innovator into the future. The nature of Overlake Transit Center as a point of arrival for thousands of Microsoft employees and visitors means that it sets the tone; the experience at the transit center matters enormously to Microsoft.

### Current Plans for Overlake Transit Center



Figure 29. Sound Transit's most recently published (11/2013) Overlake Transit Center Station plans. Perspective view. Source: Sound Transit.

There are a number of things wrong with this design though, with 7 years until planned completion there is at least time to make changes. The main issue is that it is predominantly designed in a utilitarian manner; it is physically organized and designed to serve motorized vehicles first, much like the older suburban buildings on the campus Overlake Transit Center is serving. Every transit trip is actually a multimodal one in that riders need to access transit, and a bus or train has arrived at the rider's stop, they have to walk (or use another mode) to get to their final destination.

In the current design for Overlake Transit Center, there is minimal care given to this part of users' journeys, with a perfunctory plaza spanning the space between the generic concrete Park-and-Ride garage and the busy bus loop. Pedestrians – the transit users – are squeezed into narrow strips of concrete and funneled into crosswalks at either end of the long islands. Someone unfamiliar with the layout is faced with a busy hardscape full of moving busses as they try and find the correct bay for their route number. This experience, strictly from a transit user's perspective, is unpleasant and not up the standard that Microsoft and Sound Transit should hold themselves to. Further, it is a rehashing of the same old mistakes that Microsoft is grappling with today as Millennials flock to better urban environments. This transit center could be almost literally anywhere, and there is neither a reason nor facilities for people to occupy the space outside of going to/from the Park-and-Ride or transit. It is not a place for people; it is a piece of pavement for vehicles.

Microsoft can't afford to have such a deficient experience at such an important location for so many employees and visitors. This pavement and vehicles first approach reinforces the negative aspects of Campus that projects like the Studios are meant to combat. It is the same attitude that led to the built form that the 'X' buildings typify, which is one of the primary drivers behind Microsoft's recruiting problem. Not only are there not enough land uses on this central and important parcel, the ones included in the proposal are not executed well enough. People who visit or pass through Overlake Transit Center have no reason to linger, interact, or even enjoy the experience. The only thing the current plans really accomplish is providing access to mass transit, which is laudable but should not be the height of either Sound Transit or Microsoft's ambitions.

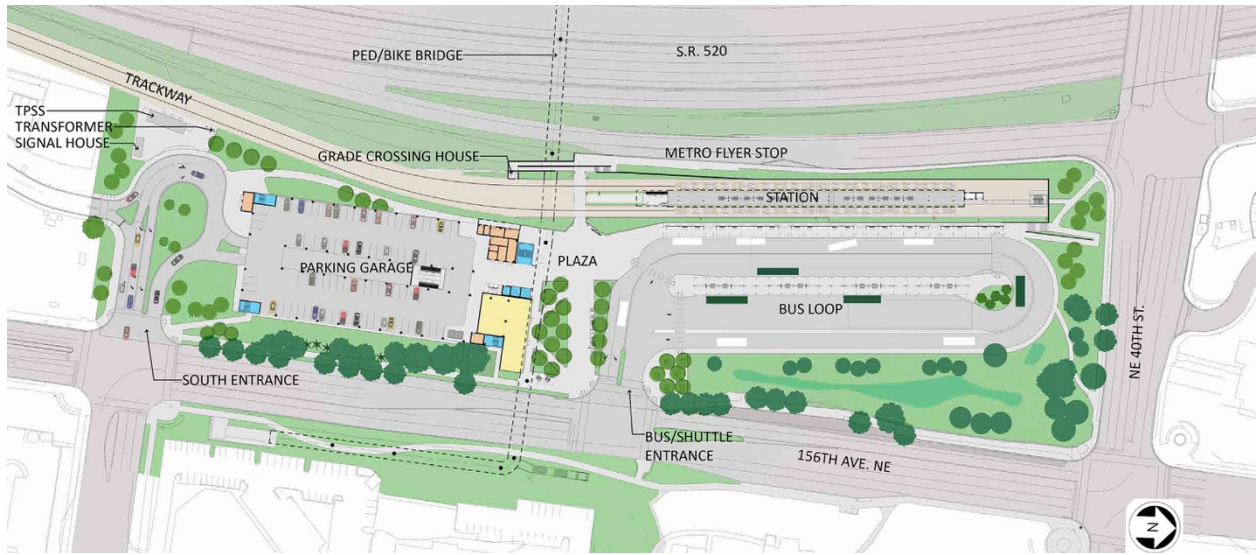


Figure 30. Sound Transit proposed Overlake Transit Center Plan view. Note the overwhelming dominance of pavement for vehicle use and the Park-and-Ride on the left. Source: Sound Transit



Figure 31. Pedestrian network at Sound Transit proposed Overlake Transit Center. Pedestrian network: white. Ped/bike bridge: grey. Landscaping or vehicle space: black. By Author.

The inclusion of a Park-and-Ride is a difficult subject. On one hand, access to transit is important and the 'last mile problem' in the suburbs means that many potential transit users don't have a practical way to get to a stop without driving (or being driven) there. On the other hand, there are other locations on the East Link Extension that have more space, less intense surrounding land uses, and equally good

access to local highways. According to 2014 average weekday daily traffic counts, the intersection of NE 40<sup>th</sup> SE and 156<sup>th</sup> Ave NE has 19,636 vehicles a day (all four directions averaged) and up to 1,311 vehicles in the PM peak hour in the westbound direction on the west side of the intersection (City of Redmond 2015). While the increased level of service that will come with the arrival of Link will surely blunt some of this traffic, does Microsoft need the added volume of a Park-and-Ride in perpetuity? In Vancouver, BC there are two plans to cope with a drop in demand for parking, which repurpose existing parking structures. One is to provide daycare facilities, and the other plans to build micro housing for people at risk of homelessness (Howell 2016). Will drivers accessing transit at this location still use all of the proposed Park-and-Ride spaces in ten years? Will they in fifty? Is it worth investing in a parking structure of at this particular Link station? Is the Sound Transit lot being designed in a way that allows it to be effectively and efficiently repurposed? Access to transit is important, but it seems to me that this site's best use is not a parking lot, particularly an above ground, single use lot.

## An Alternative Vision for Overlake Transit Center

I have proposals to significantly improve the form and function of the Overlake Transit Center, the combination of which will result in a fundamentally different place. The architecture also matters in that it communicates what Microsoft 'thinks about' the place; a focus on design can communicate the importance and stature of a place. Architecturally, the Overlake Transit Center needs to be distinctive rather than generic. A great deal can be communicated through architectural design and the one that is currently proposed communicates that this is a generic, unimportant destination with nice landscaping and a complete lack of imagination or distinction.

The form needs to be better to:

### **1. Improve the experience.**

As discussed in the Literature Review, experience matters to people in terms of where they choose to live, work, and how they commute between those places. Many things can affect the experience at a transit center, including: light quality, air quality, sense of security, route directness, wayfinding, proximity of pedestrians and vehicles, connectivity, green space, crowding, and aesthetics. The currently proposed experience prioritizes vehicles over users and would be unpleasant, stereotypically suburban experience. The pedestrian bridge is utile in that it allows users to cross the highway on foot or bike, but the connection to the

ground is inconvenient, far from transit stops, and the rendered design does not provide any shielding from the noise and pollution of the busy highway, being slender and very open. The whole experience would be generic, completely divorced from its specific location and significance, and is the type of built form Microsoft needs to move away from. The pedestrian realm in the Sound Transit plans, shown in Figure 31, is almost sparse in its reluctance to provide more than a typical sidewalk and landscaping.

## **2. Create a sense of place.**

The Sound Transit proposal, while efficient and landscaped with plenty of green space, suffers from placelessness. As I just mentioned about the experience, there is nothing about the design that has a relationship to its context. The Sound Transit plaza could be nearly anywhere in suburban North America. There is no reason anyone would be there other than to use the transportation services or pass through. It's not memorable, and none of the features are obvious landmarks. It is not a destination or a place to be, it simply is a way to provide transportation services.

With these formal improvements, designers will be able to give people a premise to interact, through the space and its programming. By making a space that is vibrant and compelling – not an unpleasant, single-function, and utilitarian place like the proposed design – Overlake Transit Center could conceivably be a destination on its own. The programming would have to support this with services, food trucks, mobility, art, etc.

The function of Overlake Transit Center needs to be better to:

### **1. Provide better access for employees**

The connections to Overlake Transit Center need to be carefully considered to reinforce all of the positive aspects of the facility. The experience needs to be positive and have continuity. Making the transit center match the high level of service Link provides is not going to be very effective if employees don't have a good or pleasant way to get from the transit center to wherever they're going – conference center, a meeting, for food and coffee, to do a quick errand, or just to their office. Organizing new buildings and paths in such a way that maximizes connectivity and minimizes the feeling of suburban placelessness will leverage to positive aspects of Overlake Transit Center and make the facility more accessible to more employees.

## **2. Improve mobility across campus**

With thousands of employees being dropped off each day, Overlake Transit Center needs to be a mobility hub, not just a set of (well served) bus stops. When interviewing Microsoft employees, the shuttles came up in a negative light due to their limited utility. “I used to take them more often, but waiting for one to arrive and if they make a stop or two, it’s usually quicker to walk” (Microsoft Project Manager B 2016). Employees order a shuttle by talking to the security desk in the building, and due to the diversity of vehicles and drivers, the experience is not reliably quick. I would create a revamped shuttle network, which would primarily be autonomous electric vehicles that employees can order using an app waiting for you as you disembark the train or bus. The same app could be used to reserve a bike at the bike share which Microsoft needs but does not currently have. Having a rich suite of mobility options and robust connectivity to the whole of campus, Microsoft could use Overlake Transit Center to solve the ‘last mile problem’ while creating an innovative, impressive, and memorable experience. I would also significantly change what pedestrians and cyclists connect to when travelling to or from Overlake Transit Center – a network of plazas and open space rich in amenity, places to be, socialize, and eat, within easy walking distance of one’s office. Compare this to connecting to the environment like the ‘X’ buildings, with dispersed, isolated buildings surrounded by landscaping and vehicle-first spaces.

To create a place that is worthwhile – which people want to go to, stay in, and enjoy – a significantly intensified set of uses is called for. Recognizing that this is the logical entry point for employees and visitors alike, it makes sense that the uses at Overlake Transit Center embrace visitors. I believe that two institutions would make sense here and compliment Microsoft’s broader goals, while increasing the impact of the station as a place: a hotel that incorporates the Park-and-Ride in its own garage and a museum. These would create a lot of vibrancy and be an opportunity to provide public amenity that would make less sense without these institutional anchors; the hotel would provide food and services and the museum would be the public space, art, and cultural anchor. Together these would combine to make a place that is memorable, vibrant, and compelling that people would want to visit for the sake of what it offers. It would be an ideal catalyst for fostering knowledge spillover, increase local and regional embeddedness, and the quality of the space and experience would be a boon for the desirability of Microsoft as an employer, addressing the recruiting problem.

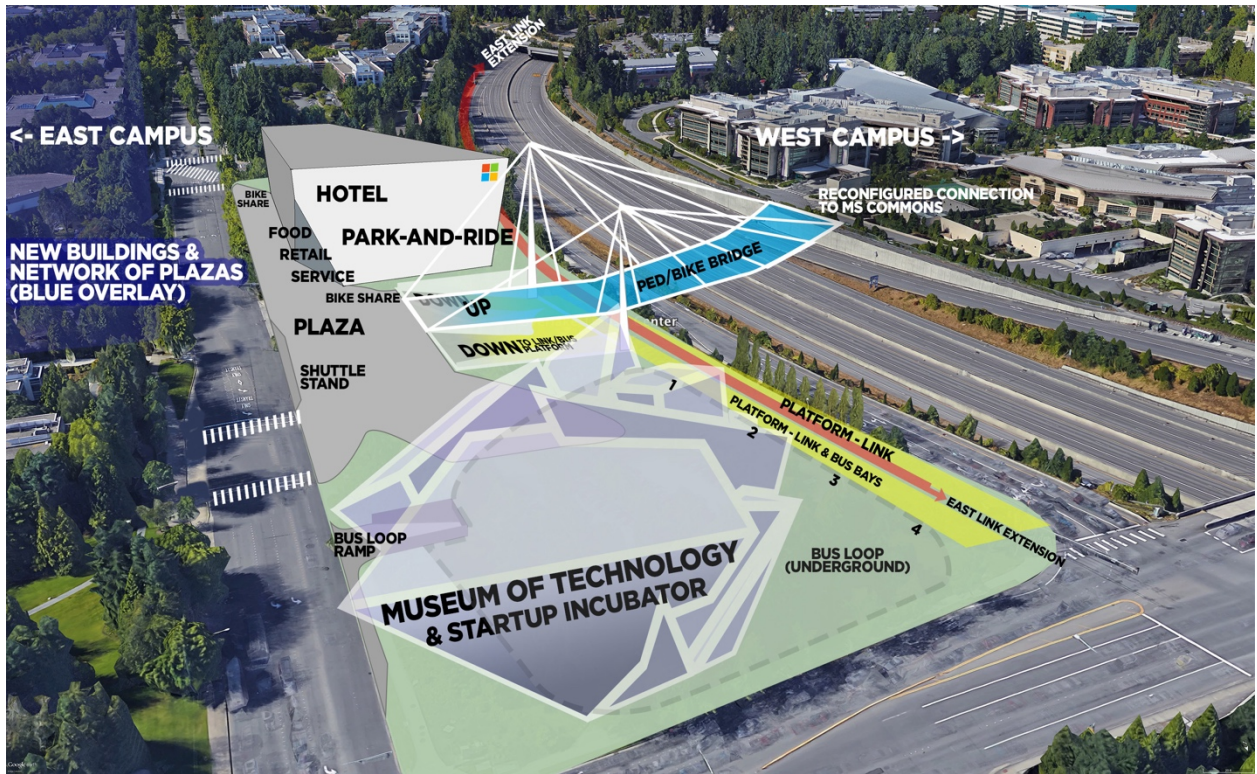


Figure 32. Author proposed Overlake Transit Center. Perspective view. Building shapes are rough massing only, and are not complete designs.

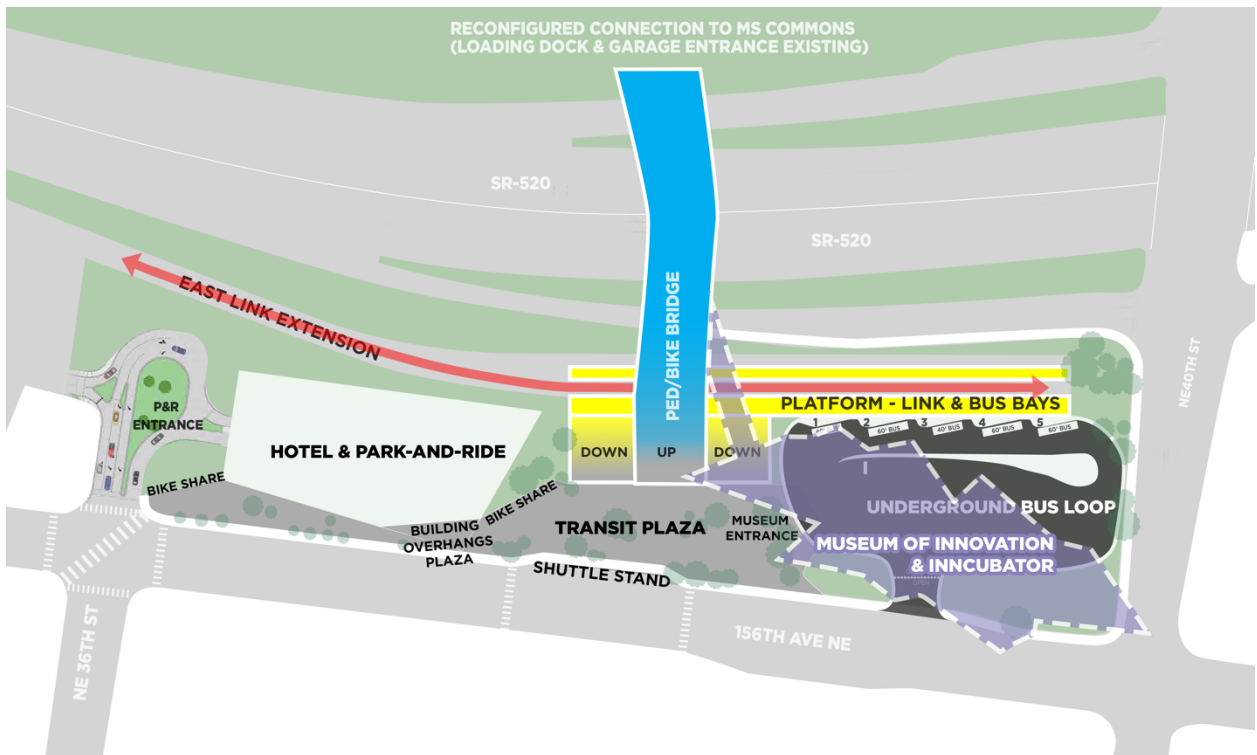


Figure 33. Author proposed Overlake Transit Center. Plan view.

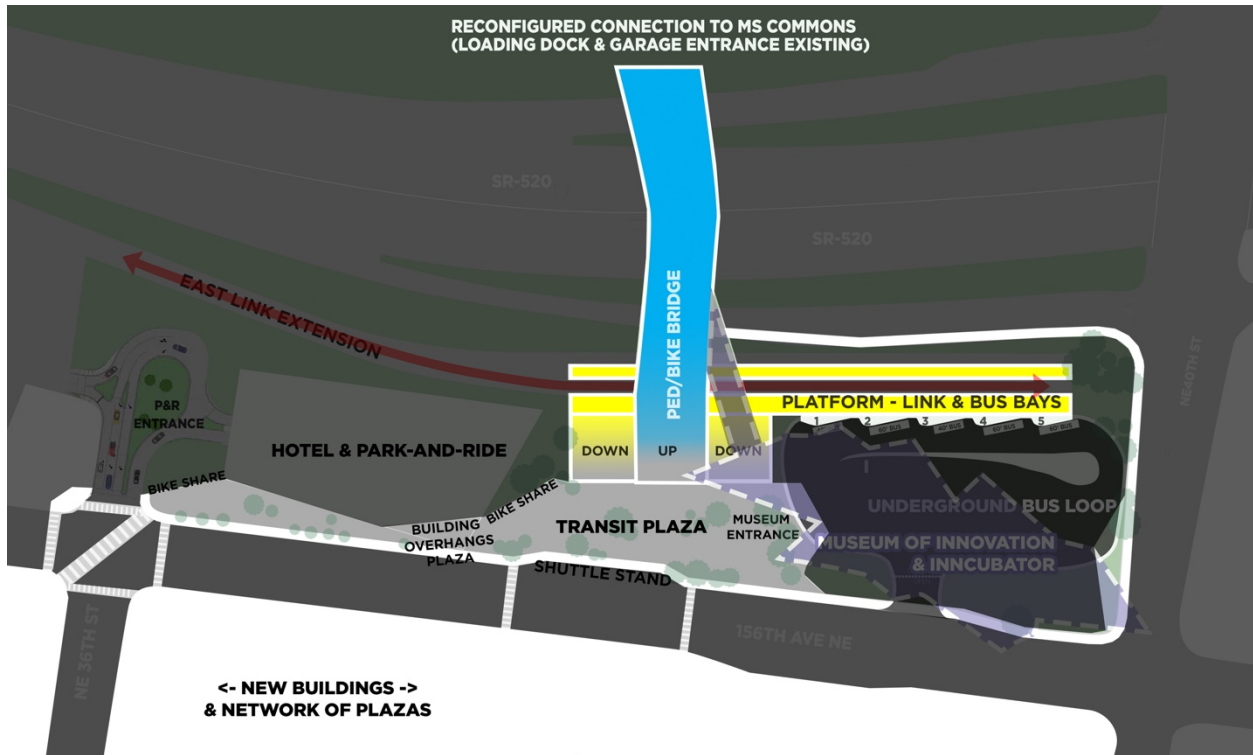


Figure 34. Pedestrian network at Author proposed Overlake Transit Center. Pedestrian network: white. Ped/bike to museum 2<sup>nd</sup> floor bridge: grey. Landscaping or vehicle space: black. Additional public space possible at the north end of the parcel, depending on actual Museum of Innovation design. By Author.

A ‘signature’ hotel with noteworthy architecture, combined with a Park-and-Ride has been included in my design. Microsoft want to build a hotel on campus, due to the high volume of people they do business with on a daily basis that need accommodation in the area (Stanton 2016), and I see it as an opportunity to provide services to people using Overlake Transit Center, and mitigate the negative influence of a parking structure or surface lot for Park-and-Ride users.

The proposed bridge, in addition to being aesthetically and experientially nicer than the Sound Transit proposal, has real benefits in terms of connectivity and time savings. The Commons is a great resource, but it is difficult to get to for employees on the east side of SR-520. Using Google Maps walking directions as a baseline, I modeled trip times between several destinations, then compared the distance to a direct route utilizing the proposed bridge at Overlake Transit Center to gauge the impact of said bridge. The results show that for many users, the bridge could save up to 20 minutes on a journey, round trip.

ORIGIN	DESTINATION	CURRENT DISTANCE	DISTANCE W/ BRIDGE	TIME SAVINGS (MIN EACH WAY)	TIME SAVINGS (%)
Building 37	Commons	1.2	0.73	10.4	43.33%
Conference Center	Commons	0.9	0.55	8	44.44%
Studio E	Overlake TC	0.6	0.38	5.4	45.00%
Studio B	Overlake TC	0.3	0.27	1.7	28.28%
Studio C	South Playfield	0.8	0.55	5.0	31.34%

Figure 35. Pedestrian travel time differences between existing and proposed conditions at Overlake Transit Center. By Author.

### An Activated Ground Floor Across Uses

My proposal for Overlake Transit Center has an emphasis places on the ground floor being a continuous, vibrant, and active experience. The Hotel and Park-and-Ride need to have a layout that invites the public inside, with fast food and coffee, restaurants, hotel services, and retail. At this, or one of the nearby sites, the Microsoft store should be relocated to welcome visitors and help shape their journey through Campus. The design of the bridge, train, and bus service concentrates service, which was spread throughout the site in the Sound Transit design. The ramps up to the bridge and down to the transit platform are also a continuation of the ground plane, rather than a separated or circuitous layout like the Sound Transit design. The proposed Museum of Innovation and Incubator is an opportunity to provide a world-class public space and piece of architecture externally, and should draw visitors in to partake in the activities and exhibitions it houses. This heavily programmed site would also be very well connected to the rest of campus through pedestrian, non-motorized, and vehicle access routes.

My proposal, as seen in Figure 32, Figure 33, and Figure 34 was laid out along the organizing principles, discussed above. Relative to the Sound Transit proposal, my proposal for Overlake Transit Center has:

- Better connection across SR-520 for cyclists, EV shuttles, and pedestrians by seamlessly connecting to the central plaza, rather than being elevated, narrow, and restrictive. The bridge is depicted in cyan in the diagrams.
- Improved access through bridge and pedestrian connections, connected to reconfigured neighboring parcels across both SR-520 (The Commons and West Campus), and the areas I suggest completely redoing (Phase 1 in Figure 23), across 156<sup>th</sup> Ave NE.
- Improved access through the introduction of app-ordered EV autonomous shuttles and a bike share to compliment the improved pedestrian experience.
- Improved wayfinding at a massively simplified bus and train configuration: one platform with doors that open to busses as the busses are ready to lode and depart, which is shared with the Link platform, on the same below-grade level. This is modeled after Union Station in Denver, CO, as seen in Figure 36.
- Improved sense of place, improved amenity, and improved experience through a reconfigured Park-and-Ride. The structure I propose, modeled loosely after Santa Monica Parking Structure #6 (Figure 39) and has the Park-and-Ride functions all but invisible. The ground floor of the proposed structure would provide quick and standard service food vendors, retail, hotel services, and possibly the Microsoft Visitor Center and/or Company Store (these should be moved here, or to an adjacent parcel across 156<sup>th</sup> Ave NE). The parked vehicles would be in a structure designed for future reuse and screened in a way that disguises the building function from the outside. The Park-and-Ride spaces could also be underground, which would be more expensive and limit future reuse but would be aesthetically preferable for plaza users.



Figure 36. Overlake Transit Center Transit Platform concept, as applied to a photo of Denver Union Station, which functions in the same way. By Author.

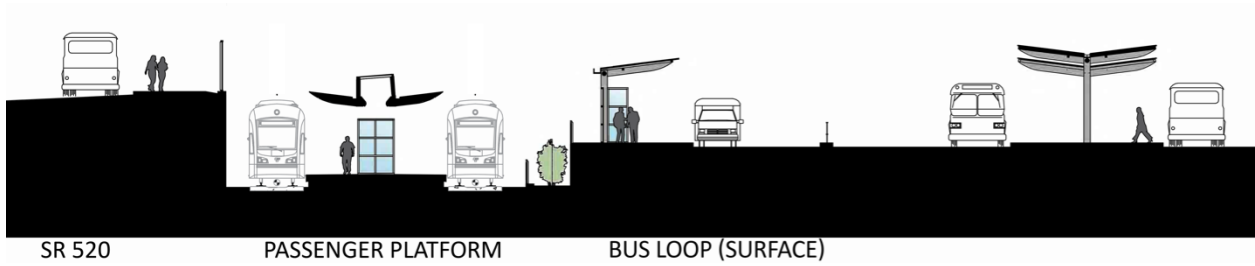


Figure 37. Planned Overlake TC – Section View. Source: Sound Transit.

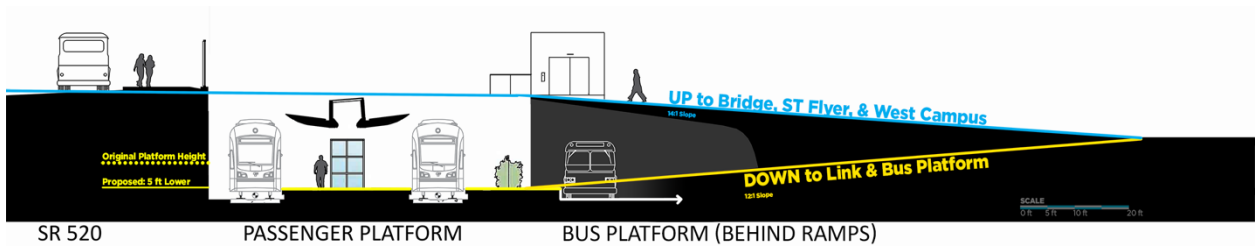


Figure 38. Proposed Overlake TC – Section View. Note the increased path directness, connection, and transit service consolidated into one location, in the style of Denver Union Station. By Author.



Figure 39. City of Santa Monica Public Parking Structure #6, an example of how a parking structure can contribute to its context. Structure #6 has bright, airy interiors, is LEED Gold-certified, has retail, and a farmer's market. Source: Behnisch Architekten

## The Suburban Heart of Campus

### Old Buildings in the Middle: A Phased Approach to Redevelopment

Microsoft needs to replace the cluster of old suburban buildings in the middle of Campus. They are one of the major sources of Microsoft's competitiveness problem, and for understandable reasons Microsoft has a need to continue normal operations during construction and reconfiguration. As such, leasing space and phasing work would make logical sense. I suggest that the first phase removes the buildings along 156<sup>th</sup> Ave NE, as shown in Figure 40. These buildings are central, amongst the oldest on campus, and have been the target for long-term redevelopment since at least the 2006 plan (Stanton 2010) – the plan which was derailed by the Great Recession – and as such are good candidates to begin the project. The Phase 1 sites would have a direct connection to the Overlake TC site, and any hotel, retail, and P&R

facilities built there. They also form a strong north-south axis and represent an opportunity for strong image making along the very busy 156<sup>th</sup> Ave NE.



Figure 40. Detail Showing 'X' Buildings, from Figure 23. By Author.

Phase 2, as indicated in Figure 23, is a more complex collection of sites than Phase 1. The western portion contains mostly parking, landscaping, ROW, and the 'Play Fields' (two soccer fields and a baseball diamond). The eastern portion contains many of the rest of Microsoft's oldest building stock, but are difficult to write off for a number of reasons. In simple terms, the parcels are not laid out in the

same straightforward manner at Phase 1. The 'X' buildings are the original buildings on the Redmond Campus from 1986, include Bill Gates' office, and follow the typical pattern of parking, then landscaping, then a courtyard leading to the one primary building entrance. As shown in Figure 21, some of the spaces in the 'X' buildings have seen recent investment in making their interiors viable. I find these buildings problematic, however, due to the way in which they interface with their context. Despite renovated interiors and patios, these buildings feel isolated, old, and are surrounded by seas of grass and parking lots. They heavily reinforce a suburban mindset which is counter to mixing with people outside your building, walking, and a contemporary corporate image.



*Figure 41. Outside Building 8, looking West. By Author.*

The parcels that make up Phase 1, according to King County GIS data analyzed by the author, contain 20.2 acres. At the maximum FAR of 1.55, these parcels would accommodate up to 1.36 million square feet of commercial space. Phase 2 is 54.7 acres and could accommodate up to 3.69 million square feet. Together they could hold about 5 million square feet, half of the total that Microsoft currently owns in the Puget Sound Region.

## Consolidate to South and Center Campus

As seen in Figure 23, Microsoft owns a substantial amount of space north of NE 40<sup>th</sup> St (and leases several additional buildings) and has a great deal of land in the center of Campus occupied by older

buildings, identified as Phase 1 and Phase 2 of the suggested Campus renewal. The southern portion of Campus is one of the less-densely built areas and represents an opportunity to engage with more amenities and transit resources outside of Overlake TC. I suggest focusing growth on Campus in the center and southern areas to leverage the transit resources and Overlake Village as much as possible. Conveniently, Capstone Partners is currently building 1.2 million square feet of commercial office space across the street from Microsoft's southern border at 156<sup>th</sup> Ave NE and NE28th St, called Esterra Park. This space could house employees displaced by Phase 1 and Phase 2, and depending on long-term needs could continue to be leased by Microsoft. It represents an easy way to 'jumpstart' the renewal process as it is part of a master-planned TOD with retail and food amenities, with a location literally adjacent to Campus.

## A Central Network of Plazas

Microsoft needs to redevelop the parcels in the middle of Campus, which currently have the ‘worst offenders’ and generally old buildings with stereotypically suburban layouts, and under current zoning could hold about 5 million square feet of commercial space. The streets on these parcels are owned by Microsoft and as such there is flexibility for fundamentally rearranging the space. To organize the redevelopment, I would suggest two ‘flagship’ plazas along the proposed axial string of public space, which starts in The Commons, crosses SR-520 and Overlake Transit Center, and continues down through the current site of the ‘X’ buildings. These flagship plaza spaces would be larger, more formal spaces that accommodate larger numbers of people and corporate events that are complimented by a network of smaller, less formal, and interconnected spaces.

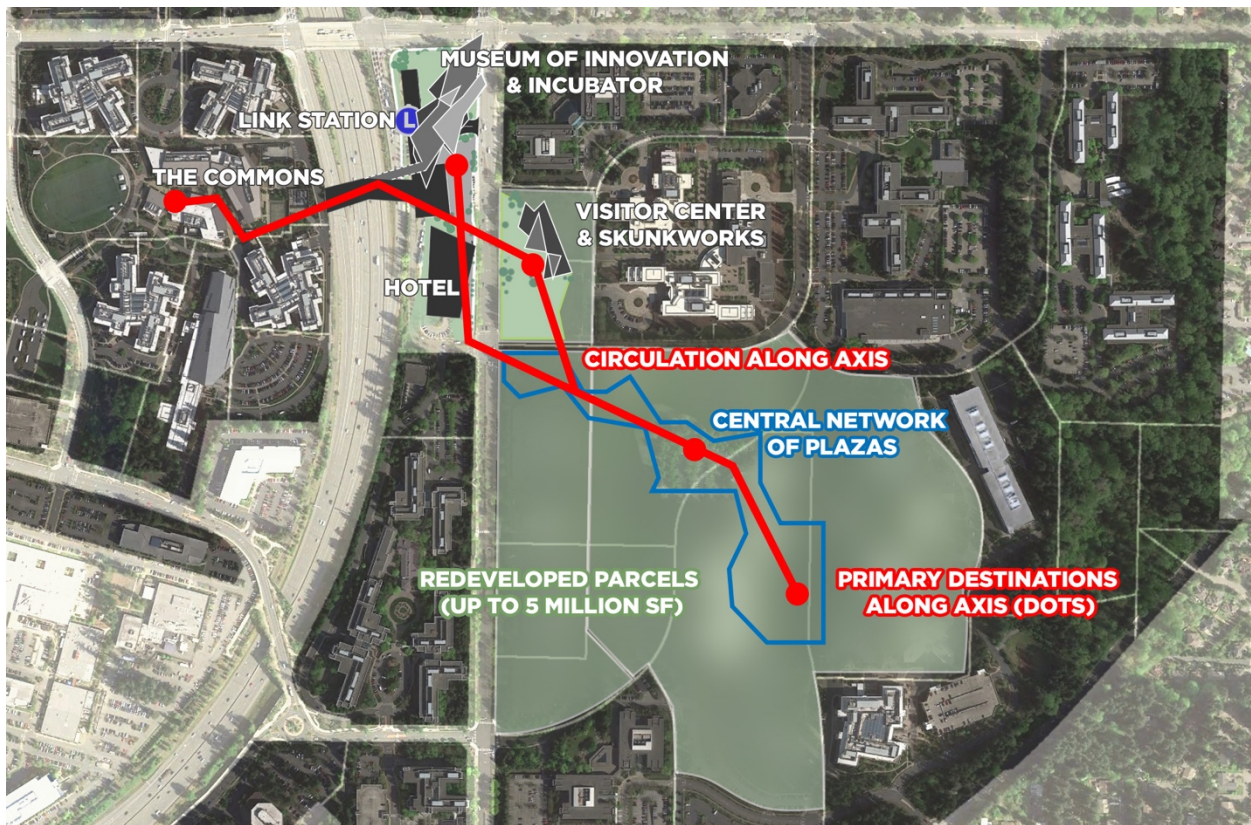


Figure 42. Parcels (green) to be redeveloped, with Author proposed Overlake Transit Center, and a central network of plazas (blue). By Author.

Figure 42 shows a network of flexible public spaces, located centrally across the center of campus. New major plazas and new institutions (the Museum of Innovation and Incubator and Visitor Center and

Skunkworks) anchor the network as primary destination (red dots), along with The Commons. Programmatically, the central plazas should be lines with highly visible and active uses that interface with visitors and offer destinations for employees throughout the workday – food, services, coffee, meeting spaces, offices, public spaces, and so on. Smaller, interconnected public spaces should knit the central plazas together with the buildings that will surround them and provide good connections for people walking to the plazas.

This network of plazas has been lightly designed and needs to interface with the uses in the buildings around it and have the activities taking place in these offices be highly visible. Meeting spaces, gathering places, and amenities should face outward to the plaza through highly porous architecture, allowing the place to feel vibrant and exciting. This will contribute to a sense of place and will encourage people to visit throughout the day, rather than staying in their offices. Two organizing principles that helped shape the plazas are the social use of public space at Microsoft and light. The climate in the Pacific Northwest can be challenging during parts of the year and as such I focused on making the most of the nice weather that happens outside of the summer months. Additionally, Campus is home to over 40,000 employees today (and possibly more in the future) and occasionally Microsoft has events that include many if not all employees.

For the ‘ship party’ to celebrate the public release of Windows 10’s last summer, Microsoft used all of the play fields – both soccer fields and the baseball diamond – as a venue for its employees. This amount of space was sufficient for an event that included the entire company (Microsoft Project Manager A 2016). Between the two primary plazas, there is a similar amount of open space. The fields themselves are about 4.7 acres and the fields plus the surrounding green space is about 8.6 acres. The two primary plazas together have a comparable amount of space, and the smaller spaces that connect them and are adjacent to them can act as ‘spillover spaces,’ allowing events to grow and contract organically. This will be a benefit of the final design incorporating a network of spaces: in addition to better connectivity and access, a network of spaces will create a more coherent feel in the newly developed part of Campus.

The smaller plaza (central) was designed around the existing mature evergreen trees that are in the parking lot of Building 8 creating an experience that is more connected to nature, embracing one of the core characteristics of both Microsoft Campus and the Pacific Northwest. The larger space is, a more formal plaza and needs to anchor the axis on the east side; it being bordered by important and busy

buildings would be appropriate. The southern edge of the plaza network needs to be designed to allow direct sun light into the plaza in the fall and spring when people are likely to be using it.



Figure 43. Proposed axial network of plazas (blue) with overlaid results of building mass and shadow study. The sunny area (yellow) will have direct sunlight from, at a minimum, 11 AM to 2PM from February through October. The height limited areas (greys) are an opportunity to create an employees-only second or third floor outdoor space. By Author.

Seattle, being at 47°N, has fairly significantly reduced daylight in the winter months. This is particularly severe around the winter solstice in late December every year, compounded by cold and rainy winter weather. September and October are actually, typically, quite nice (at times) in the Pacific Northwest. According to NASA climate data, accessed via [gaisma.com](http://gaisma.com), there are 21.3 non-wet days in September and 18.8 in October in Seattle. Not only is it mostly dry in these autumn months, they are also much brighter than the winter months. Solar insolation is defined as kWh/area/day, or how much solar energy any given space receives per day. On average, September gets 307.5% more solar insolation than December, and October gets 138.7% more. I calculated building height restrictions and wall angles that would ensure direct sunlight from 11 AM until 2 PM, at a minimum, from approximately mid-February to mid-October – the aim being a pleasant, sunny lunch venue despite apparently being in the middle of

taller buildings in the fall, in a famously rainy city; a surprisingly nice space people will be excited to go to that encourages chance encounters. This is an example of the careful, user-focused design that needs to be a priority in the redeveloped Phase 1 and Phase 2 parcels.

The interaction between the ground floor uses and the public space is important and the following figures illustrate divergent strategies for engaging the public and communicating an organization's values, through the space it occupies.



*Figure 44. The landscaping, CCTV cameras, and building function of Building 10 combine to isolate the ground floor from the public realm, almost like a castle and moat. By Author.*

Microsoft can direct the architects and designers it hires to make the new buildings in a manner that 'says something' about Microsoft. They can invest in green technology and local materials to assert corporate values, which by extension are a reflection of people who work there. Buildings that say good things about Microsoft will attract workers who care about innovation and the environment. The Centre for Interactive Research on Sustainability at the University of British Columbia (Figure 45) is framed with engineered wood, sourced from beetle kill. The wood has environmental benefits and is a carbon sink, rather than concrete and steel which have a large carbon footprint.



Figure 45. Two Atrium views of the UBC Centre for Interactive Research on Sustainability by Perkins + Will, an engineered wood structure. The Atrium showcases local materials and technologies, while providing visible circulation and casual mixing spaces. The building is a 'living building' that demonstrates the University of British Columbia's commitment to leadership in sustainability technologies. Source: Martin Tessler via Arch Daily.



Figure 46. Chicago Navy Pier. Foreground shows the architect's use of transparency and flexible spaces to have a semi-public, highly porous space for businesses adjacent to a busy public walkway. Background shows stairs up to a ferris wheel. Source: nArchitects.



*Figure 47. Chicago Navy Pier stairs, showing link between two public spaces offering room for people to sit, eat, and take in the lakeshore views. Source: nArchitects.*

## The Museum of Innovation and Skunkworks

Microsoft should engage with the public to activate the space, remind both employees and the public of their role as a regional and global powerhouse, and deliberately craft their image. Microsoft has created, spun off, or acquired dozens of important firms in the region and due to their inward-facing culture, this influence goes largely unnoticed. In order for the public spaces at and around Overlake Transit Center to be vibrant and successful as places, they need to have a lot of users coming from multiple directions for multiple purposes; in many ways the opposite of the Sound Transit plan. A Museum of Innovation and Technology would be an ideal way to engage the public and reinforce a positive brand identity while making the investment in the public spaces more worthwhile – it would promote a self-

reinforcing loop of activity and creativity while showing off all the interesting thing Microsoft has made over the years.

As an example, I have put the Libeskind-designed Hamilton Building at the Denver Art Museum (DAM) on the north end of the Overlake Transit Center site. This is not to say that this precise structure is necessarily the ideal or even correct response to the space, but I chose it to provide a realistic sense of scale for a museum with flexible and interesting gallery spaces, with unusual and noteworthy architecture which communicates innovation and is a challenge to accepted norms. This is a 4 story, 146,000 square foot expansion to the DAM and I selected the building for this site in large part due to its unusual design. The spaces and shapes subvert expectations, which helps visitors get in the right frame of mind for modern art. Lewis Sharp, the DAM director, had this to say to NPR about the effect Libeskind's design has, from a curator's perspective: "I think you often see things that you had never seen before... It just raises all types of potentially new ways to engage a visitor" (Sydell 2008, 6)

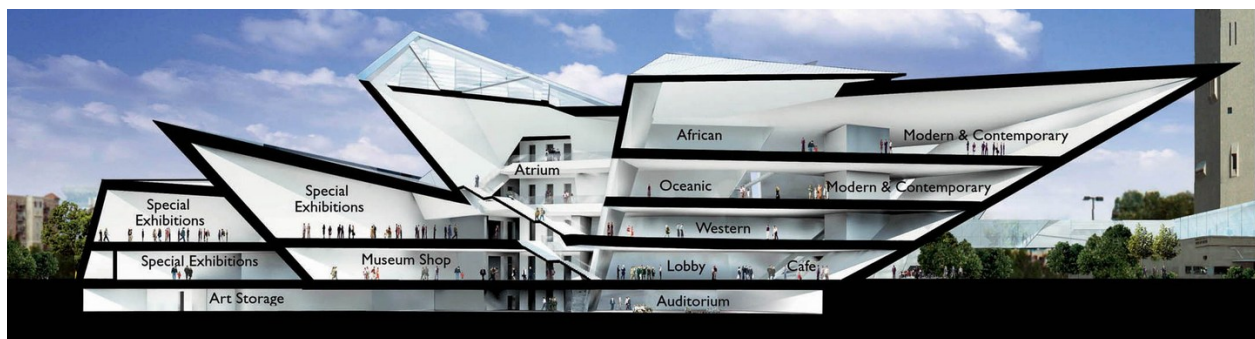


Figure 48. Hamilton Building Gallery Map. Source: Arch Daily.

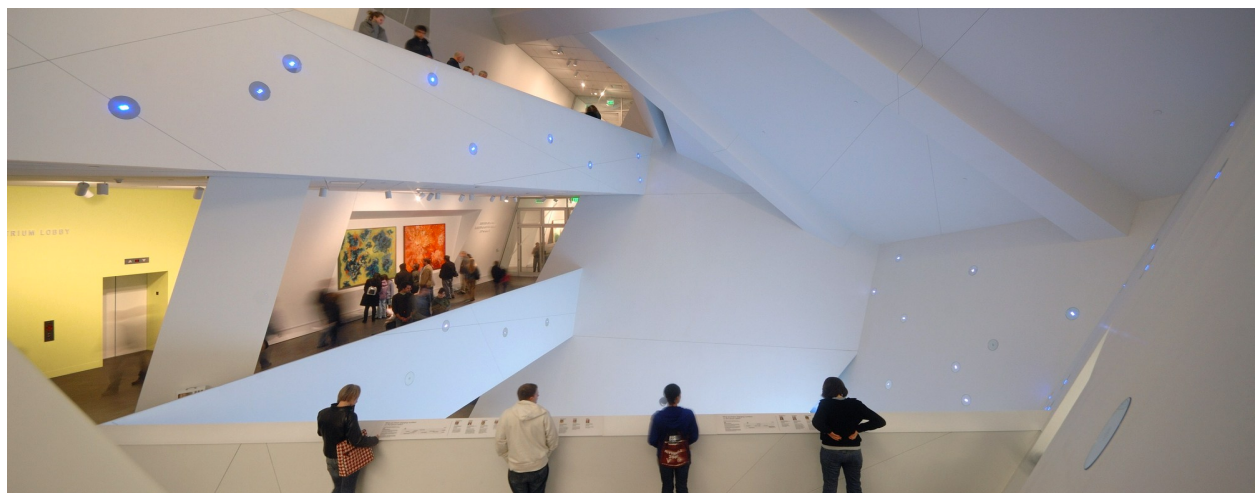


Figure 49. Unusual spaces in the Hamilton Building Atrium, a contemporary art museum, encourages visitors to challenge their pre-

*conceived perceptions. This sort of architectural design could be applied to another museum focusing on the unusual and innovative.*  
*Source: Arch Daily.*

In addition to a Museum of Innovation, other uses that engage the public and celebrate Microsoft's innovative role should be clustered around Overlake Transit Center to maximize the positive effects of these spaces. The Microsoft Visitor Center and company store could help control and curate visitors' experience on campus. An incubator, where small groups are given resources and guidance to bring their ideas to fruition, would be a great way to reinforce and showcase the influence Microsoft has over the Seattle tech scene, while hopefully producing some exciting new products and ideas. Microsoft could also create a Skunkworks – a design studio that works on the biggest, most ambitious problems – to highlight the things that Microsoft does that don't fit in with their boring corporate image. Microsoft game studios, Holo Lens, and Surface are great examples of the kinds of bleeding edge work that could be showcased here. Both the skunkworks and incubator would be a prestigious opportunity to work on the most pressing and ambitious problems Microsoft is tackling, not unlike Google's moonshots. Both inside the museum at Overlake Transit Center and the parcel across 156<sup>th</sup> Ave NE are ideal sites for these uses – they are central, close to transit, and would concentrate visitor activity in easily definable public realms, which benefits both visitors to Campus and Microsoft.

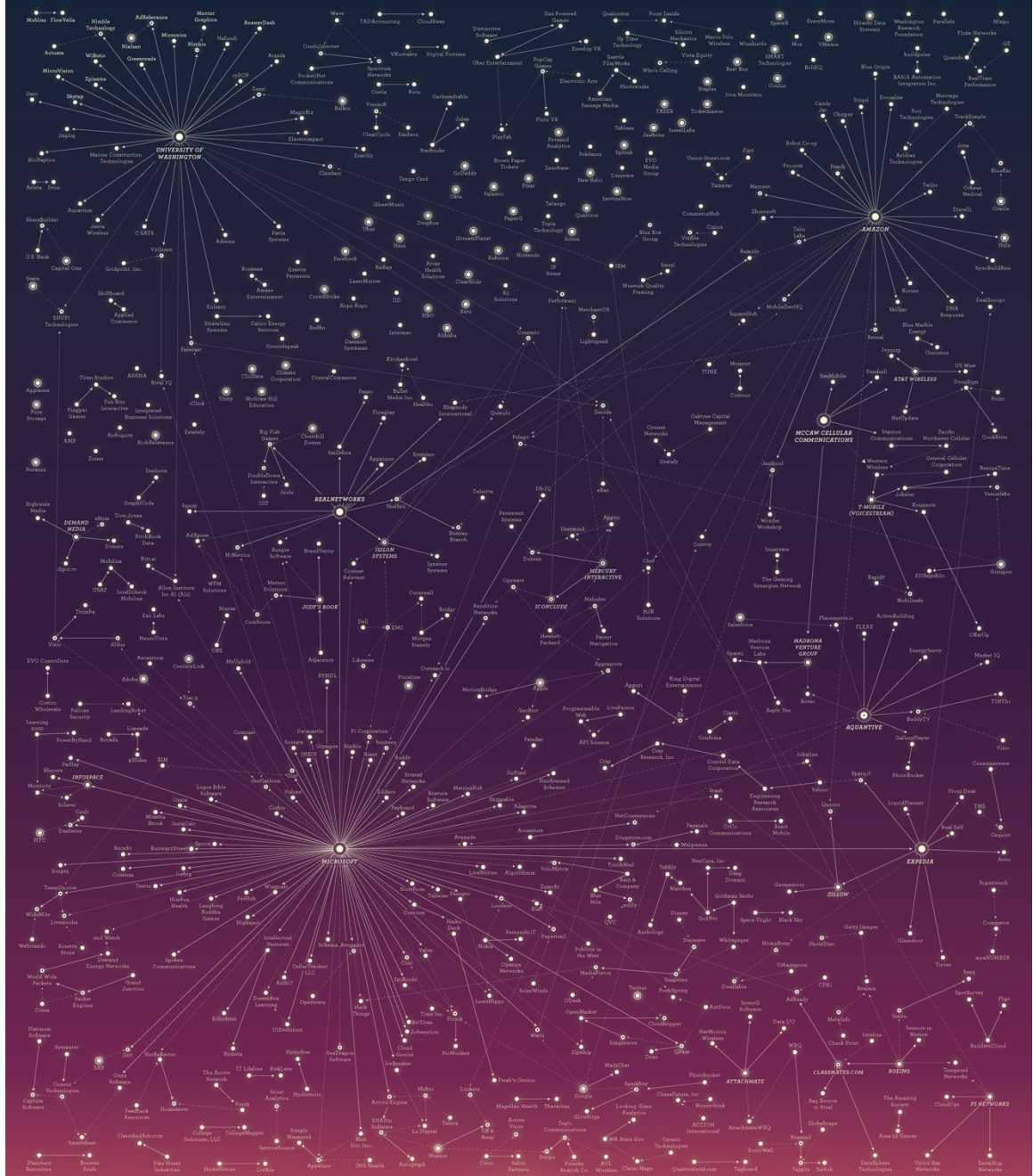
The presence of transit and its importance should also be celebrated in the final design, particularly with the underground bus loop. The museum ought to celebrate a sense of arrival and create a visible, tangible connection to transit. The EMP was built around the Seattle Monorail and does a good job of this.



*Figure 50. Seattle Monorail on a rare snowy day, passing through the EMP Museum. Source: <http://www.seattlemonorail.com/>.*

# The Seattle Tech Universe

Key ● Company ○ Acquired company ● Engineering center → Parent path → Multiple parent path → Acquire path



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*Figure 51. 'The Seattle Tech Universe' – a visualization of the tech firms in the Seattle area, and their relationships to other firms. Solid lines are 'parent paths' indicating a company grew out of or was spun off by another. Dotted lines indicate acquisitions. Microsoft is the star shaped cluster in the bottom left, illustrating their enormous influence and interconnection to the various technology firms in the region. Source: Madrona Group.*

## On Privacy and Inviting the Public into Formerly Private Spaces

Microsoft does not have a closed campus, but the lack of public space – transportation, parking, and landscaping are the vast majority of land uses outside building footprints – communicates a clear message about what 'appropriate' behaviors are. Microsoft's corporate culture has long been cloistered, secretive, and introverted (Stanton 2016), though there has been an attitudinal shift, to some degree, as the founders' influence has waned over the recent years. The effects of this introversion are seen in the built form, which discourages mixing and interaction. This is a problem as the lack of accessible public space does not allow for either a positive, contemporary experience for employees, nor does it allow for embeddedness and knowledge spillover.

Putting a group that works on sensitive projects and materials in a publicly visible area would require careful management of trade secrets, but would also engage the public, lead to potential knowledge spillover, and highlight Microsoft's innovation and connection to firms throughout the region. To preserve privacy where it is needed, Microsoft should reiterate their 'close the blinds' policy in these spaces, and use vertical separation from the ground plane for work that is particularly sensitive. In Portland, OR, Wieden+Kennedy work inside a reused building that has a wealth of overtly public space. They are an advertising agency that needs to protect their clients' intellectual property and use vertical separation and access controlled areas to do so. This is a useful precedent for Microsoft because Wieden+Kennedy were able to make their offices interesting and draw in the public, have high visibility, and maintain appropriate levels of privacy, accomplishing both knowledge spillover and control over IP.

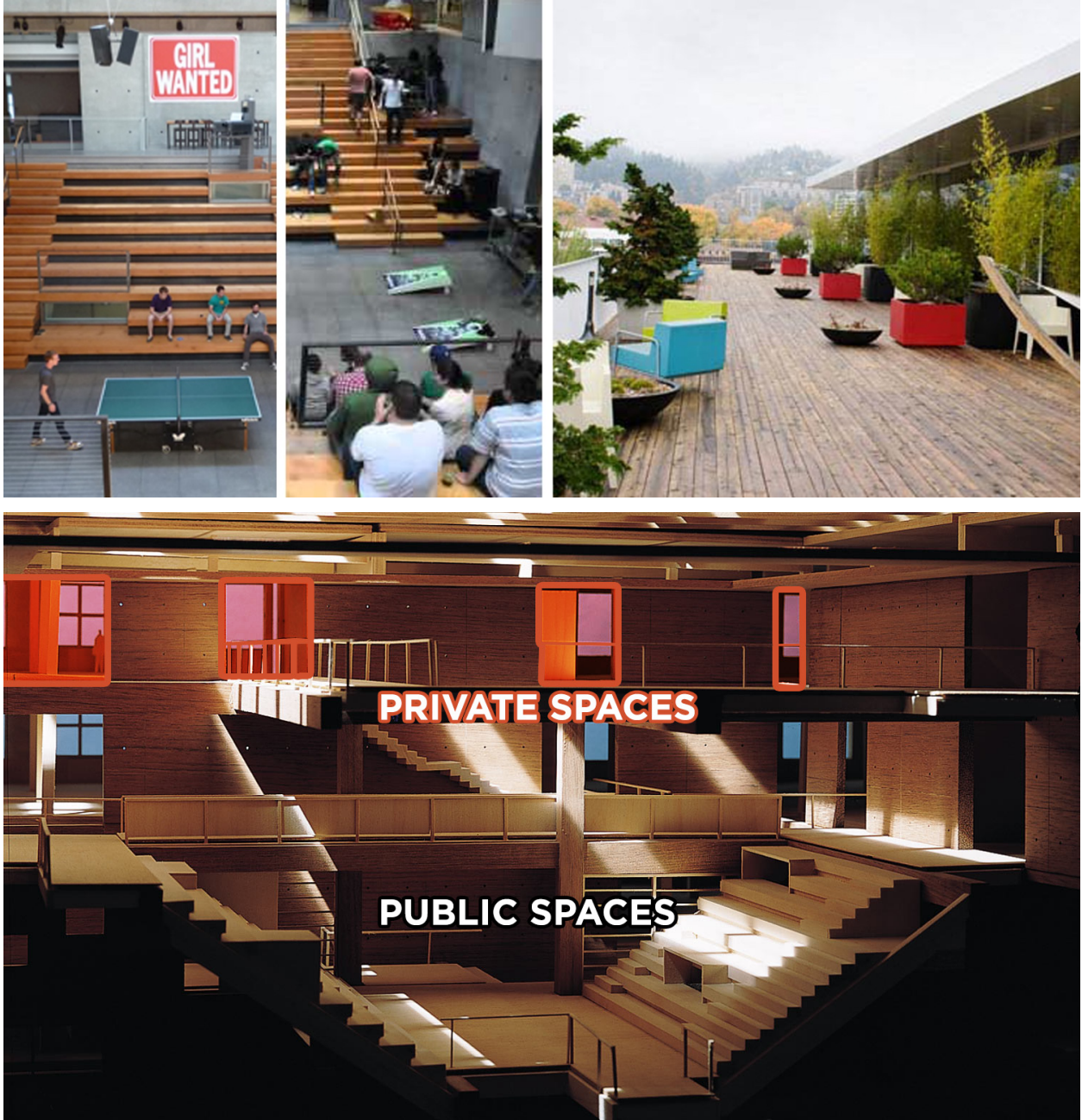


Figure 52. Collaged views of 'The Nest' at Wieden+Kennedy's Portland offices, and other mixing spaces on site with a diagram of how access control is accomplished in such close proximity to members of the general public. By Author.

## What is at Stake – Two Scenarios

Microsoft, for now, can probably afford to pay a premium to its engineers and simply absorb what in essence amounts to a 15% locational penalty. They have markets cornered which they will likely remain in control of for years to come. Microsoft can hope that its leadership is visionary, generational talent. They can count on Satya Nadella being a Gates, a Jobs, an Edison, a Tesla type of talent who will guide them through the next frontiers of innovation, using an inane and preternatural sense of what is next. They can rely on their leadership to make sure they don't miss the boat again on whatever the equivalent of the mobile revolution is in 5, 10, and 20 years from now.

OR

Microsoft can create an environment which draws on the choicest fruits of thousands of sharp minds. They can be like a startup, like Alphabet is striving to be. They can create a place which attracts and retains the best talent, irrespective of salary. Microsoft is in the rare position of a giant, established firm that has the opportunity to become what is next. To be what is next, they need to put their employees in the best position to succeed.

Microsoft can create spaces that make the difference between being a Phoenix and a Palo Alto, Between being St. Paul and Seattle. They can learn from the macro trends that affect regional clusters and apply it within their 80-building campus and 40,000-person ecosystem.

These site-specific suggestions are one way that might be effective in enabling Microsoft's teams to act like the most successful firms, multiplying the ability of their talent and leveraging their assets, and ensuring their teams are composed of the best people available. There are other ways, to spatially, affect this outcome, that certainly merit further study. I believe, however, that the framework I laid out is the right one. I have provided a rationale to base decisions upon and goals for the spatial changes that Microsoft makes in the future.

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