TRAVERSE

REAL ESTATE DEVELOPMENT STUDIO

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Master of Architecture
Master of Landscape Architecture
Master of Science in Real Estate
Master of Urban Planning

UNIVERSITY of WASHINGTON

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INTRODUCTION | **Purpose of the Report**

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Over the last three months, the Runstad Department of Real Estate's Development Studio (RE551A) studied the financial feasibility of constructing a lid and development over the section of US Interstate 5 running through downtown Seattle. Our studio team built off the previous efforts of the Lid I-5 Campaign and the 2018 Central Hills Triangle Collaborative. The main objective of this studio sought to understand the financial implications of five defined development scenarios based on varying densities. Major efforts of the studio team included the following:

1. The development of appropriate land use and urban design strategies
2. Parcelization of new "land" above the lid
3. Building of massing studies
4. Procurement of hard and soft cost data, creation of value assumptions based on current market research,
5. Construction of financial models and phasing plans for each development scenario.

Additionally, extensive research was conducted to understand relevant funding strategies and mechanisms to construct a highway lid. The report is intended for use by the Lid I-5 Advisory Council and the City of Seattle as they gear up to conduct a year-long feasibility study funded by the Convention Center Expansion Community Benefits Package. The information presented in this report intend to provide a methodology to build upon as well as insights into design and financing challenges presented as a result of undertaking a project with this level of complexity.

INTRODUCTION | **Background Research Phase**

The studio began the design process by taking inventory of previous research and design efforts conducted by the Lid I-5 Campaign and partnered organizations. Scott Bonjukian led a site walk and discussed his University of Washington master's thesis that centered around the concept of lidding I-5. His initial efforts went on to launch the Lid I-5 Campaign. They conducted a series of additional discussions and meetings with various campaign participants, including Lyle Bicknell who has been tasked with leading the Lid I-5 feasibility study for the City of Seattle that is set to launch in January of 2019. Additionally, they drew inspiration from the final presentations of the Central Hills Triangle Collaborative, which was comprised of local design professionals who produced a series of initial visions to promote potential development scenarios. The studio then followed up with additional individual meetings to discuss their process and gain deeper understanding.

Figure 2.1

We relied heavily upon a number of case studies that provided a wealth of knowledge to help direct design choices and financial decisions. There are several examples of successful lids that have been built across the country. We purposely chose case studies that span the spectrum of public-private involvement and funding. For example, the image above is Capitol Crossing in Washington DC where an eco-district is being built over I-395 entirely with private funding. The Montlake Lid below is a local example where the Washington State Department of Transportation (WSDOT) is constructing a lid over State Route 520 in Seattle.

Figure 2.2

Sources: http://www.pgp.us.com/properties/capitol-crossing-dc/
https://www.wsdot.wa.gov/projects/sr520/montlake/home

INTRODUCTION | **Executive Summary**

Seattle has a long history of large scale civic projects from the rebuilding after the Great Seattle Fire to the Denny Regrade and most recently the Waterfront revitalization and it is the finding of this report that lidding over the interstate that bisects downtown is feasible, profitable and beneficial.

These claims are only true however with certain assumptions in play including and not limited to scale and density of the site, funding partners and resources, public support and a shared vision of a better connected and more open downtown core. The preferred scenario detailed in this report will provide:

- market rate and affordable housing
- increased revenue generating 'new' land
- a new public school
- incentivization for small scale local retailers
- open space that helps meet the City's goals
- stitching together Capitol Hill, First Hill, South Lake Union and Downtown
- create a healthier environment by mitigating sound, pollution and stormwater

Our preferred development scenario is able to achieve all those benefits through a thoughtful phased approach enacted by a Master Developer where the initial focus is on Office and Hospitality uses which will help pay for the following highly Residential phase and lastly the Civic focused phase which includes the new school. This plan stretches from Madison to Thomas covering about 24 acres of blight and delicately balances public open space with private development. All phases coalesce around a pedestrian and bicycle friendly path that create a safe North/South corridor for 'commuters' and tourists alike.

Photo by SDOT

INTRODUCTION | **Executive Summary**

To get to this balance we considered many factors, but density was our most impactful ‘dial’ to turn up and down. The level of density is directly related to the level of public funding required to have the project be feasible. A scenario with very low density will require very high public funding support because there is no other potential income to help offset that. Inversely, if there is a very densely built scenario then the public ask is quite small as the developer will have more potential income to draw from to build out the project.

In our balanced scenario we have outlined a partnership with the Washington State Department of Transportation to build over the aging interstate, with a payment for the right to do so, and the understanding that allowing a Master Developer to take on the physical lidding will save the Department several hundred million dollars all while expediting the process for the public and new tenants. A true win-win for tax payers.

Using the assumptions in this report the Master Developer will be able to sell if they choose at year eight, with all three phases complete and a leveraged IRR value of 31.4% with an untrended yield on cost at 7.35%. The ability to build office space and multifamily housing across the lid helps ensure the returns.
The detailed analysis within the report outlines the context for the project, the framework we used to determine our assumptions and how that impacts our preferred approach.

CONTEXT | Public Process

Figure 2.3

Figure 2.4

Seattle's public process is fundamentally tied to the cities inner workings. The in-progress waterfront revitalization, pictured to the left, is a great example of an engaged public process including everything from charrettes and town hall meetings, to voting. This report assumes public support has been achieved through a full understanding of the future benefits associated with integrated open space, improved connections between Downtown and Capitol Hill, and the dampening of historic blight.

While this report assumes public support we highly recommend attaining that support through continued public outreach. This would include open public hearings, concentrated outreach to the populations living adjacent and in proximity to the proposed project area, as well as the property owners, continued town halls, charrettes and most importantly an informative campaign sharing the benefits of a project like this, the timeline and financing structure.

Source: https://www.geekwire.com/2014/tech-campus-edge-downtown-seattle-city-looks-attract-tech-giant-massive-4-acre-yesler-terrace-parcel/

CONTEXT | Market Snapshot

Located in one of the nation's most compelling geographic and economically vibrant regions, Seattle's Downtown has tremendous natural assets; proximity to world-class recreation areas, such as the Puget Sound, Cascade Mountains and the Washington Coast; a historic downtown with distinctive neighborhoods, the Seattle Convention Center, proximity to educational institutions (University of Washington & Seattle University) and a revitalized Waterfront district. With the local economy continuing at a robust payroll rate increasing at 3.9% year-over-year combined to keep Seattle's property market one of the hottest growth areas in the country. Creating approximately twenty-five new acres of land in the Seattle core would be a welcome addition while mending the dividing line between Capitol Hill and Downtown Seattle.

Current uses on either side of the freeway include: housing, commercial office, hotel, civic, and public open space. The proposed lid development mirrors those uses on an appropriate scale to blend accordingly.

Figure 2.5

Image Source: https://www.geekwire.com/2014/tech-campus-edge-downtown-seattle-city-looks-attract-tech-giant-massive-4-acre-yesler-terrace-parcel/

CONTEXT | Housing

PUGET SOUND HOUSING STATISTICS

	Seattle	Eastside	Northend	Southend
Median home price	$830,000	$960,000	$465,000	$410,000
Average household income	$111,204	$152,239	$104,026	$86,683
Mortgage payment	$3,848	$4,406	$2,704	$2,418
Maximum rent based on ⅓ of monthly income	$3,089	$4,229	$2,890	$2,408
Average new construction rent	$2,362	$2,216	$1,738	$1,712
Average rent	$2,072	$2,092	$1,493	$1,395
Discount to rent new construction vs. own	61.4%	50.3%	64.3%	70.8%

Figure 2.6

Housing in Seattle is increasingly unaffordable with significantly higher median home prices compared to other Puget Sound locations and nationally. In the third quarter of 2018, the median home price in Seattle rose to $830,000. Higher median incomes driven by the rapid increase in high paying technology sector jobs are to blame for the higher prices. Additionally, the lack of sufficient supply cannot keep with the current demand. It is critically important to provide the opportunity for additional affordable and market rate housing on the lid. In the proposed scenario housing will occupy the largest percentage of use on the lid.

Source: JLL Research, U.S. Bureau of Labor Statistics, NWMLS, MortgageCalculator.org, YardiMatrix

CONTEXT | Office

The strength of the local economy continues to perform extremely well, especially in the real estate asset class. Seattle ranked fourth for most jobs created during the first half of 2018. As a result the region has provided many additional high paying jobs luring a new workforce to Seattle from outside of the region.

Seattle has established itself as one of the best job markets in the country. With more than 5,000 high paying technology jobs open in Seattle alone, and software developers as the most desired the competition and demand for office space in the Seattle metro region remain intense. With more than 12 million square feet built since 2015, the Seattle-Tacoma metro area had the lowest office vacancy for any major metro area in the U.S. The land constrained city will benefit greatly from this additional land.

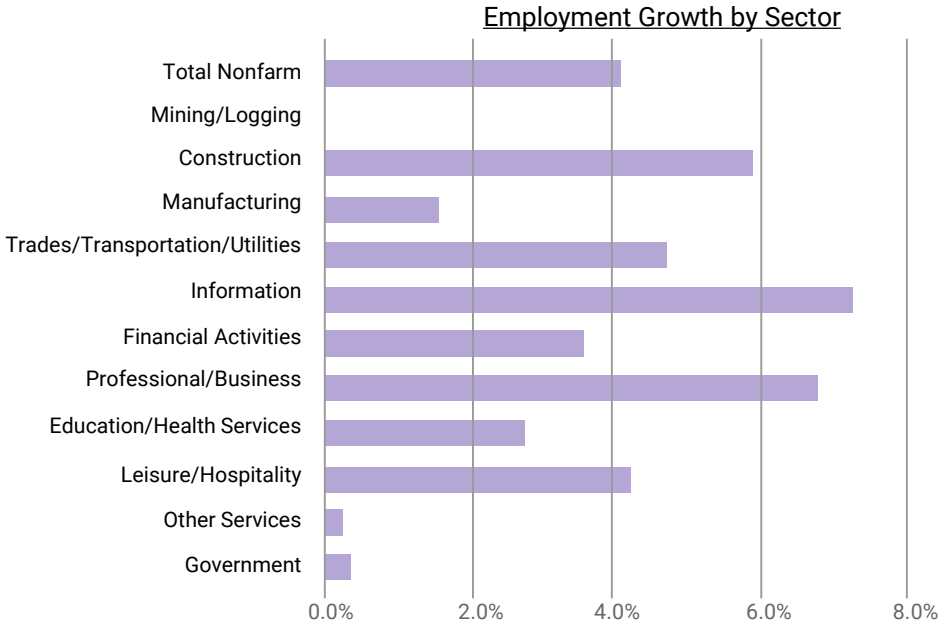


Figure 2.7

Image Source: http://www.ngkf.com/Uploads/FileManager/Market%20Reports/3Q18-Seattle-Office-Market.pdf

CONTEXT | Hotel, Hospitality & Retail

Hotel/Hospitality: Twelve hotels sold in the first half of 2018. The tri-county area of King, Pierce, and Snohomish had a combined weighted average price per room of $260,429, an increase of 7% from 2017. More than 4,000 hotel rooms are projected to open in the Seattle area in 2018 signaling that the hotel and hospitality sector remains a healthy market in the Seattle region. Historically I-5 has acted as a barrier to the Capitol Hill and First Hill neighborhoods regarding hotel development with the addition of the Convention Center expansion and continuing development in South Lake Union, hotel use on the newly created I-5 lid has the ability to succeed and erase this line in Seattle. Our proposal locates hotel uses in the central section near the convention center and Pike-Pine corridor.

Retail: Puget Sound regional retailers outperform the national average which allows for a moderate amount of area reserved for retail use. Due to the new norm, physical retail locations are forced to compete against the rapid growth of online retail. This trend has influenced the creation of appropriately sized retail space, typically smaller and occupied by a growing percentage of local businesses versus national retailers. A cost factor was included in the financial model, so that 25% of the retail area is reserved for local companies at a reduced rate with the intent to provide incubation space for local businesses and supporting the community created on the new lid area.

Figure 2.8

Source: http://www.kiddermathews.com/downloads/research/hotel-market-research-seattle-2018-2q.pdf
Image Source: https://www.visitseattle.org/meeting-planners/meeting-planner-toolkit/maps-logistics/

FRAMEWORK | **Site Analysis Phase**

The proposed lid will span over I-5 in downtown Seattle, extending north to Thomas Street and south to Marion Street, covering approximately 25 acres. To tackle the sheer size of this site, we first decided to mend the grid connections across the freeway, breaking the site down into manageable blocks which were then parceled out and measured (Figure 3.1). The majority of grid connections will be vehicular reconnections while two will become dedicated pedestrian and bike lanes due to significant grade change. Two factors significantly affecting the lid area and design are the east-west grade changes across the freeway and the I-5 entry and exit ramps along the length of the site (Figure 3.3). The grade change affects all potential buildable areas and played a significant role in determining grid connections, lid costs, massing studies and land uses. The entry and exit ramps were reworked to maximize lid coverage across the freeway and operates under the assumption that WSDOT plans to reconstruct sections of I-5 with these changes. Both factors are discussed in depth later in the report. A third factor significantly affecting lid design was the identification of site areas where buildings could be constructed, either completely or partially on land (Figure 3.2). This played a key role in determining floor area ratio (FAR) designations for those blocks.

Figure 3.1 - Connected street grid. Pink dash are dedicated ped and bike lanes.

Figure 3.2 - Land (green) vs Lid (pink)

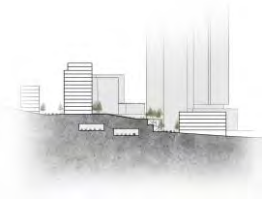


Figure 3.3

FRAMEWORK | **Site Analysis Phase**

We initially mapped out a continuous greenway containing a bike path and pedestrian route to connect across the length of the lid which would connect to existing City projects such as the Melrose Promenade and the bicycle and pedestrian improvements slated for the Pike and Pine corridors, as well as filling a missing link between East Lake Union and Downtown Seattle. The creation of a continuous greenway became a central driver to the design ethos of the proposed development scenarios. Previous and original research shows a substantial lack of open space in Seattle's downtown core. While the City of Seattle as a whole meets its goal to provide one acre of open space for every 1,000 residents, the downtown area fails to achieve this ratio. The lid represents an unprecedented opportunity to provide a wide range of well-programmed open space to Seattle's residents; an opportunity which, if not taken, will likely never present itself again. The Department of Planning and Development predicts that with Seattle's swelling population the downtown area will need up to five entire city blocks of open space to meet these acreage goals. The City's existing and planned infrastructure was included in this process as well.

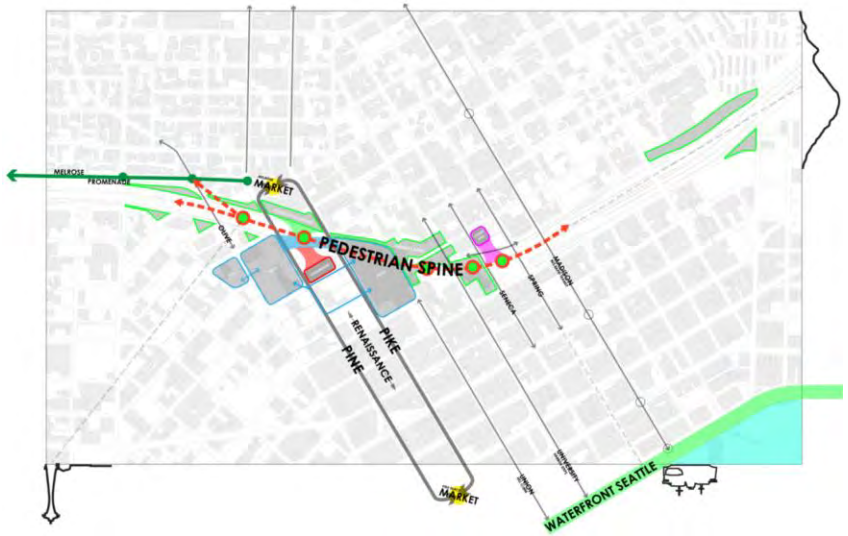


Figure 3.4 - Image from Scott Bonjukian's UW thesis

Source: https://crosscut.com/2015/06/seattle-2035-as-city-grows-goals-for-parkland-slip-out-of-reach

FRAMEWORK | Design Development Phase

The newly mapped street grid and greenway allowed our team to engage in productive discussions about land uses and building forms on each new block across the lid, taking into account market research and intentions for substantial open space. This led to a “zoning” of the lid in three sections, which reflected a similar scheme design teams used for the Central Hills Collaborative. The North section will have a heavy focus on housing and large open spaces for recreational uses. The Central section will contain the densest development and host a mixture of commercial and residential uses. The South section will focus on civic and transportation uses. At this time, it was determined our team would analyze the financial outcome of five development scenarios based on varying levels of density. The guidelines of each scenario are outlined in following Density section on figure 4.6. The Medium Density scenario showed promising financial performance while offering a healthy mix of open and developed land. It was around this scenario that land use discussions centered. Land use and massing studies happened simultaneously to determine a set of zoning requirements for creating the finalized massing studies. Including ideal lot coverage ratios, FAR designations, and maximum building heights. Sites with access to a solid ground for foundations were determined to be areas where building height would be maximized, creating high FAR’s while maintaining open space.

Figure 3.5 - Land use map

FRAMEWORK | Guiding Design Principles

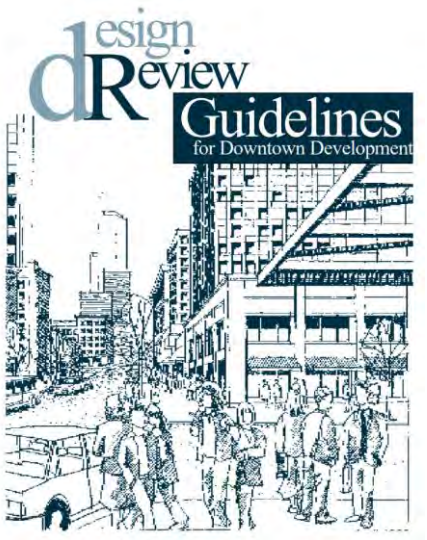


Figure 3.6 - Design Review Guidelines for Downtown Development

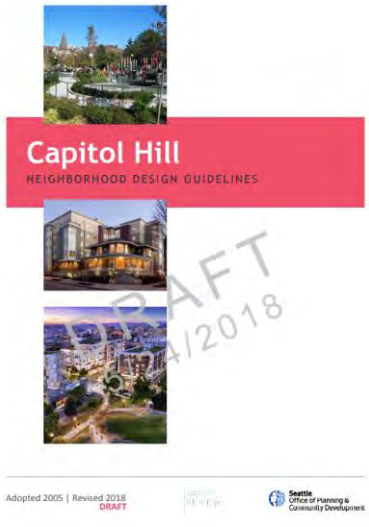


Figure 3.7 - Draft Capitol Hill Neighborhood Guidelines

In order to develop the proposed designs they looked at the adopted design guidelines for the Downtown and Capitol Hill Neighborhoods; the zoning, land uses, and building forms surrounding the proposed lid site; the distribution of open space, trails, schools, and other community amenities; the topography and location of I-5's traffic lanes; as well as opportunities to connect to existing and proposed transit and reconnect the street grid. Various precedent examples were also analyzed to develop an understanding of the character they were looking to achieve within the proposed development. These considerations acted as major drivers in the distribution of buildings and open space, how building forms were articulated, what street and trail connections were made, and where different programs were sited. The proposed design is meant to be interpreted at a high level with the understanding that a more detailed analysis could render some of our decisions unrealistic. This is particularly true regarding the specifics of the lid structure itself, which will require extensive engineering that this course could not address.

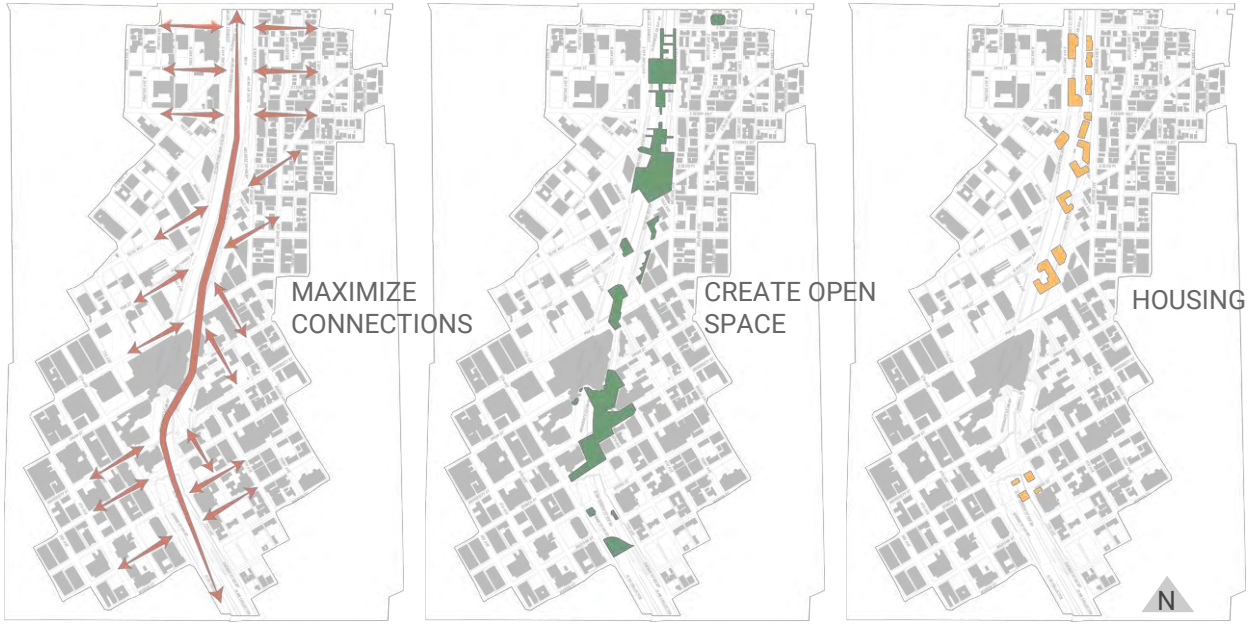
FRAMEWORK | **The Process**

Once a final medium density massing study was determined, the team was able to measure square footages by use across the entire site to build the financial models. These numbers would be modified accordingly for the other development scenarios outlined in the next section for Density. The team gathered hard and soft cost estimates by speaking directly to local building professionals as well as through consulting online resources. Other assumptions were constructed using current market data and summarized in Figure 6.2 of the Financial Analysis section. The financial models were refined over time, adjusting cost and other assumption data as more accurate information was procured, and as building use mixtures and square footages were honed in through an iterative process, taking into account design considerations and financial impacts.

Upon establishing the overall building costs and expected returns for the development scenarios the team was able to engage in a discussion about strategic planning, notably discussing phasing plans and funding mechanisms which could be employed to increase overall returns for stakeholders involved in the project as well as maximize public benefits for all residents in downtown Seattle. This discussion led to a final shortlist of recommendations for the city to consider during deeper levels of research conducted throughout the feasibility study.

Figure 3.8

FRAMEWORK | **Drivers**



- FEASIBILITY
- ACCESSIBILITY

-SUSTAINABILITY
- WATER/LIGHT/AIR

-TRAFFIC FLOW
-SURROUNDING USES

Figure 3.9

BLOCKS

Figure 3.10

FRAMEWORK | Master Developer

Successful case studies of similar large scale development projects in cities around the country have used a master developer to oversee the coordination of development across all phases. It is suggested that the City of Seattle look to a similar model to lid I-5. A similar project would be the Hudson Yards development in NYC. Seattle would issue a Request for Proposals (RFP) to developers to bid on the project. The RFP would outline specific amounts of public money guaranteed to attract developers and zoning considerations to support the city's public benefit goals such as open space requirements, ped-bike lanes, and FAR requirements. Structured in the deal would be the sale of the air rights above the lid as well as ground lease rights in areas where development will hit solid ground. Performance guarantee clauses would be structured in as well to hold the master developer accountable to complete all phases of the project. The master developer would plan and coordinate all phases of the project, bringing in other developers, urban planners, and architects as necessary to manage various building projects across the lid.

A major benefit of having a single developer in charge of the site is the simplification of communication channels between the city and developer to carry out large-scale planning goals across the lid, resulting in a cohesion of design. It would also increase the likelihood of completion of all phases, as the developer would be legally bound to leading the project through to the end. The master developer would be enticed by high returns, a high level of control over the sites, and guaranteed support from the City. Seattle would gain the benefit of controlling the overarching urban planning goals across a large swath of city land, having a new opportunity for affordable housing in a desirable area, and the construction risks being shifted to the private developer.

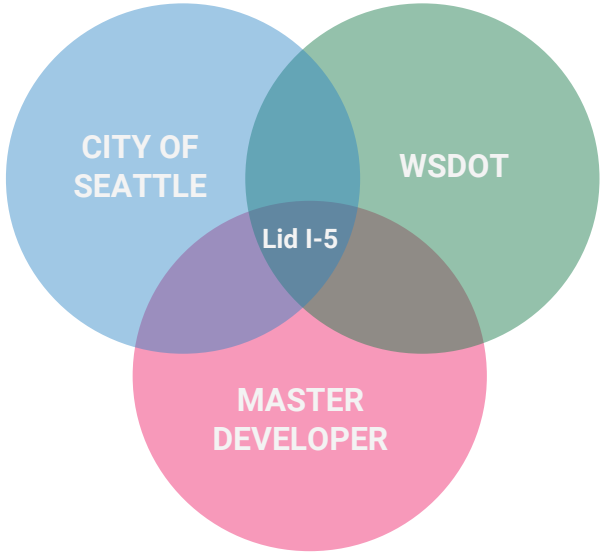


Figure 3.11

FRAMEWORK | **Dials**

Any developer asked what a project is worth will reply, 'It depends…". While this may appear to be a justification to avoid detail the fact of the matter is valuations do 'depend'. They are dependent on the market conditions under which they are financed and under which they are constructed. They are dependent on the flexibility from a jurisdiction to interpret zoning and design regulations. They are also dependent on the support they receive from various funding sources and the perceived risk associated. These a just a few examples of the many factors that affect a project's bottom line.

To account for this on a project of this scale and intricacy, we propose the ability to dial up or down the impacts of our most influential factors. The first to dial is density. We established a high, medium and low density scenario for the entire lid. Being an interdisciplinary studio, we ignored extreme scenarios to start and designed three viable, livable solutions for how to develop this area of downtown Seattle. Each version of the design has a resulting financial model that then compares the financial impacts of allocating space.

Figure 4.1

To round out our analysis, we added what we refer to as a "Hyper Low" scenario, which is 100% park space with no buildings and a "Hyper High" scenario which is built out to be an extreme urban environment similar to existing downtown Seattle with minimal open space. The Hyper Low scenario is built with 100% public funding while the Hyper High scenario is built with 100% private funding. The funding realities of these extreme scenarios are outcomes of what they produce. A private developer would not be able to create any return on investment by building all park space therefore this scenario would be funded publicly as they are the sole beneficiary. Conversely, the Hyper High scenario must be funded privately given the driving goal there is a profitable return. These act as bookends to our analysis where we can create a spectrum and find the optimal location to land.