Master Plan

The series of open spaces above Interstate 405 were developed as an Urban Park Corridor for the city of Portland. Mixed uses of building and densities are patterned within the corridor, blended and integrated with complementing open space. The local street patterns and the Interstate movements have not been interrupted in the Master Plan design.

The development itself is divided into street major sections, the North Burnside Residential End, the MAX Plaza Commercial area and the Portland State I-405 Campus extension area.
Model of the entire site (north is at the bottom).
North Burnside Residential End

The North Burnside Residential End is bordered on the east by a recovering low industrial district which has recently become the target of renovation for retail and housing purposes. To the west lies an affluent housing and retail district. The North Burnside residential district creates a transition piece and a focal point between the two different neighborhoods on either side. It is a mix of low-rise housing surrounded by a series of parks, gardens and an elevated walkway that physically links the two neighborhoods with the rest of the Urban Park Corridor.

The spaces and scale of the district create a series of outdoor spaces according to the level within the district. At street level, the parks and the retail spaces serve a public function for gathering and interaction by the neighboring areas. One story above the elevated walkways functions an alley way that can be used as a recreation space by the residents of the building or as a public means of movement. On the roof, the spaces are exclusively private to individual residents to be used for garden plots, or as an elevated lawn or recreation.
Flanders & Everett

Illustrates the different horizontal planes used throughout the design.

Everett & Davis

Shows rooftop gardens and vegetated frameworks used throughout the site.
Couch & Burnside

An elevated pedestrian crossing allows safe crossing over busy Burnside. A parking garage servicing the entertainment area. Vegetated framework sheltering an open section of the Interstate.

Aerial of the entertainment district around Burnside. The four buildings in the foreground are residential and office. The parking garage is adjacent to the northern beginning of the second level pedestrian walk which crosses Burnside.
Aerial looking south at the North Burnside Residential end.

Profile of the residential and office buildings. Note the visible horizontal layers that are illustrated in the sections on the previous page.
Diagram of existing residential, proposed North Burnside Residential and the Interstate. View of I-405 driver under the North Burnside Residential end pictured below.

Section through the northern most residential building showing western skylights, parking and the Interstate below.
Vegetated Frameworks and Canopies
An integral part of the Urban Park Corridor is a suspended garden system supported by a space frame network. The vegetal canopies are used in two principle ways through the site. First, they are used as canopies over the street local, used as scaling and shading devices for the benefits of pedestrians. Secondly, they function as a vegetal blanket that is laid over the exposed Interstate below. In this role, they serve as the lung of the city, as the fumes from the Interstate below are purged by the plant life above.

The vegetal layers are an essential element in the expression of the Urban Park Corridor's relation to the Interstate. The layer is a natural screening element that celebrates the two elements it separates as both different parts of the same system.
The vegetated framework filters automobile exhaust, sunlight and some noise while keeping the Interstate from becoming a tunnel.

The vegetated framework in the North Burnside Residential is represented by the silver screen in this picture.
MAX Plaza Commercial Area

The MAX Plaza Commercial area, the most diverse in the corridor, is bound by Burnside Avenue to the north. An elevated walkway across Burnside Avenue connects the Northern Residential to the first part of the MAX Plaza Commercial area, an entertainment district. The entertainment district is a series of bars, theaters and restaurants set along a pedestrian friendly street. The MAX Plaza to the south anchors the entertainment district. South of the MAX Plaza is a series of office buildings nestled within a garden area. The MAX Plaza Commercial area is anchored on the south end by two blocks of high density urban housing. The major regional artery of State Highway 26 ends the section.
An office building just south of the entertainment district.
View northeast from 26 pedestrian crossing.

An office building exposed to the Interstate on one side.
Morrison & Alder

Different sloped roofs allow sunlight to gather and pass through its entirety.

Morrison & Yamhill

The MAX Plaza has a mezzanine on the second level, retail on the first two levels and commercial above. The large plaza allows for free pedestrian movement off the MAX stops. There are also decorative perforations in the plaza floor.
**Taylor & Salmon**
An extensive frameworks spans the Interstate opening and surrounds the office building in a sea of green.

**Salmon & Main**
This is a unique elevated office building with an articulated underside. There is parking at street level.
Salmon & Jefferson

Illustration of vegetal frameworks delineating open spaces.

View of office park looking south.
**Jefferson & Columbia**
A rooftop garden and second level pedestrian plaza between residential.

**Highway 26**
This difficult intersection of I-405 and State Highway 26 demanded a safe pedestrian crossing. A horizontal ramp connects either side of the intersection. Glass shades cover a majority of the crossing. The lush vegetation provides a natural backdrop.
Pedestrian-friendly streets with awnings, wide walks, plantings and trees.
Example of a rooftop garden

Square planters at different levels create intimate sitting areas.
MAX Plaza

The central piece of the Urban Park Corridor is where the MAX lines cross over Interstate 405. The MAX line is Portland’s newly installed public transit mode that connects the far reaches of east and west Portland. The MAX Plaza is a mostly open area to allow for a free pedestrian flow. The MAX lines make stops on the north and south streets of the block. A vegetal canopy that runs the length of the street shelters these stops. On the west side of the street a row of trees with planters and benches are set to help contain the plaza.

The anchor piece of the plaza is a thin 15-story retail and office building that runs the length of the block. The corners of the building are carved out for a public circulation system that elevates public spaces to upper levels of the building and the rooftop. Accompanying the upward movement of the public spaces is a trellis system that carries the ground level vegetation up the height of the building. The vertical vegetation layer is combined with a *brise-soleil* sun shading system to help reduce the glare and heat gain inside the building.

The final piece of the MAX Plaza is the second level outdoor mezzanine of the office building. The mezzanine overlooks and actively engages the ground level of the MAX Plaza, while it also serves as a transition piece for the vertical nature of the office building.

Aerial of MAX Plaza and adjacent block.
Vegetated framework between the office building and a small pedestrian plaza with ornamental trees.

View looking southwest with the MAX Plaza in the center of the picture and the smaller pedestrian plaza in the right foreground. The frameworks on the building rooftops support vegetation.
A planimetric view of MAX Plaza and the neighboring block of office buildings with a small pedestrian plaza (The same view is shown below).
View of MAX Plaza with vegetated trellises on either side over the MAX stops. The second level mezzanine is shown on the right along with the perforation in the plaza floor. The block in the background has a narrower pedestrian plaza with ornamental trees.
Office Gardens

Two blocks south of the Urban square of MAX Plaza is the next place along the Urban Park Corridor, the office gardens. The gardens are placed around five office buildings set on a block twice the length of the typical city block. The building are set in a typical Chinese "armchair" plan. The north building faces south and is set up on a story high platform, the underside of which is used for parking. This sets a back for the arms, a series of four more buildings lining the sides of the block. The placement of the buildings creates a sheltered courtyard in the middle. It is in this space that a combination of plazas, elevated and ground level walkways, vegetal canopies and vegetal frameworks open to the Interstate below, create a common garden area forth office complex. The northern building is set up a story on columns, letting the plazas and vegetation slide underneath it. The buildings set along the sides open up their facing facades to the gardens and allow the vegetation and commons to bleed into and up through the buildings. This gesture creates a connection between the work environment and the natural environment it sites above and looks down upon. Garden areas, repeated throughout the Urban Park Corridor are crucial to the design because they seek to create a language of how nature can function as a critical element of the urban landscape.
A vegetated framework mingles with public plazas in this office park.

The office park looking southeast. The office building in the left foreground is elevated above parking and a pedestrian plaza.
Residential Towers and Rooftops

One block south of the office gardens is a grouping of hour mid-rise residential towers. The first floor of the apartment buildings are given to retail and parking for residents. One floor above, an elevated walkway canopied by vegetation, connects to the office gardens and the group of housing a block south, opening to form a common courtyard for the group of towers.

The four buildings carry a series of public amenities for the community of residents and each one interprets the possibilities of the rooftop area. One peels back the roof over the top five stories in order to give a piece of sky to the residents in a series of terraced balconies. What remains is given to the use of telecommunication antennas for the apartment complex. The second opens the rooftop are through a skylight to flood the interior space of the building with light. On its exterior the building has a circulation core for the servicing of all four buildings. One of the southern buildings dedicates its south wall and rooftop to the collection of solar energy. The last building is used for its views to the south and west for a series of public spaces moving up the building. The building uses a trellis system on one side of the building to create a continuous vegetal layer that connects the walkway to the rooftop garden that sets on top of the building. Rooftop gardens are another means of how a green space can be fit into the urban context. Most of the residential buildings in the Urban Park Corridor are fitted with rooftop gardens, creating a sky level system of vegetation.
Four different uses for rooftops in Portland (clockwise from top): communication needles, skylight shafts through building, solar panels and a public roof park.

Vegetation may grow up trellises on the fronts of buildings or act as a canopy over the pedestrian walk.
Portland Southern Leg
The Portland State I-405 Campus extension area is connected to the MAX Plaza Commercial area by an elevated walkway across State Highway 26. Highway 26 is a major entry point for both commuters and visitors coming to Portland. For the automobile, the elevated walkway serves as a base to the Portland skyline as one approaches the city.

Running along the southern edge of the Portland State I-405 Campus Extension area is the base of the West Hills. The west Hills are steep and thickly vegetated, virtually stopping the downtown street grid that runs up to the northern edge of the I-405 corridor.

The main campus building responds to the West Hills by burying itself into the base of the hillside. This response creates a series of terraces that steep back as the floors proceed upwards. The building is the base for a new research college at Portland State. Places on the rooftop of the college are six detached houses for visiting professors to the university.

The placement of minor classroom buildings connected to the new college by walkways creates a valley for student activity and gathering.

The gardens and vegetal walkways from the campus valley carry into a main plaza area for the campus. This plaza, flanked retail spaces and student housing also serve as the termination point for the South Park Blocks. Here, a tower marks the entrance and exit point of the Urban Park Corridor over Interstate 405.
Diagram illustrating the steepness of the West Hills, the dense downtown and I-405 running in between them.

View south from downtown Portland toward the extension of Portland State University campus.
12th & Park

Campus housing on the left and classrooms on the right. The visiting professor housing is located on the top of the classroom building.

Vegetation rolling off of the West Hills and onto a framework that crawls over the building and Interstate.
Portland State I-405 Campus Extension

The Portland State I-405 Campus Extension is dominated by the extension of Portland State University campus with new buildings and colleges. The rest of the building space is dedicated to the purposes of student housing and retail support for the area.
The visiting professor housing with drives connected to an existing West Hills residential road.

Aerial of the large classroom building with the square units on top as the visiting professor housing. The square buildings in the center of the picture are the campus housing and the building at the bottom is the campus retail.
The classroom building's terraces

View of West Hills on left, campus classroom spanning I-405 and campus retail on the right. The open spaces in the foreground may be built upon in the future.
Character sketch of West Hills on left, campus classroom spanning I-405 and campus retail on the right.

Character sketch of campus walkway alongside the campus classrooms extending out of the West Hills.
Summary

Urban design is a widely complex field. This thesis has only touched upon the surface of a few key issues related to urban design: the determination of types and functions of spaces and buildings, the physical gesture of the urban design patterns toward the site and the city context and a description and design of a few of the components within the Urban Park Corridor. The study did not look at the phasing of the development or fiscal and legal feasibility of the project. In the process of design, the next logical step would be to have developed a complete language of physical systems, which would have bound the varied parts together. However, this thesis investigation is important because it seeks to build a vision of what the future American city could be upon the reality of the current. The immersion of suburbs, interstates and automobiles has, for some, meant the demise of the American city. Cities, though, are an important contrast to the vast, open American landscape and must, therefore, remain vital.

The city is also crucial because of the public element of life it hosts for its citizens. It is in the activities and life of the city that an individual opens their civic side. The public spaces within the city are the median from which civilization is built upon.

Unlike Europe, the image and character of the American city has not yet been completely resolved. The future American city must recognize the regional context it is built upon. It must utilize and improve the linkages already established to draw in components and systems of the natural environment and make them integral pieces within the city. It is at this point that the conflicts between man-made and natural environments do not sit in opposition, but exist and thrive together.

The urban park corridor will encourage economic and social growth and will provide a visually unique character in downtown Portland. Through design investigation, urban space development and Interstate exploration, this project will reconcile the division of downtown Portland, caused by I-405.
Appendix A:
References


Appendix B:
Site Photographs

Looking north from Burnside toward Couch

Looking south from Everett toward Couch

Looking north from Alder toward 14th
Context at Morrison street crossing. This is one street with the MAX line running along it. Note the bollards, street lights and decorative pavement.

Looking south from Taylor toward Salmon
Looking north from Salmon toward Taylor

Looking southwest from 13th and Columbia toward 26

Looking north from Montgomery at I-405 and 26 intersection
Looking southeast from 12th toward Park

Looking northwest from Park toward 12th

Residential houses in the West Hills