

Salem Police Station

Fall 2010 • Architecture

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Sustainable Cities Initiative

Acknowledgements

The authors wish to acknowledge and thank the following people for their assistance with this project. It would not have been possible without them.

Project partners:

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Allen Dannen, City of Salem
Scott Hayes, City of Salem Police
Garth Brandaw, CB|Two Architects
Kirk Sund, CB|Two Architects
Mark Foster, ZGF Architects
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About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that seeks to promote education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for solving community sustainability issues. We serve as a catalyst for expanded research and teaching, and market this expertise to scholars, policymakers, community leaders, and project partners. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCY

The Sustainable City Year (SCY) program is a year-long partnership between SCI and one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCY faculty and students work in collaboration with staff from the partner city through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCY's primary value derives from collaborations resulting in on-the-ground impact and forward movement for a community ready to transition to a more sustainable and livable future. SCY 2010-11 includes courses in Architecture; Arts and Administration; Business Management; Interior Architecture; Journalism; Landscape Architecture; Law; Planning, Public Policy, and Management; Product Design; and Civil Engineering (at Portland State University).

About Salem, Oregon

Salem, the capital city of Oregon and its third largest city (population 157,000, with 383,000 residents in the metropolitan area), lies in the center of the lush Willamette River valley, 47 miles from Portland. Salem is located an hour from the Cascade mountains to the east and ocean beaches to the west. Thriving businesses abound in Salem and benefit from economic diversity. The downtown has been recognized as one of the region's most vital retail centers for a community of its size. Salem has retained its vital core and continues to be supported by strong and vibrant historic neighborhoods, the campus-like Capitol Mall, Salem Regional Hospital, and Willamette University. Salem offers a wide array of restaurants, hotels, and tourist attractions, ranging from historic sites and museums to events that appeal to a wide variety of interests. 1,869 acres of park land invite residents and visitors alike to enjoy the outdoors.

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Executive Summary

The existing Salem Police Station is no longer suitable for its occupants. Currently, the police station is located in the basement of the Civic Center. This location was intended to be a temporary facility, and with no opportunity for expansion, the staff has outgrown the space. Severe overcrowding has resulted in a lack of storage space, poor working environment, and inefficient circulation. Police staff also desire to work in an atmosphere reflective of their positive public standing. Along with providing adequate space for the officers, one goal for the new police station is to express the connection between law enforcement and the public by providing a variety of safe public spaces.

Students developed 24 design ideas for the new Salem Police Station. While there were a variety of approaches to developing the new station, every design addressed issues involving the Civic Center site and the police program, including connectivity within the site and to Salem as a whole; creating a “front door” for the site; developing community/public space; improving wayfinding throughout the site; exploring viable sustainability strategies; and ensuring adequate parking for the public, city employees, and police.

Connection to the surrounding city was a key issue addressed by all students. Located just south of Salem’s historic downtown, the Civic Center site’s interaction with the city is dependent on its development as a sustainable public space, a central hub for the City of Salem. The site is adjacent to residential neighborhoods, adjacent to the riverfront development (designated for mixed use), and in close proximity to a regional hospital and to Willamette University. As a physical centerpiece in the City of Salem, the site has the capability of becoming a focal point for the city, a place to access information and resources within a progressive design. It can become an example of possibility for the city.

Site development, along with the development of the police station, was at the heart of the design challenge for the students. The Civic Center, public library, and fire station currently occupy the four-block site. The existing concrete buildings housing these large municipal functions span the width of the site, creating barriers between open spaces on the site and resulting in a disconnected overall campus. The focus of design development was to provide cohesion within the site, using the new police station as a focal point and allowing this new building to guide the organization of the site.

Sustainability was approached from two directions: site sustainability, through methods addressing the Civic Center campus, and building sustainability, through methods employed in the design of the police station. Students generated a variety of sustainable strategies, ranging from photovoltaic panels and green roofs to preserving the natural space on the site and developing water flow strategies for enhancing the natural habitat on the site.

Introduction

The City of Salem asked students in a University of Oregon Architecture studio course to develop a 75,000 square foot police station within the four-block Civic Center site. Three areas on the campus were initially selected as possible locations for the police station. In order to explore all possibilities, the city encouraged students to stretch beyond these primary site selections and examine other feasible locations for the new station. The students' explorations resulted in a variety of ideas and site choices. In the end, students identified two viable locations for the station within the larger site: to the north of the Civic Center and to the south of the Civic Center.

Specific site selections were made with an eye to accessibility, both for pedestrians and automobiles, connection to the Civic Center, enhancement and redevelopment of public space, creating a strong public face, and improving wayfinding on the site. These issues have been identified as current problems with the site, and students addressed them as methods to improve the longevity and overall function of the site.

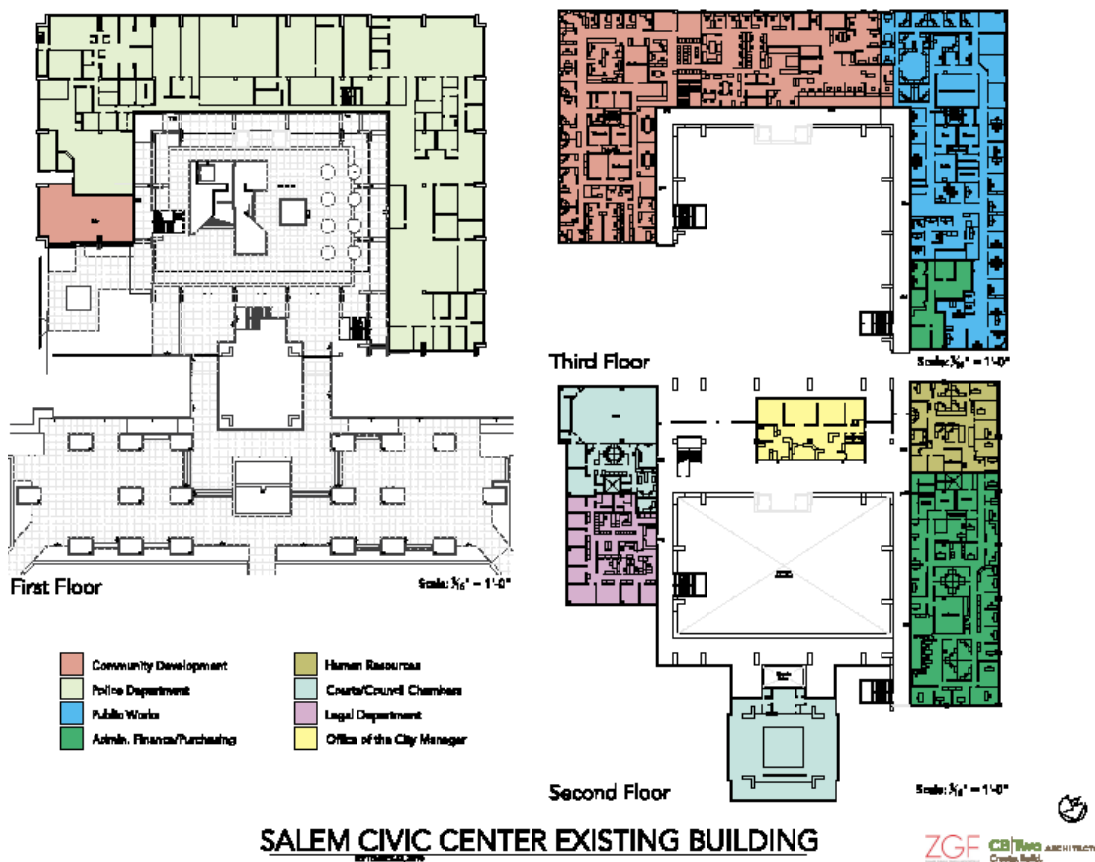


Figure 1: Current Civic Center plan.

Existing Conditions

Salem

Salem is the capital of Oregon, with a population of 380,000 in the greater metro area and 157,000 within the city limits. Salem is located 46 miles south of Portland in the center of the Willamette Valley, with the ocean an hour to the west and the Cascade Mountains an hour to the east. Salem is home to Willamette University, providing the city with young energy. It also greatly benefits from an active retail mall in the heart of downtown, bringing business to the core of the city. Salem is in the process of revitalizing the city through maintenance of historic commercial and residential buildings, redevelopment of riverfront areas with the inclusion of mixed use developments, sustaining green areas and enhancing existing parks, and improvement of pedestrian and bicycle access throughout the city. This project is an opportunity to carry this concept of revitalization and sustainability into the police station and Civic Center site.

Existing Police Station Conditions

The Salem Police Department is currently located in the basement of the Civic Center. The Civic Center, along with the Public Library and the Fire Station, occupies a four-block site just one block south of Salem’s historic downtown. Built in the early 1970’s, the Civic Center has a reinforced concrete structure that is currently suffering from seismic compromises. The connections within the building have begun to fail, and cracking has occurred. Recent structural analysis indicated that the building needs significant structural reinforcement to remain a safe environment. The City of Salem has acknowledged the danger of the Civic Center and the need to remove Salem’s first responders from the potential hazards of the building.

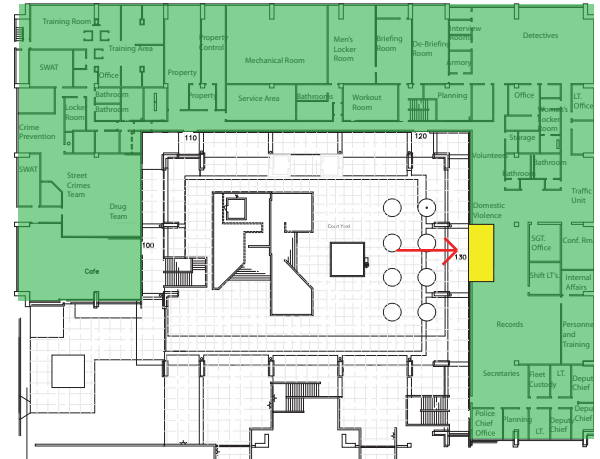


Figure 2: Existing public space (yellow) and private space (green).

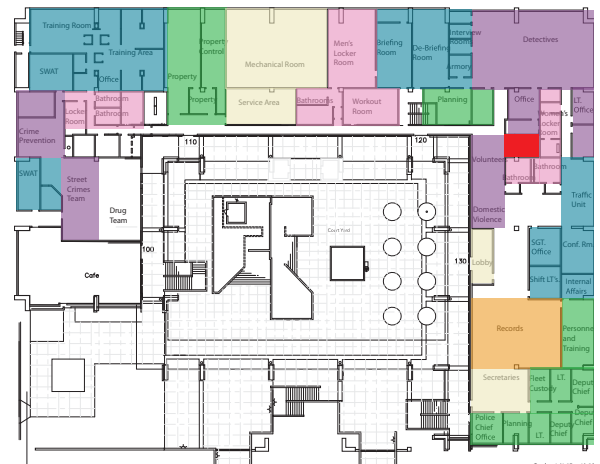


Figure 3: Police Department, existing storage space (red).

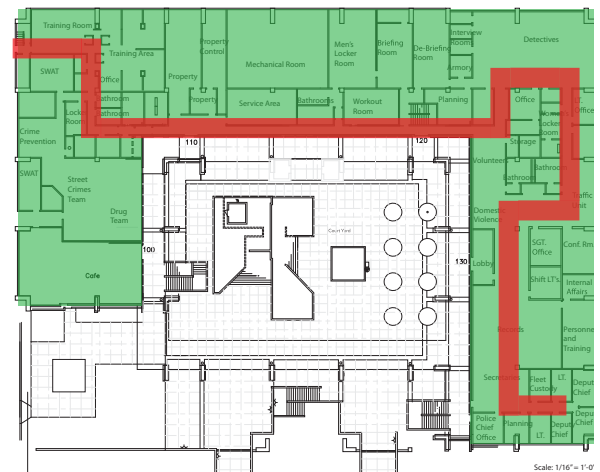


Figure 4: Police circulation.

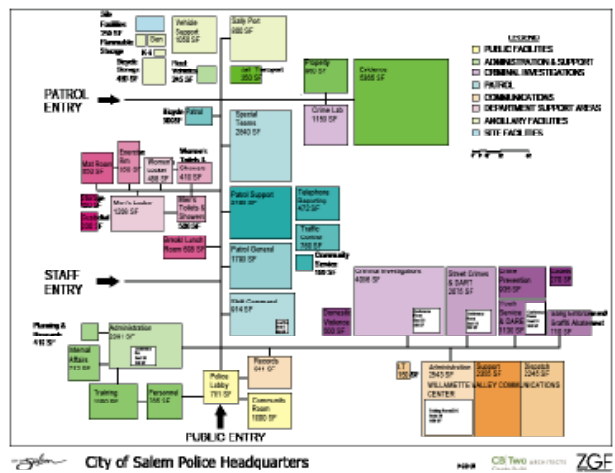
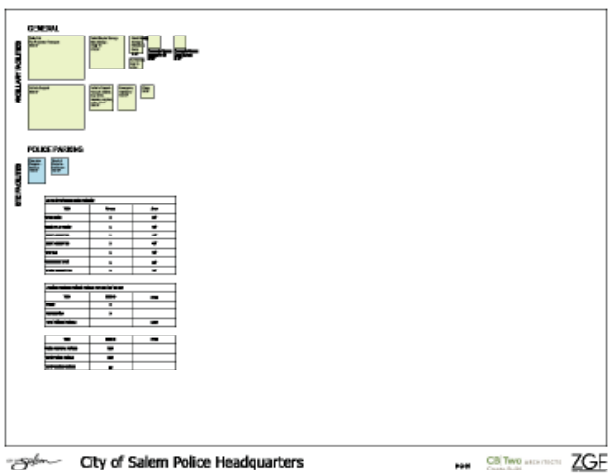
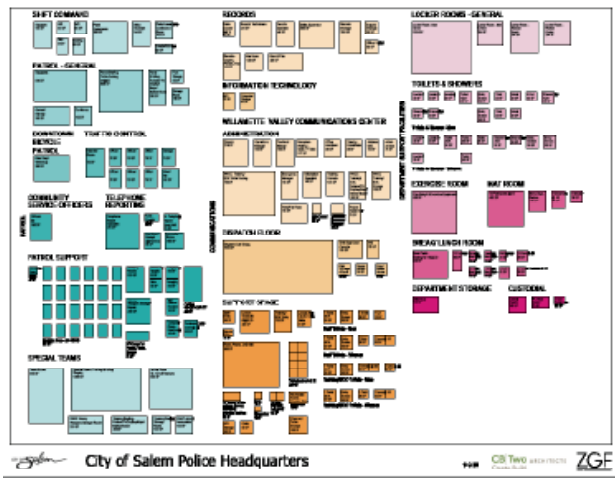


Figure 5: Program diagrams.

The existing Police department occupies 26,000 square feet and has more than 200 employees. The department was initially moved to its basement location to be adjacent to the municipal operations; this move was intended as a temporary measure. The growth of the department has resulted in lack of space, insufficient circulation, and overcrowded workspace. A more efficient facility would provide the means for expansion and help to improve performance of current operations.

A team comprised of Zimmer Gunsul Frasca Architects (ZGF), CB|Two Architects, and Salem Police performed extensive analysis of the current facility and similarly-sized police stations in comparable cities in order to develop space requirements and other needs for a new facility. They constructed a detailed program, including the needs of all units, circulation space, parking, and adjacencies. Their research concluded that a new police station would need to be approximately 75,000 square feet, with additional space for separated police and public parking. This analysis was made available to the students and aided in their designs.

The City of Salem has expressed the need for a new Police Station providing the police with a safe environment, and also serving as a safe and active place for the community. They emphasized the desire to develop a public-friendly facility. With the addition of the Police Station, the city is hoping to reinvigorate the campus as a hub for public activity.

Existing Site Condition

The library, Civic Center and Fire Station are located on a 4-block campus, directly south of Salem's downtown. The campus is one block east of the Willamette River, though the high banks along the river limit its visibility from the site. The campus is bordered by one-way streets on three sides: Trade Street to the north, running east; Liberty Street, to the east, running north; and Commercial Street, to the west, running south. Liberty and Commercial Streets have high volumes of traffic and pose challenges for both automobile and pedestrian access to the site. One-way access on either side is especially challenging when designing a police station, due to the need for emergency access. Liberty Street is at a higher elevation than Commercial Street, creating further access challenges.

Parking for the public, employees of the city, and the police is a significant issue on the site and became a focal area in the students' designs. Currently, public parking is located in a garage at the southern end of the campus, adjacent to the library, and in below-grade parking just north of the Civic Center. The southern parking garage is used primarily for the library. As with the Civic Center, the



Figure 6: Civic Center site, in gray, with Liberty Street on the east and Commercial Street on the west. See Figure 7, below, for more detail.

structural support of the northern underground parking is compromised, so the below-grade parking requires reinforcement or rebuilding. Employees primarily park in this northern lot, in the Library lot, and occasionally in a vacant lot across Commercial Street. The police store their vehicles in the below-grade lot, but walking circulation from their vehicles, into the station, and back to their vehicles is poor.

Between the library and the Civic Center is Peace Plaza, built in the 1970's. In the past it has been used for political rallies and other public functions, but it is currently underutilized. It was intended to be the common entrance for both the Civic Center and the library. The lack of parking adjacent to the plaza has prevented it from functioning as a central entrance. The plaza is hardscaped and is shaded by the adjacent buildings. The central plaza is roughly 10 feet below the grade of Liberty Street, visually disconnecting it from the public.

Along with Peace Plaza, there are several other assets on the site. Mirror Pond and Pringle Creek, located on the northern end of the campus, provide the campus with access to water. Mirror Pond is a man-made pond surrounded by a pedestrian path, lush grass, and plentiful trees. Pringle Creek, whose watershed encompasses much of south Salem, flows just north of the pond on its way west to the Willamette River. Between the pond and creek is a pedestrian pathway that runs through Salem, leading to Pringle Park and a planned connection to the riverfront.

Identified Issues

In order to propose the most effective improvements on the site, the studio identified a variety of issues that affected the success of the site. Many of these issues are viewed in a negative light on the current site, but students envisioned that with improvements, the site issues could become assets.

Connectivity

The length of the site in relation to its width creates a disconnect between the north and south ends. This disconnect is accentuated by the massive concrete buildings that occupy the site and divide it into zones. There is an opportunity with the addition of the Police Station to create a new axis that would connect the site as a whole and create a greater campus feel.

Wayfinding

Because of the building obstructions, pathways and roads have been forced to extend around the perimeter of the site. Signage at either end of the site is unclear; as you arrive at the public parking by the southern end, it is clear where the library is, but it is not clear how to access the Civic Center. Once a visitor is within the site, orientation and wayfinding are difficult due to the disjointed site organization.

Parking

There are three types of parking required on the site: public parking, employee parking, and secure police parking. With the expansion of the police station, there will no longer be enough parking spaces for police, public, and employees.

Public Space

There are currently a variety of public spaces on the site, yet none of them are fully utilized. Peace Plaza is a hardscape environment, lacking in vegetation, and is no longer drawing people in due to its hard nature. The covered atrium of the Civic Center is occasionally used for various public functions. It lacks warmth due to its location to the north of the Civic Center and its tinted glazing.

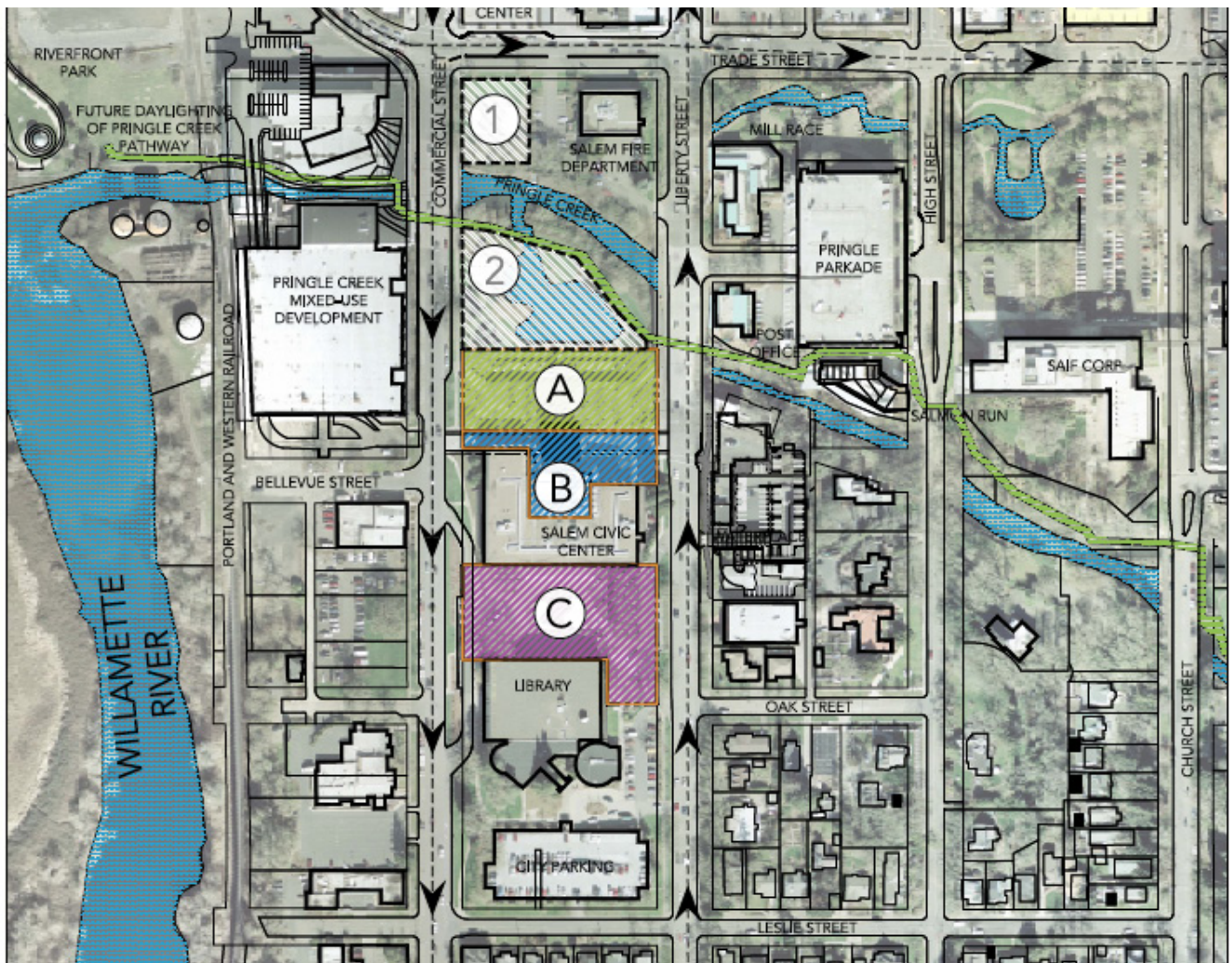


Figure 7: Site proposal locations.

Site Visibility

The buildings create barriers on the campus, thus it is possible to be on one end and not be aware of the happenings on the opposite end. While the trees around the perimeter of the site are lush, they also act as barriers for site exposure to the surrounding city.

Sense of Arrival and Public Face

Both the library and the Civic Center have multiple entrances, which results in a lack of central focus, for the buildings and for the site. Peace Plaza, between the two buildings, was originally intended to be the public entrance, but parking development has led over time to access from the opposite side of each building.

Proposed Sites

The city, ZGF, and CB|Two identified three sites within the Civic Center campus that they concluded would be the most realistic location for a new police station. These locations were chosen based on the space requirements required by the program, accessibility for cars and to parking, connection to the Civic Center and the site, and the ability of the building to improve the site as a whole. The studio was given a short analysis of the pros and cons of each site.

Site A

North of the Civic Center and just south of Mirror pond, Site A offers the benefit of close proximity to the most lush area of the campus, the park. The park and pathway could be enhanced as part of the project. There are also a variety



Figure 8: Site A.

of sustainable strategies that could be explored with the use of water and the natural amenities available at the north end of the site. While this is a benefit, the riparian corridor setback would have to be taken into consideration. With access to driveways onto the site, Site A has access to traffic moving both north and south. This site would also affect the City Council Chambers. The existing below-grade parking, with structural improvements, could be ideal for secure police parking, due to its close proximity to the facility. Potential views of downtown from Site A could help to emphasize the site's connection to the city.

Site B

Site B is directly north of the Civic Center and has the possibility to infill the atrium space of the Civic Center. It might be possible for the new building to connect directly to the Civic Center in order to help support it as well as improve its facade. This addition would compromise the views from the Civic Center to the Mirror Pond park area. Like Site A, Site B offers possibilities for further development of the park area and also could benefit from the sustainable opportunities offered by the park. Site B has access to both sides of the campus and could utilize the current parking north of the Civic Center as public parking. While the building would displace the existing Council Chambers, it would allow for redesign and placement in a more prominent location.



Figure 9: Site B.

Site C

Site C is located between the Civic Center and the Library, occupying the current Peace Plaza. As the largest plot of land, Site C has the benefit of close proximity to the other buildings, allowing for the creation of a common space for the three facilities. Building on Site C could allow for structural attachment to the Civic Center, improving its quality. It would also create the opportunity to improve Peace Plaza. (Depending on the placement and footprint of the building, the plaza may need to be relocated.) Building on Site C would also allow for access to north and south traffic, although visibility to the new police station could be compromised due to the elevation change between Liberty and Commercial Streets.



Figure 10: Site C.

Methodology

The Studio and the Problem

The Fall 2010 design studio comprised twenty-four architecture students at the undergraduate and graduate level. Students worked individually to develop projects that reflected not only the needs of the police officers, but also those of the city. The process included extensive site analysis, with special attention paid to connection to the city, parking analysis and development, exploring sustainable design opportunities available at the site, and program development within the facility. The primary focus of the studio was to create a facility that would function well as a police station and also provide the public with positive space.

This studio was unique from others due to the real-world potential of the project. Salem is in the process of developing a new police station. This allowed the students to work closely with city staff, police officers, and designers currently working on the project. The various parties encouraged students to explore design possibilities in order to provide the city with a wide range of ideas. The students' analyses allowed the city a chance to explore designs that pushed beyond their original ideas and also enabled them to visualize the campus with the addition of the new facility. The students' findings highlighted aspects necessary to the success of the new police station. The interaction between students and professionals was a positive experience for both parties. The energy that the students brought to the project inspired the city's continued progress toward a bond measure for the police station. The students gained experience working with clients and learned the challenges of addressing a variety of personalities, perspectives and ideas.

Scenario Alternatives

The following scenarios explore the extent of possibilities for the new police station. In total, twenty-four schemes were developed, fifteen to the north and nine south of the Civic Center. Each project was developed with special attention paid to sustainable design principles, overall functionality of the site, officer/staff environments, efficient circulation, and safe public spaces.

Scenarios North of the Civic Center

The projects to the north of the campus dealt particularly with parking and access, replacing or refurbishing the Mirror Pond park area, riparian corridor setbacks, and the replacement of the City Council Chambers. This report groups concepts for the north section of the campus into five scenarios: Scenario A: Gateway Building, Scenario B: Cardinal Axis Orientation, Scenario C: Separated Buildings, Scenario D: Street Presence, and Scenario E: Grand Entrance.



Figure 11: North of Civic Center.

Scenario A: Gateway Building

These designs created a gateway for the site by allowing the public circulation to flow through the buildings. The division of programmatic elements was based around central circulation spaces. Sustainability was addressed in a variety of ways. Due to the adjacency to the water elements on the north site, each project was able to incorporate water into their buildings as a sustainable strategy.

Will Smith was the only student to develop the police station to the north of Pringle Creek (see Figure 12). The goal for his project was to create an entrance for the entire site, allowing for efficient access for pedestrians and automobiles. He aimed to connect his building not only to the site but to the rest of the city.



Figure 12: Scenario A.1.

Ben Carstensen used the water of the creek and the pond as a central theme in his design (see Figure 13). His placement of the building in close proximity to the creek was necessary for the development of his project. The pathway through the building represents water being drawn from the flowing creek and continuing as circulation through the building.



Figure 13: Scenario A.2.

Baha Sadreddin developed a long, narrow police station with an open ground floor allowing the public to pass through the building (see Figure 14). By stepping the floors, he was able to provide every level of the police station with outdoor space.



Figure 14: Scenario A.3.

Creating an Entrance to the Site

The addition of the police station to the site is about both providing the police with a new facility and enhancing the site. These designs focused on creating a focal entrance for the whole campus and creating a sense of arrival. While located in different positions north of the Civic Center, each of these buildings provide circulation through the ground floor as an access and entry point, welcoming people into the campus.



*Figure 15: Scenario A.1 Entrance.
View looking south across Trade Street, down Commercial Street.*



*Figure 16: Scenario A.3 Entrance.
View looking south (from existing Mirror Pond).*

Water Elements

The close proximity to water played a large role in each of these designs. Water was used as a way to connect the building to the campus, and to the city as a whole. In two of the examples, it was used as a primary design concept, but water was also used as a way to provide longevity and to emulate natural habitats.

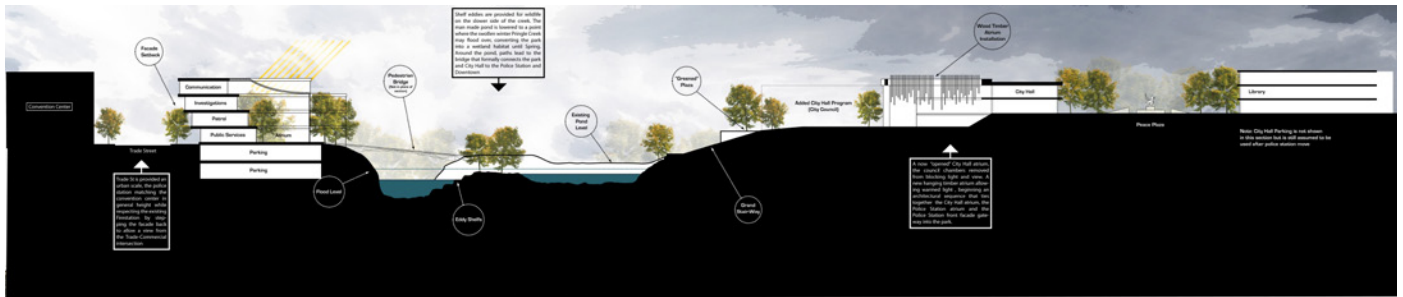


Figure 17: Scenario A.1 cross-section looking east.



Figure 18: Scenario A.1 Looking north across Mirror Pond during the summer.

A Flow through the Site

By creating a common entrance, these buildings acted like a funnel, drawing community members into a specific area, and then distributing them to the rest of the campus. The movement created due to the flow of people through the buildings is then carried through the entire campus. These designs aim to provide clear wayfinding from the police station to the Civic Center and beyond.



Figure 19: Scenario A.1: Interior atrium.



Figure 20: Scenario A.2: View looking south, through building towards existing Civic Center.



Figure 21: Scenario A.3: Looking northwest from Liberty Street at back of police station.



Figure 22: Scenario A.1: Winter view looking north across overflowing creek.

Scenario B: Cardinal Axis Orientation

These designs align themselves along the east-west axes to allow for optimal daylight and solar gain. This building orientation broke up the grid of the site and called attention to the new addition. Daylighting and ventilation were used as the primary sustainability strategies due to the orientation and narrow nature of the buildings.



Figure 23: Scenario B.1.

Greg Swift used his building to create a diagonal path through the site, connecting the northern end through the police station and to the Civic Center (see Figure 23). The path runs directly along the north-south cardinal axis, calling attention to itself by differentiating from the orientation of the site. The police station directly intersects this path.



Figure 24: Scenario B.2.

Jake Webber designed a police station with a rotating beacon for his concept (see Figure 24). With the main floor aligned along the east-west axis, each floor is offset slightly from the others, allowing the entire campus to be viewed from the interior of the station. The overlapping of floors provides outdoor space along the north and south facades.



Figure 25: Scenario B.3.

Alex Campomanes used an atrium to create an entrance for the site and the police station (see Figure 25). The atrium acted as a reference point for visitors, guiding them beyond the building to the rest of the site. The building uses its facade to invite the public into the building, implying its important public role.

Focus on Daylighting and Ventilation

Much of the program for the police station called for office space. These designs took the concept of the long, thin office building and used the daylighting and ventilation advantages from this design type to integrate the offices with the other program elements. The orientation of these buildings is directly on the cardinal axis, running from east to west, allowing for the best light from the north and the south. Each design provided adequate shading on the south facade to minimize heat gains.

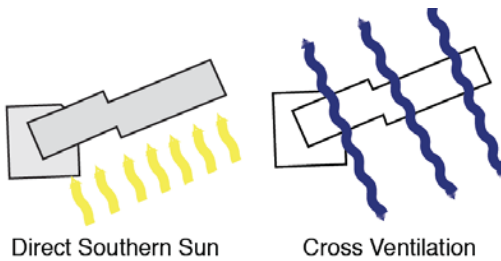


Figure 26: Scenario B.1.

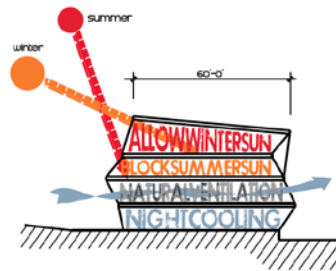


Figure 27: Scenario B.2.

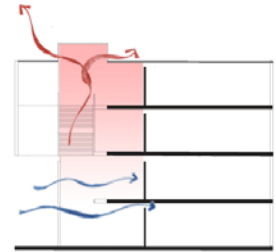


Figure 28: Scenario B.3.

Provide Positive Workspace

The form of the building and orientation allows every office to have access to daylight and cross ventilation. The daylight in these building is achieved through glazed windows, which allow the staff views of the surrounding site, connecting them with the outdoors and the community members to them. Ventilation is important to achieve comfort within the workplace; the narrow building allows for controlled cross ventilation.



Figure 29: Scenario B.2: Public lobby.

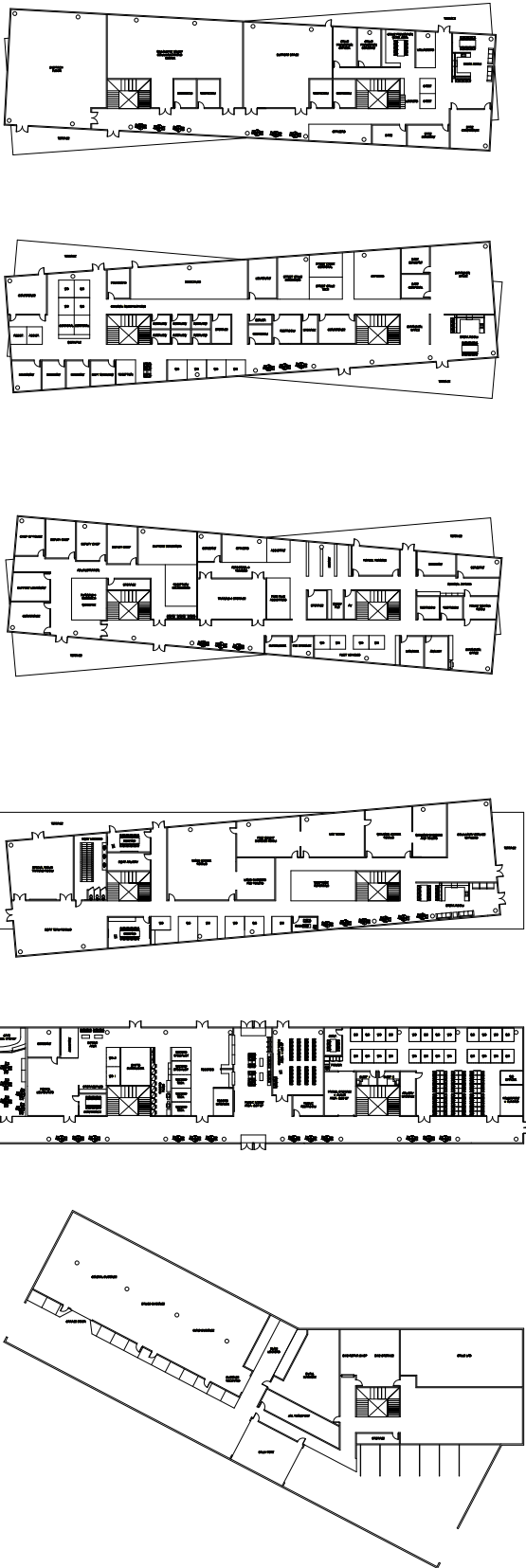


Figure 30: Scenario B.2: Floor plans.

Circulation Shafts

Vertical circulation is achieved by circulation shafts that provide clarity and clear wayfinding for each building. Efficient circulation is a key component in the success of a police station. Many employees spend a significant portion of their day in vehicles, entering the station for short periods of time, both before and after their shifts. Due to constant movement within the building, these centralized circulation zones are a successful solution in easing the transition for the officers.



Figure 31: Scenario B.1: Public lobby.

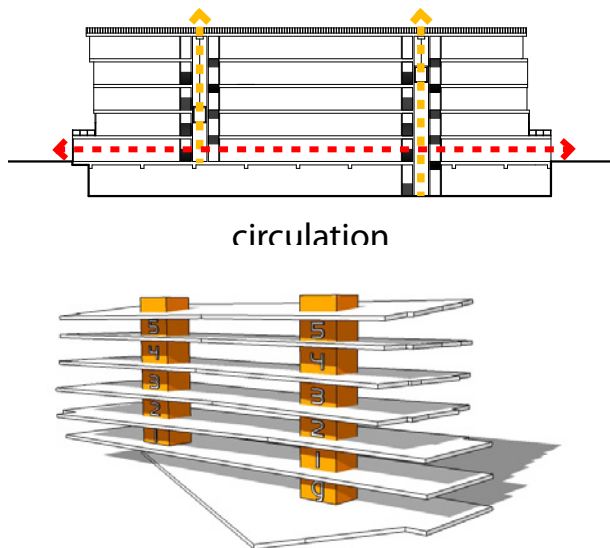


Figure 32: Scenario B.2: Circulation.

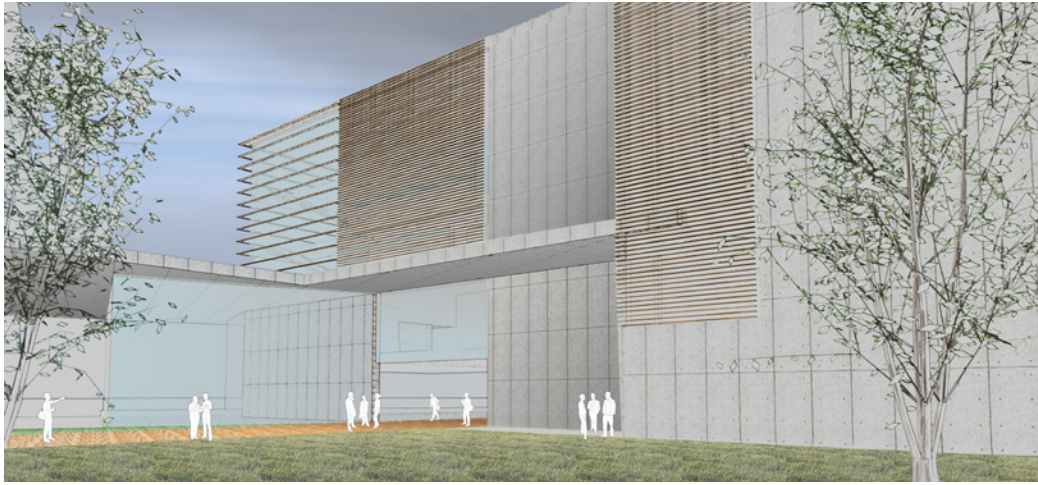


Figure 33: Scenario B.1: Approach from north of campus looking south (north facade of police station).

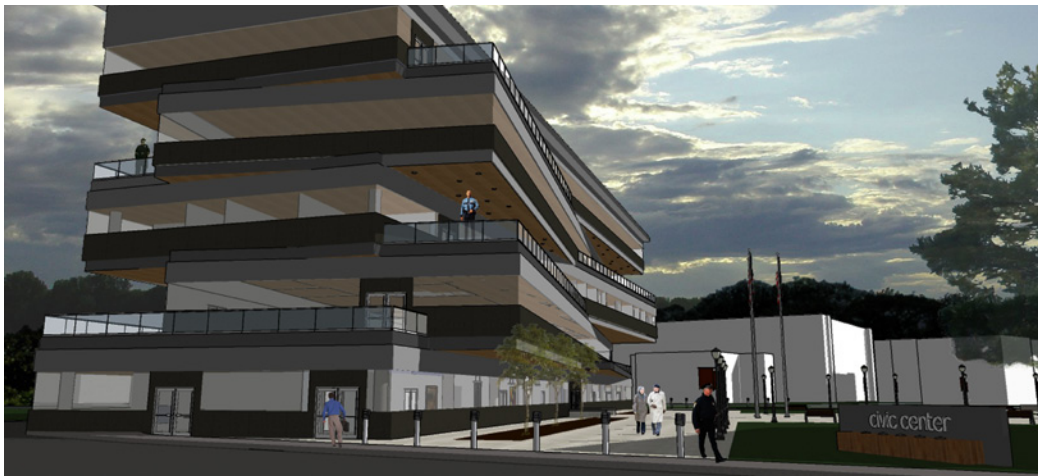


Figure 34: Scenario B.2: Perspective from Commercial Street.

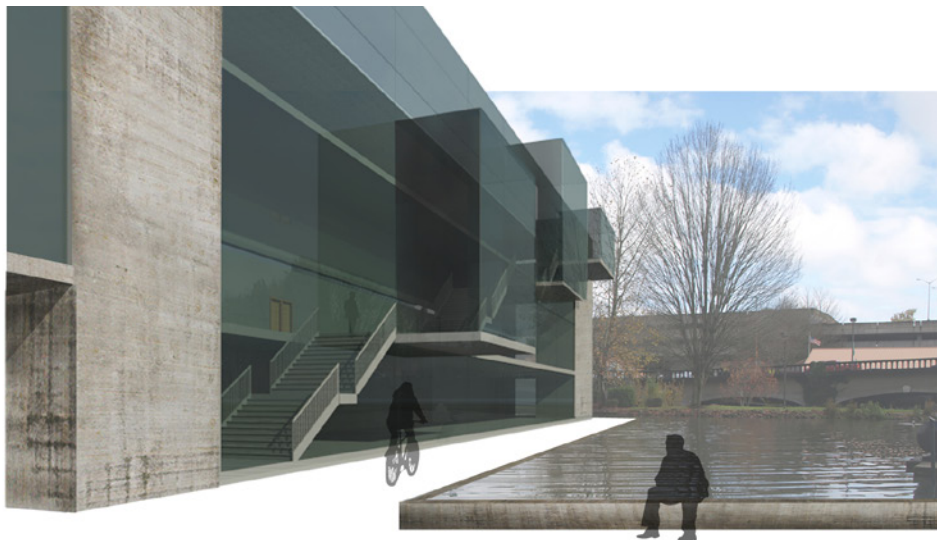


Figure 35: Scenario B.3: South facade (Looking toward Liberty Street).

Scenario C: Separated Buildings

These examples addressed the separation of public and private realms of the program by dividing them into separate buildings. The division of buildings created paths between the facilities, bridging the public and the police.



Figure 36: Scenario C.1.

Corey Templeton divided the police station into three buildings (see Figure 36) in order to address the complicated program, but also to create smaller facilities that would not detract from Civic Center. The relocation of the Council Chambers, in addition to the new police station buildings, allows for public space and public circulation to exist between the buildings.



Figure 37: Scenario C.2.

Matt Grunert used design to symbolically connect the “civilians to their protectors”. Matt used the site’s natural elements to separate the programmatic elements, specifically the public and the private (see Figure 37). Peace Plaza was placed at the northwest corner, in front of the public sector of the facility. These elements were connected to the remainder of the police station by a covered bridge.



Figure 38: Scenario C.3.

Tyler Baum’s design pushed the circulation of the police station to the exterior of building. The west facade stretches along Commercial Street, and the visible circulation was placed on the east facade, emphasizing the flow through the center of the site (see Figure 38). Placing the Council Chambers along Liberty Street, across from the east facade and exterior circulation, frames the center axis of the site.

Creation of Common Public Areas

The designs involving multiple buildings were able to orient the various facilities in a manner that would create common, public space or common circulation space. Due to the circulation required between the buildings, the outdoor space would benefit from constant movement. The communal space was also necessary to encourage interaction between the community and the officers. In these designs, the space created the opportunity to enhance the northern entrance of the Civic Center, allowing for entrances from every direction.

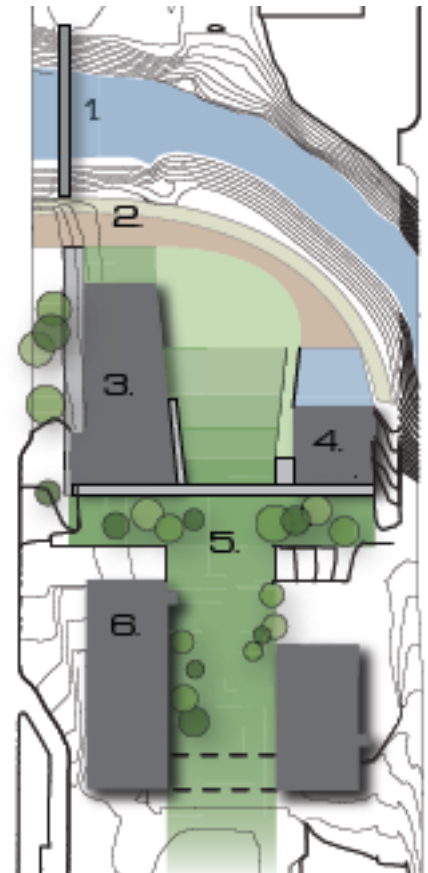


Figure 39: Scenario C.3: Site plan.



Figure 40: Scenario C.1: Perspective looking east from Commercial Street, showing public stairway and circulation.

Programming Separation

The detailed program called for several levels of security within the police station; public, semi-private, private, and fully secured. These designs approached this challenge by dividing the program elements into separate buildings, creating a variety of spaces. The success of these designs was based on the adjacency requirements. Some departments required complete disconnection from one another, while others needed to be directly adjacent.

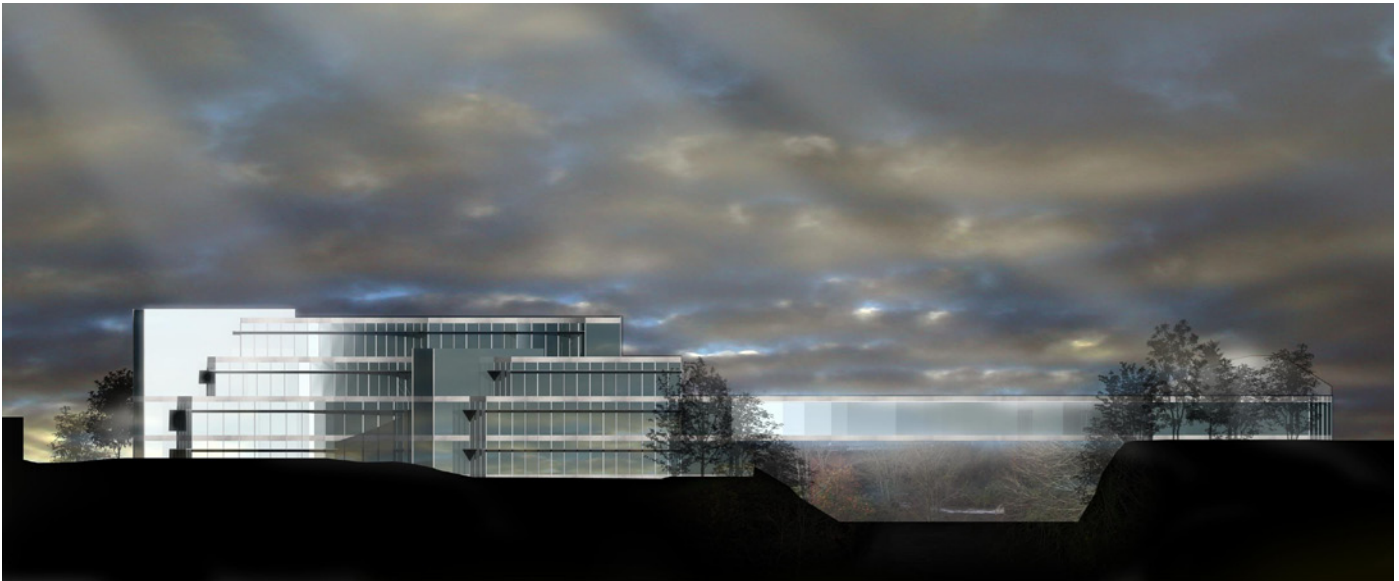


Figure 41: Scenario C.2: East elevation (view from Liberty Street).



Figure 42: Scenario C.2: Natural creek divide between public and private zones.

Parking and Vehicle Circulation

Due to the flexible nature of these buildings, they were able to maintain or expand on the existing below-grade parking. Each design was able to orient their buildings so that the police would have access to the underground parking and also have efficient circulation when entering and leaving the police station.

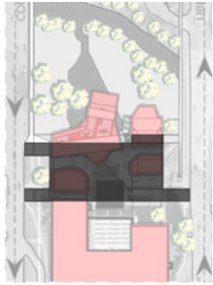


Figure 43: Scenario C.1: Parking diagram.



Figure 44: Scenario C.2: Parking diagram.



Figure 45: Scenario C.2: Perspective looking northwest across Mirror Pond, southeast elevation.



Figure 46: Scenario C.3: East elevation perspective, view from central public space.

Scenario D: Street Presence

All three of these designs have a strong relationship to the street and passing automobile and pedestrian traffic. Their strong interaction with Commercial Street calls attention to the building and the site. Two proposals here lie north of the Civic Center, while one bridges the north and the south campus.



Figure 47: Scenario C.1.

Alice Peterson used the existing Civic Center to divide the public and private portions of the police station (see Figure 47). Stretching along Commercial Street, the Police Station flanks the Civic Center, creating a new facade for the existing building.

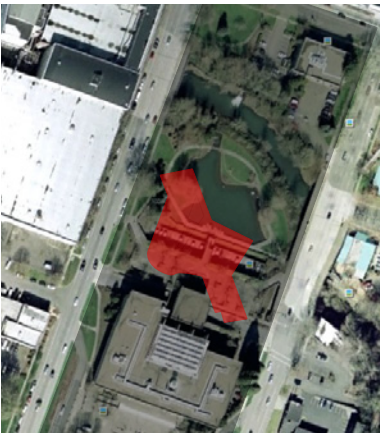


Figure 48: Scenario C.2.

King Tang used the form of a ribbon in his building to reference the rivers and creeks that are prevalent within Salem (see Figure 48). The building gestures to the city beyond the facility, reaching toward the Willamette River, Peace Plaza, the hospital, and riverfront development.



Figure 49: Scenario C.3.

Drew Stricker designed a police station with distinct public and private wings, using an atrium to separate the two domains (see Figure 49). The private/police portion of the facility stretches along Commercial Street, where the prominent new front doors attract attention.

Organization of Space

All three of these designs have a long and narrow plan, whether it is portrayed in wings, a ribbon or a single line. In order to address the requirement of public and private spaces, these designs created transition space between their zones allowing important adjacencies to occur while maintaining separation. The transition zones took the form of an atrium, outdoor space, and common working space. These zones contributed to the success of wayfinding by providing an interior reference point.

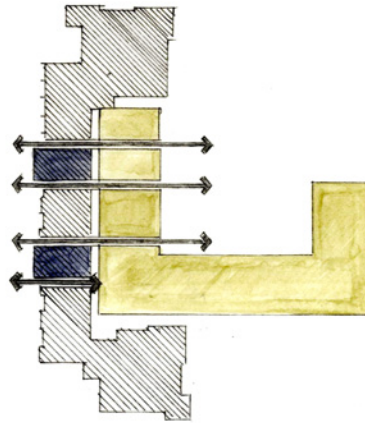


Figure 50: Scenario D.1: Building division diagram.

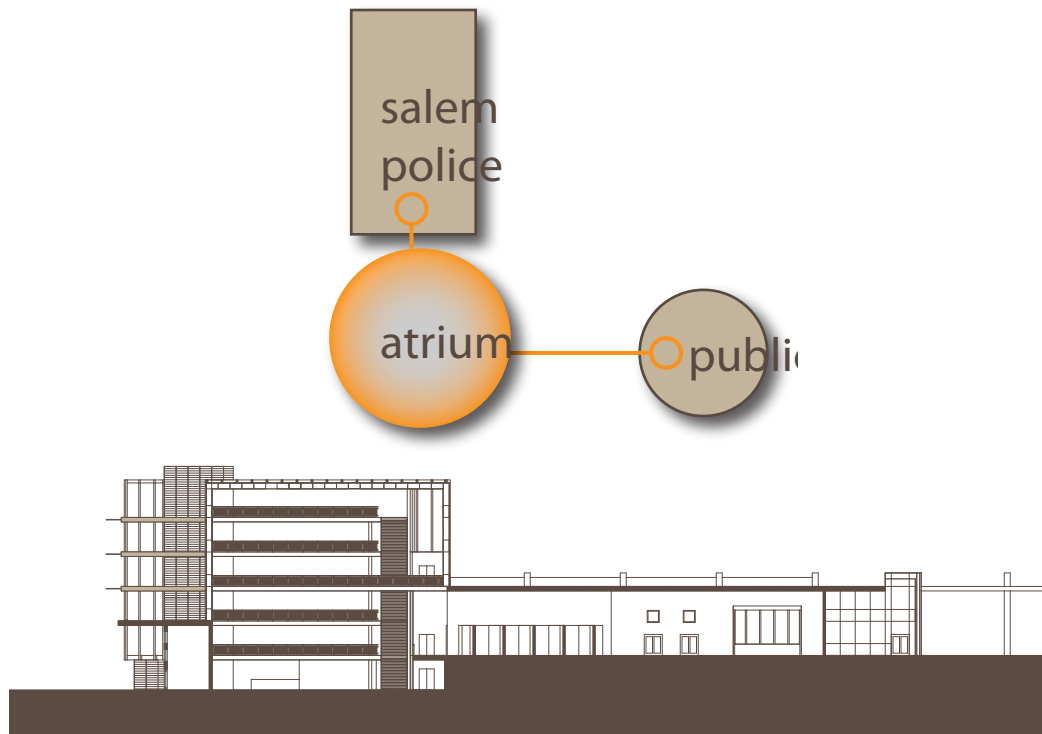


Figure 51: Scenario D.3: Building parti and cross-section.

Bringing Attention Back to the Site

The combination of quantity of cars and the speed at which they pass the Civic Center, the lack of pedestrian circulation around the campus, and the heavy facade of the Civic Center have contributed to the public's unfamiliarity with the site. These designs created a new facade stretching parallel to the roads to bring the attention back to the campus. It advertises the police station to the public, sending a message of safety and security with their presence.



Figure 52: Scenario D.1: View looking south on Commercial Street.



Figure 53: Scenario D.2: View looking south on Commercial Street.

Sustainability and Sun

The linear facade along Commercial Street lends itself to intense sunlight. Heat gains are probable with this orientation, requiring efficient shading devices and adequate ventilation. The low angles of the sun from the west required more than vertical and horizontal shading devices. Two designs incorporated horizontal slats to minimize the direct sun but maintain the daylight. The benefit of the longitudinal form that these buildings took allowed them to include cross ventilation, addressing the need to maintain occupant comfort in the building.



Figure 54: Scenario D.1: Interior view.

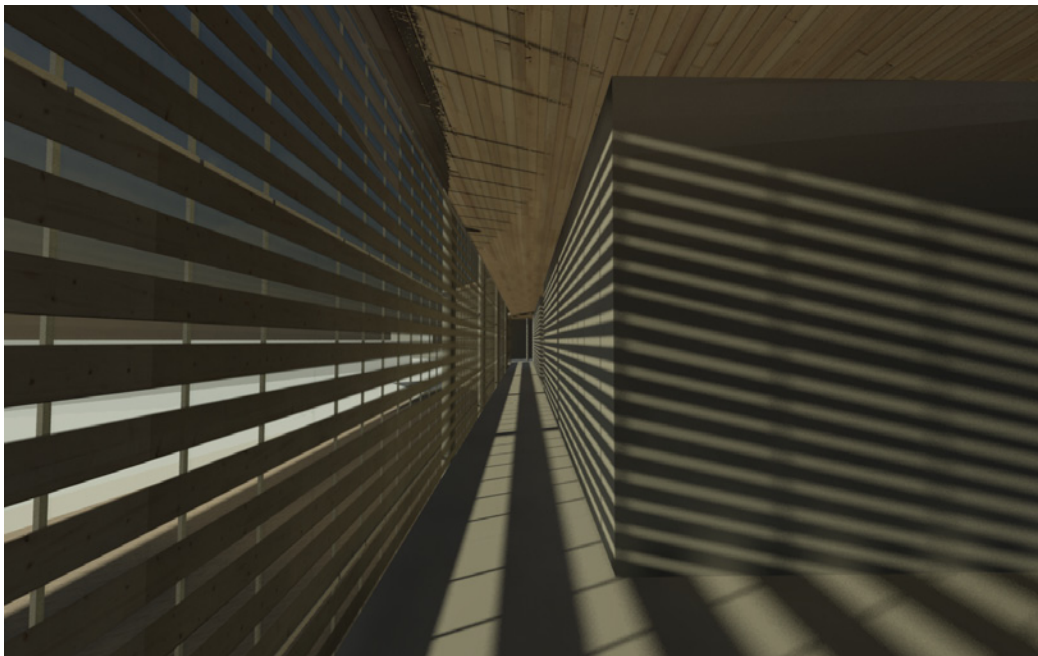


Figure 55: Scenario D.2: Interior view, shading devices.

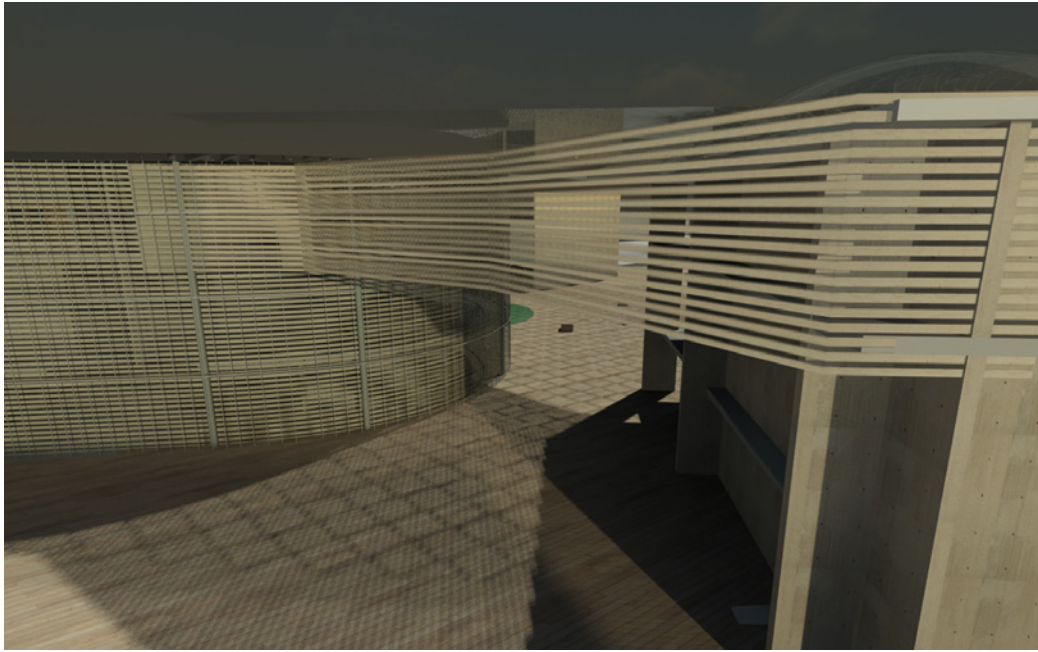


Figure 56: Scenario D.2: Entrance perspective off of Commercial Street.



Figure 57: Scenario D.3: Building entrance off of Commercial Street, looking north on Commercial Street.

Scenario E: Grand Entrance

These designs incorporated a grand entrance into their scheme. Through the use of stairs and grand plazas, the designs provided a place for public interaction and strove to draw emphasis to the police station. While the form of these buildings is different, they all achieve a sense of arrival when approaching the facility.

Andrew McClure designed a police station that was directly adjacent to the Civic Center and thus created a new facade for the center (see Figure 58). The grand stair leading toward the Civic Center provided a common entrance for the two facilities. The police station had a large footprint requiring only three stories of police station, allowing the Civic Center to remain as a strong backdrop.



Figure 58: Scenario E.1.

Eddie Espinoza's police station design focuses on providing space for public and officer interaction (see Figure 59). Through the use of a large plaza, as well as an open first floor, the building provides circulation and wayfinding for the public and the police. His use of a central circulation shaft allows for efficient and clear circulation for the police.



Figure 59: Scenario E.2.

Max Reich's police station was adjacent to Mirror Pond and took advantage of the passive cooling, ventilation, and graywater systems provided by the water (see Figure 60). The placement of the facility, north of the Civic Center, allowed for an alternation of green space between buildings throughout the site.



Figure 60: Scenario E.3.

Entrance Plazas

Rather than having an abrupt entrance, these designs provide plazas, extending the public realm from the interior of the building and pulling it to the exterior. These plazas create a sense of arrival for the facilities and also act as a center for public activity. Creating an entrance on the north side of the facility allows the entrance plazas to open toward Mirror Pond and Pringle Creek. This adjacency to the natural elements of the site creates positive public space.



Figure 61: Scenario E.2: Entrance view.



Figure 62: Scenario E.3: Entrance perspective, looking northwest from Liberty Street.

Interior Circulation

The difficulty with wayfinding on the existing site and within the police station inspired these designs to design cohesive circulation, visible in the public space. The circulation design for the public and the police clarifies the progression throughout the building and site. The public moves horizontally through the space while the police move vertically, allowing for interaction between the private and the public while creating subtle separation.



Figure 63: Scenario E.2: Lobby perspective.

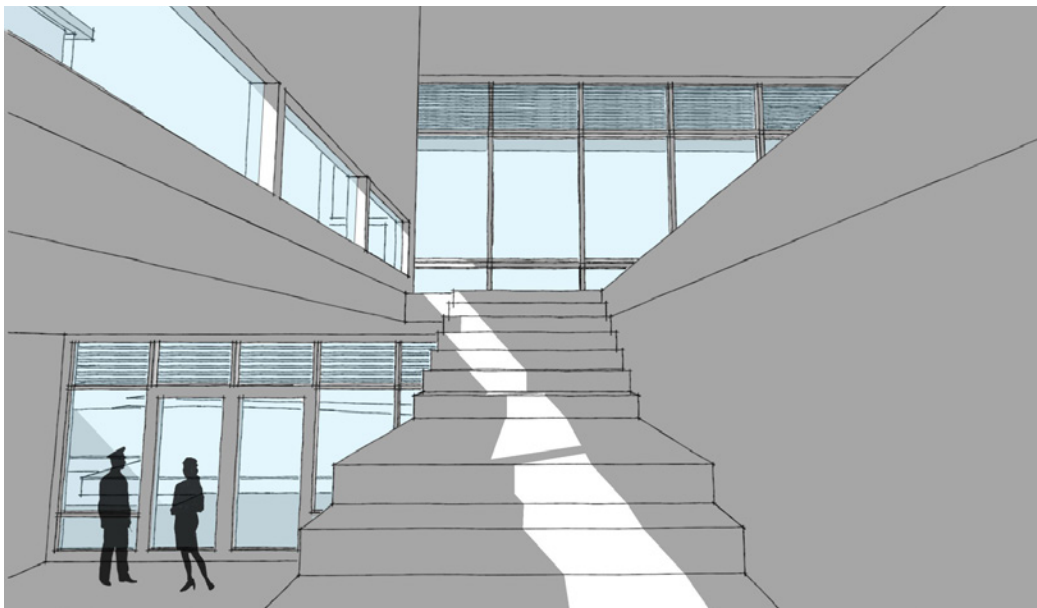


Figure 64: Scenario E.3: Lobby perspective.

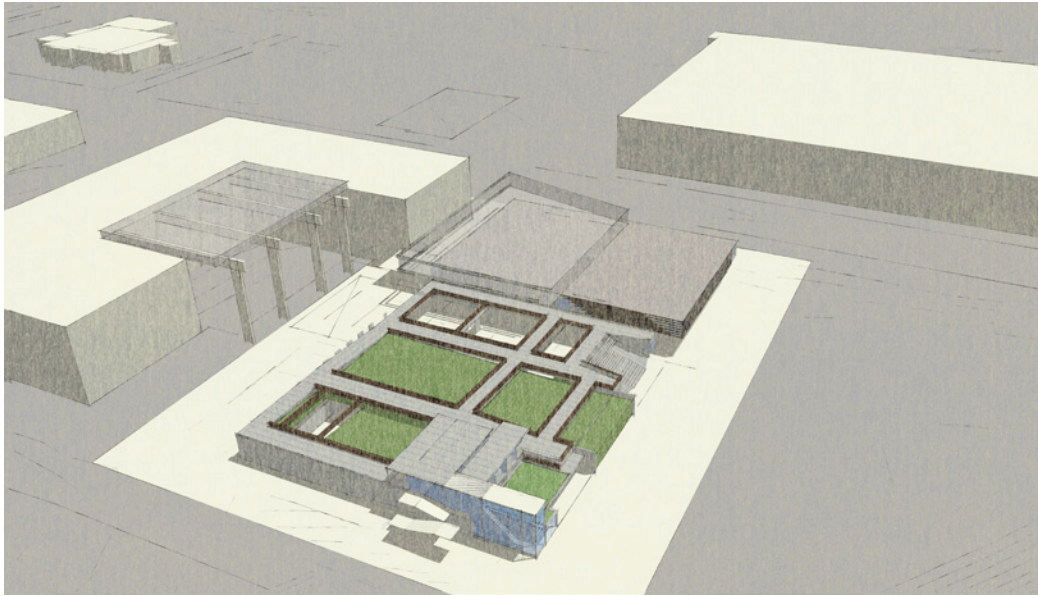


Figure 65: Scenario E.1: Bird's-eye view looking southwest.



Figure 66: Scenario E.1: North facade, looking south from Mirror Pond.

Scenarios South of the Civic Center

Projects south of the Civic Center dealt with issues including vehicle and pedestrian access, addressing an existing city monument (Peace Plaza) adjacency to Liberty Street in addition to the Civic Center.

This report groups concepts for the south section of the campus into three scenarios: Scenario F: Atrium, Scenario G: Open Space, and Scenario H: Structure Attachment.



Figure 67: South of Civic Center.

Scenario F: Atrium

Atriums are used in these examples to improve the plaza, police department, and the Civic Center. The atriums provide transitional zones, allowing the public to remain part of the plaza but also connected to the police department. The atriums bridge the gap between the public and the private spaces on the site.



Figure 68: Scenario F.1.

Tim Kamp's design is aimed at reactivating Peace Plaza by incorporating a strong public realm in the facility adjacent to the public space (see Figure 68). His police station would include gardens, a cafe, and a community center to enliven the space. An atrium would act as a buffer between the public plaza and the private police functions, extending into the Civic Center and providing further connection to the north area of the site.



Figure 69: Scenario F.2.

Serina Adams designed a building that would draw in the community and create a public center (see Figure 69). An atrium acts as a central space providing a grand public entrance to the police station and the Civic Center. This open area also provides central circulation space and clear wayfinding.

Providing Light and Ventilation for Police Station and Civic Center

Atriums were included in these designs to improve the condition of both the Civic Center and police station. These atriums are used to bring light into the police station, allowing for every space to be at least partially daylit. They also provide the opportunity for stack ventilation—pulling in air, circulating through the building and recycling it out the top. This air circulation maintains the comfort level for the officers in order to provide them with the best working environment.

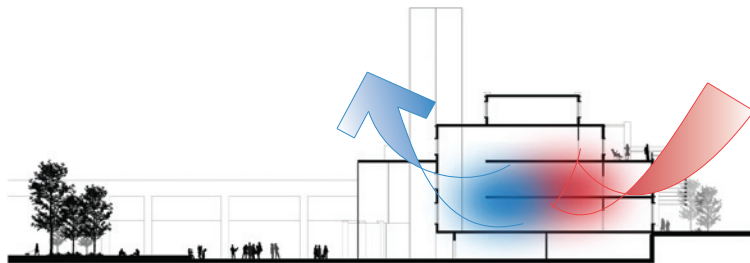


Figure 70: Scenario F.1: Transverse cross-section with ventilation diagram (from the south, with Peace Plaza to the west and Liberty Street to the east).

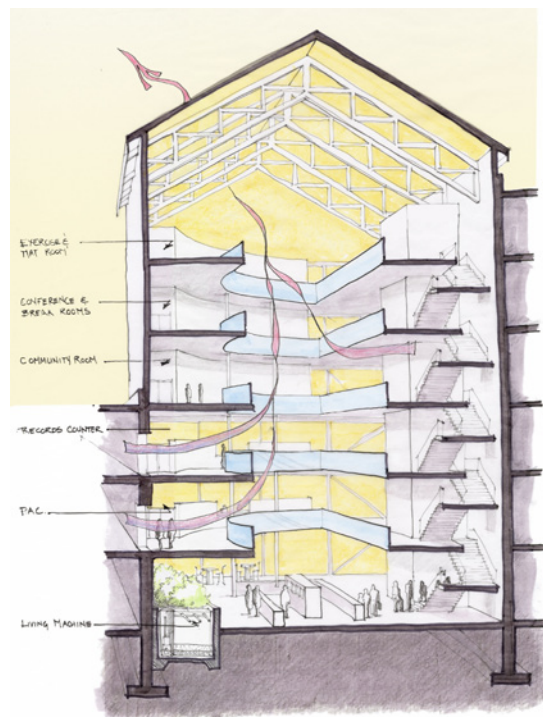


Figure 71: Scenario F.2: Atrium ventilation.

Wayfinding

The open space of the atrium plays an important role in the circulation and wayfinding of the facility. Whether the circulation is around the atrium or moving through it, the space provides a reference point, orienting the occupants to their surroundings.

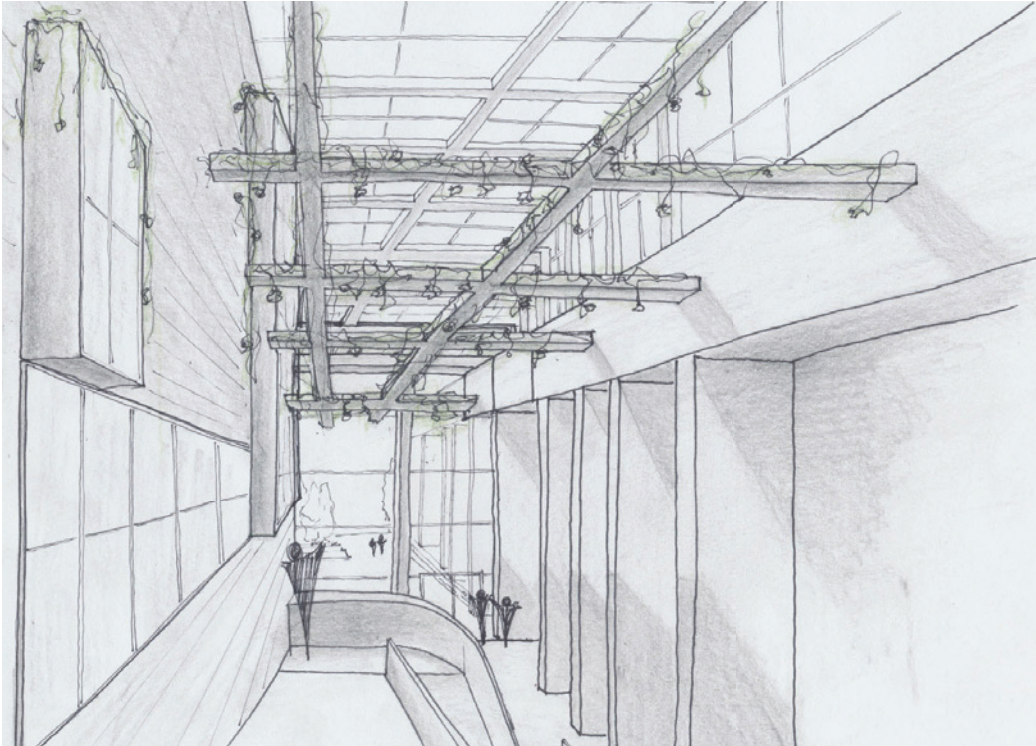


Figure 72: Scenario F.1: Interior atrium.

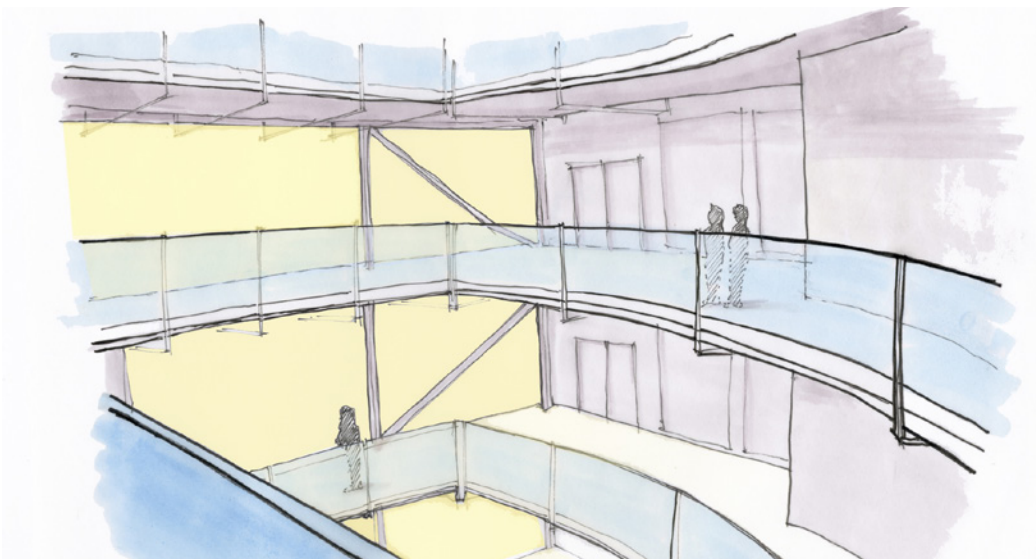


Figure 73: Scenario F.2: Interior atrium.

Public Space

These buildings use the atrium as a bridge between the interior and the exterior, providing a place for the public. In these examples, the atrium stretches into the Civic Center to connect the public area from Peace Plaza to the north of the campus. The atriums distinguish the difference between the secure, safe police station and the public while still merging them.



Figure 74: Scenario F.1: Looking east across Peace Plaza, west facade of police station.



Figure 75: Scenario F.1: East facade, view from Liberty Street.

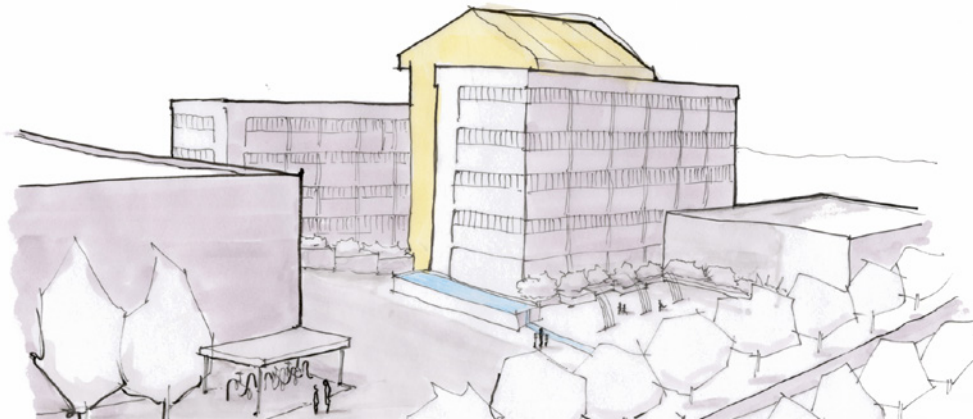


Figure 76: Scenario F.2: Bird's-eye view looking north over Liberty Street.

Scenario G: Open Space

These examples took an unconventional approach to designing a police station. The designs extended above the existing buildings on the site, drawing attention to the addition and bringing public attention back to Peace Plaza. By creating a small footprint and pulling the building off the ground level, the designs allow the Peace Plaza to remain as a circulation zone, public center, and entrance for all facilities.



Figure 77: Scenario G.1.

Jose Miguel Jauregui designed a police station using a modular design (see Figure 77). His unconventional 24-story police station was built of elements that could be manufactured elsewhere and brought into Salem. The design intent was to create an icon for the city and draw attention to the site.



Figure 78: Scenario G.2.

Jessica Keenan designed a police station that floated above Peace Plaza in order to maintain the community space (see Figure 78). Lifting the building up leaves the ground level open for circulation and interaction around the plaza and between the library and Civic Center.

Create an Icon for the City

By creating an unconventional design for the police station, these projects were able to distinguish themselves not only from the other buildings on the site, but also from other buildings in the city of Salem. Their use of building materials and construction strategies allow for the progression of design to be apparent on the campus and witnessed by the entire city.

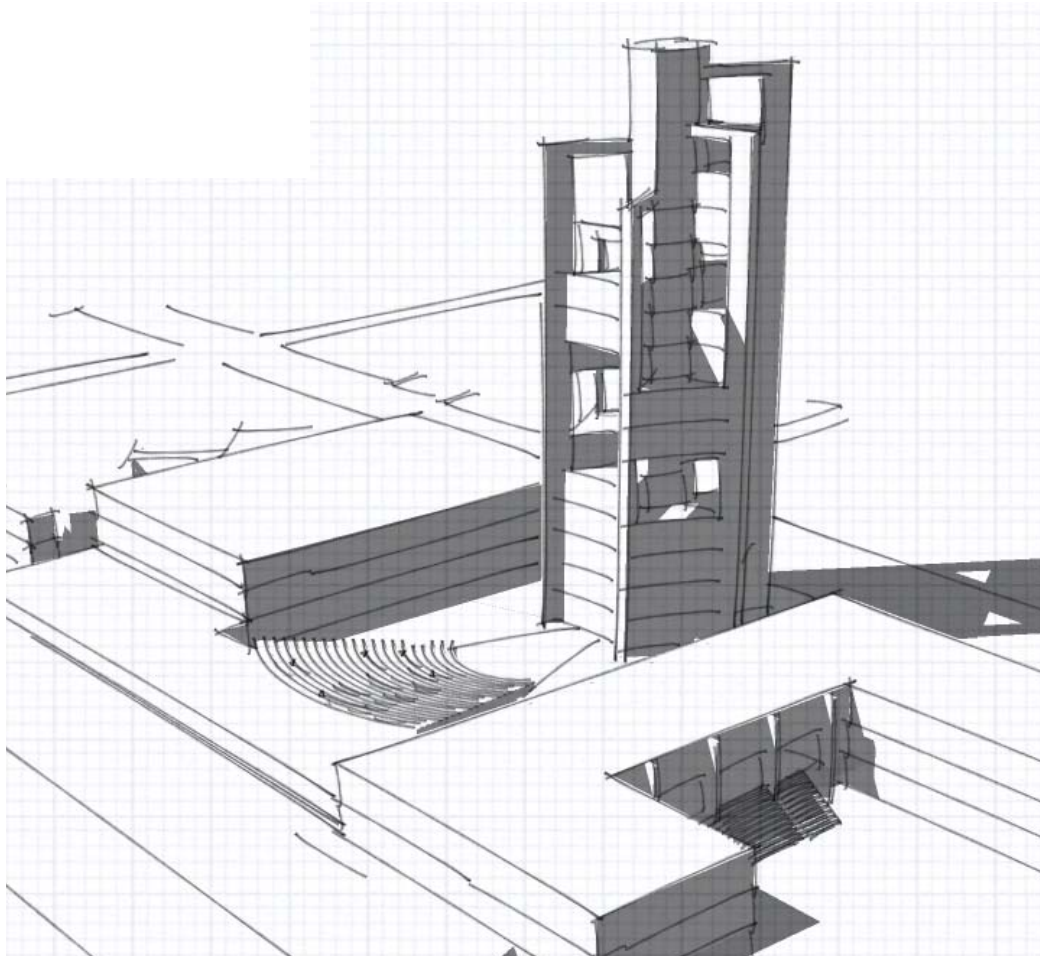


Figure 79: Scenario G.1: Looking southwest.

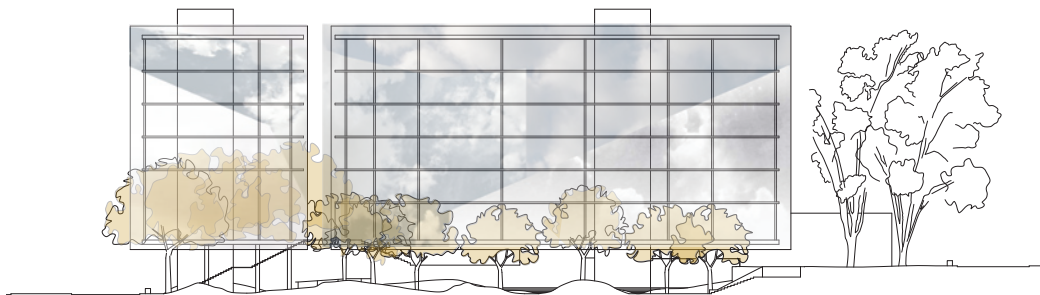


Figure 80: Scenario G.2: South elevation (looking from Public Library).

Incorporating the Program

The use of an unusual form for a police station required extra attention to programming. These designs were able to incorporate both the public and private sectors of the station while maintaining separation.

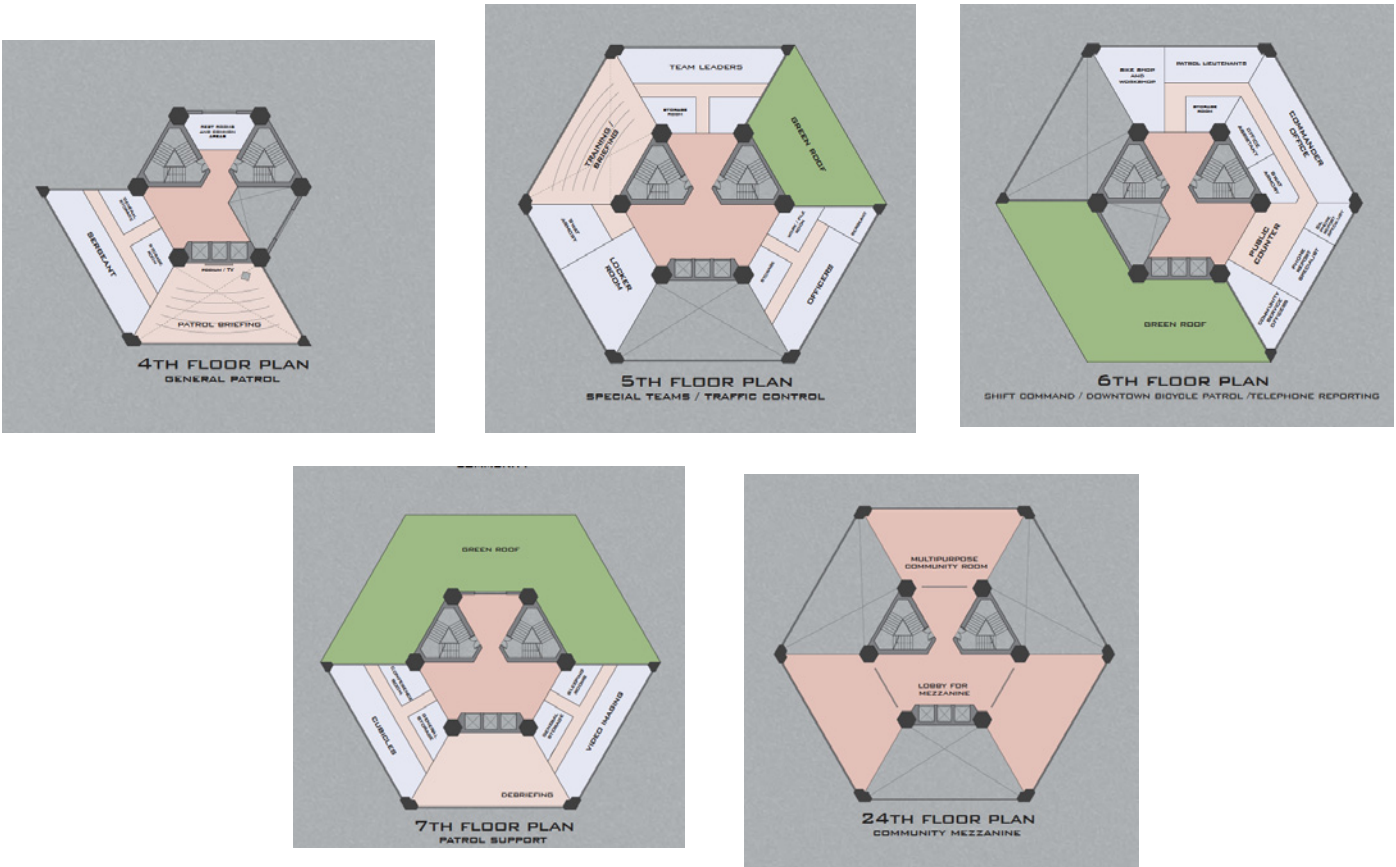


Figure 81: Scenario G.1: Basic plans.

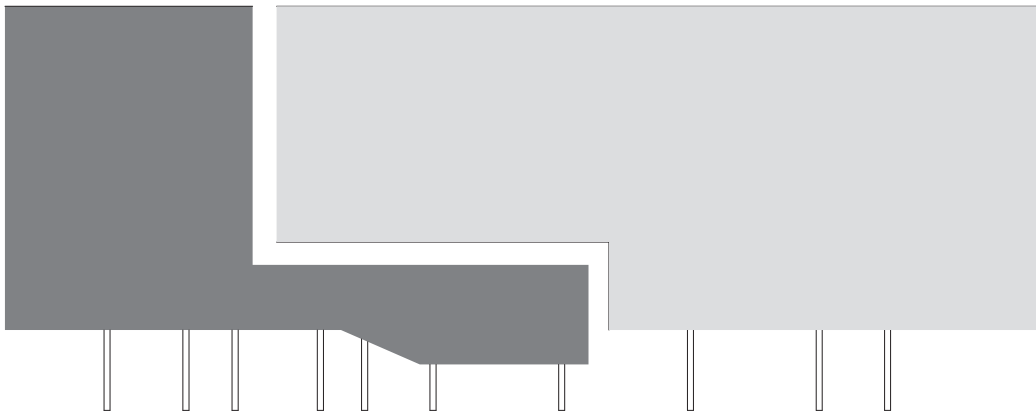


Figure 82: Scenario G.2: Programmatic separation.

Concentration on Sustainability

There are a variety of sustainable benefits when creating a tall narrow building. Sunlight can reach across the perimeter of the building, providing every space with adequate daylight. While solar heat gain is problematic, especially from the south and west facades, the narrow nature of the building allows for cross ventilation. Stack ventilation is also used in these projects and is successful due to the height of the facilities. The height of the ventilators allows for large amounts of air to be pulled through the building and distributed to all interior spaces.

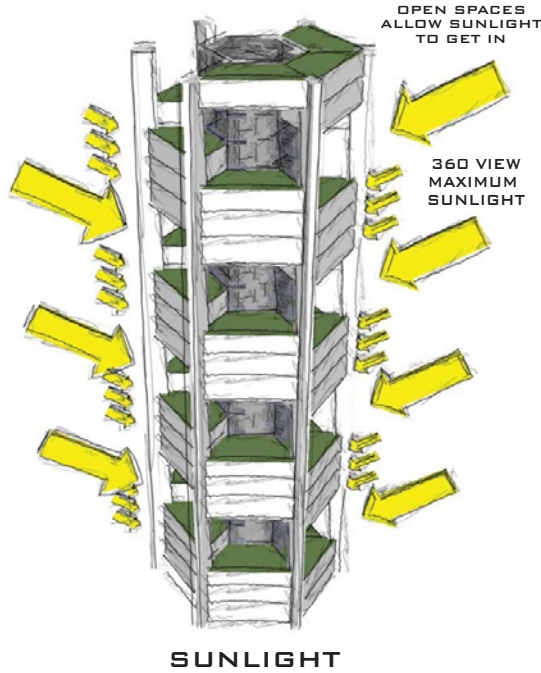


Figure 83: Scenario G.1: Sunlight diagram.

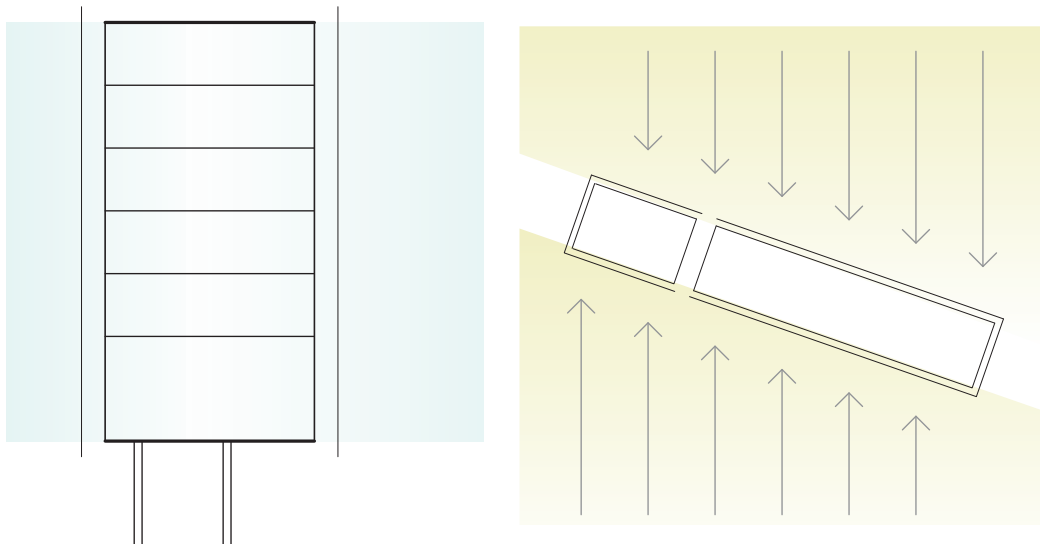


Figure 84: Scenario G.2: Slim diagram, sunlight diagram.

Scenario H: Structure Attachment

The seismic concerns of the Civic Center inspired these designs. These examples physically attached to the Civic Center, providing additional structural support, real or implied. Their location between the existing buildings is necessary in order to attach to the facility, and also allows for the public to be drawn into a single area and maintain the existing green space on the site.



Figure 85: Scenario H.1.

Dara Haagens used the visible structure in the design to reflect the support that the municipal government and police give each other (see Figure 85). The exposed structure is most apparent in the public space, providing wayfinding as well as reference to the sustainable strategies. The atrium in which the structure lives provides daylighting, active solar energy sequestration, and stack ventilation.



Figure 86: Scenario H.2.

Murray Hawker created a police station to provide a new face for the site and the Civic Center. Stretching the building across the width of the site appeals to both sides of the site (see Figure 86). Located between the Civic Center and the library, the station connects physically to the Civic Center, supporting and bracing the facility. Its central placement creates a center for the buildings, the site, and the city.

Relationship with Civic Center

In these designs, the physical connection of the new police station to the Civic Center creates a relationship between the two buildings, allowing interaction between the officers and city employees. It also portrays a greater message to the city of the connection between the police and the community and the importance of relationship in maintaining the positive quality of the city. These two sectors, the government and the police, support each other within the community, and this support is expressed in the architecture.



Figure 87: Scenario H.1: Looking from Liberty Street, south and east facades.

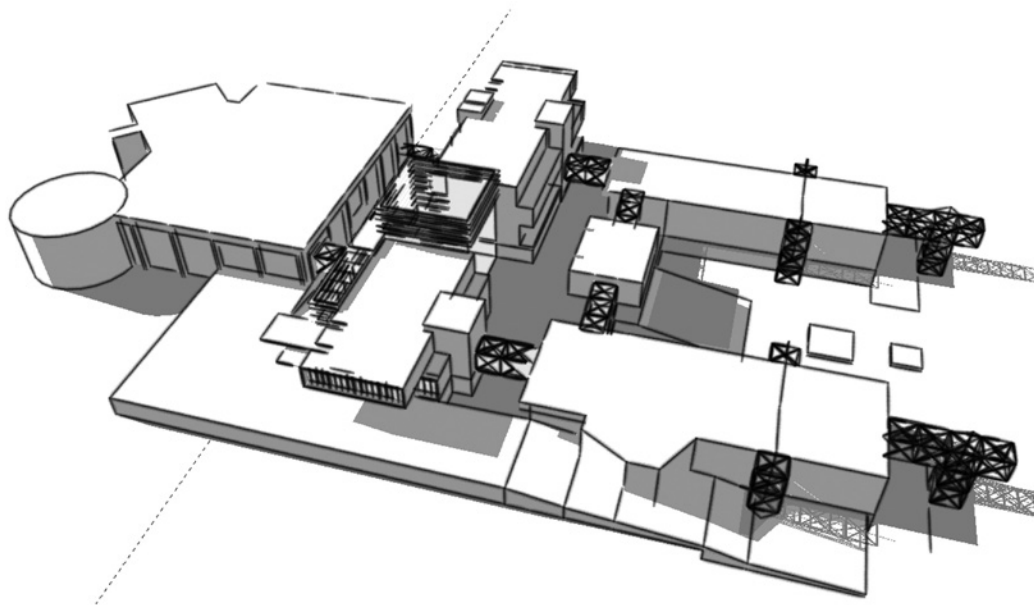


Figure 88: Scenario H.2: Structural connection to Civic Center, looking west.

Sustaining Civic Center

By potentially providing structural reinforcement for the Civic Center, these designs are adding to the life span of the building. Due to its structural deficiencies, the Civic Center is in need of significant reinforcement. The structure provided by the new police station could sustain the Civic Center for longer than currently expected, potentially reducing the cost of installing reinforcement into the Civic Center and also reducing the waste caused by demolition.

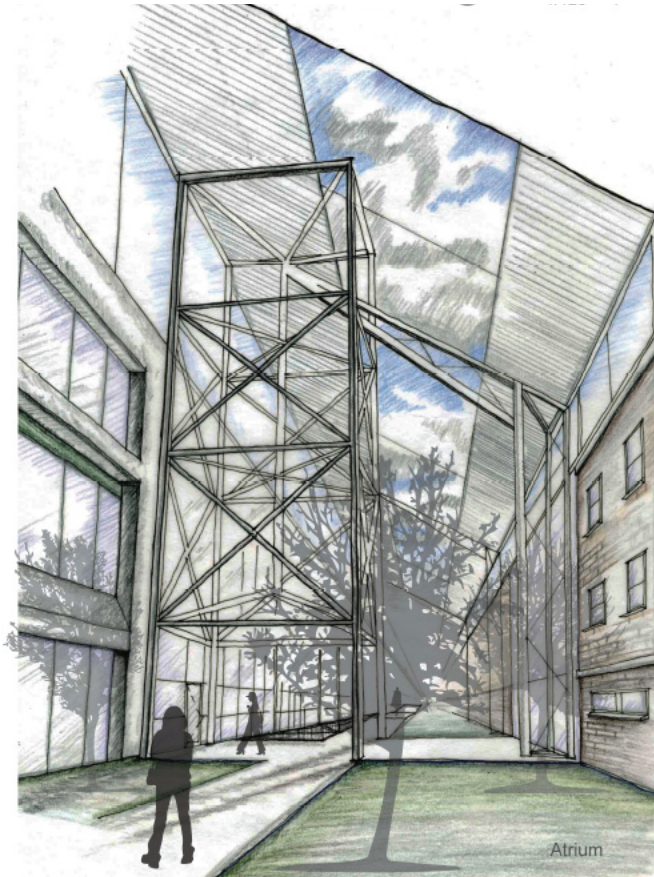


Figure 89: Scenario H.1: Interior atrium with structure.

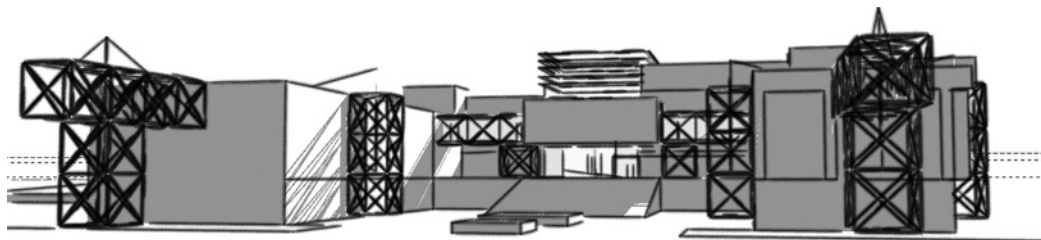


Figure 90: Scenario H.2: View of north facade of Civic Center, looking south from Mirror Pond.

Parking

These designs explored the possibility of adding the police parking below Peace Plaza. It allowed for police to have access to both sides of the campus to ensure efficient vehicle circulation. It also created efficient circulation for the officers between their cars and the station. Police vehicles needed to be secured, and the underground placement meets this need. With space remaining on the perimeter of the station, these designs incorporated public parking on grade, allowing public access both to the station and to the outdoor space surrounding the three facilities.

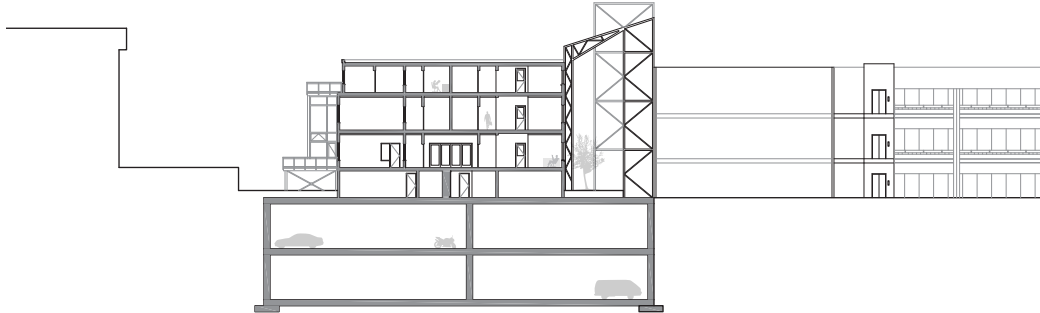


Figure 91: Scenario H.1: Transverse cross-section (Library to south, Civic Center to north).



Figure 92: Scenario H.2: Longitudinal section (Commercial Street to west, Liberty Street to east).



Figure 93: Scenario H.2: Perspective of east and north elevations (view looking southwest from Liberty Street).

Recommendations

Every student design aimed to address identified issues on the site, making it challenging to choose a single design as a solution. While each student approached the site and design of the police station from a different angle, there were recurring themes that arose. The design and placement of the police station will be a crucial step in creating longevity on the site, and the common themes highlight some viable strategies for ensuring a responsible and effective solution.

Sites North of the Civic Center

Sites north of the Civic Center allow for the opportunity to create an entrance for the site. At the north end of the campus, the police station could be the anchor of the site, opening toward the existing buildings. The openness of the northern area allows for excellent visibility and access for traffic moving north and south as well as pedestrian access from the pathway along Pringle Creek. The streets and the pathway, connecting to the rest of the city, would link the police station to the rest of the city, emphasizing the public nature of the facility. The drawbacks to siting the police station on the north end of the Civic Center campus would be the disturbance of the existing natural habitat and limitations in the Pringle Creek riparian corridor.

Sites South of the Civic Center

The addition of the police station on a site south of the Civic Center would densify the buildings, leaving the north end of the campus open for further green space development. In this location, the police station would aid in drawing the public to the space by creating a common entrance for all three facilities; public library, Civic Center, and police station. This site also allows for pedestrian and automobile access from both sides. One drawback of this site is the visibility from Liberty Street. The change of elevation between the street and the graded plaza creates a natural barrier and would require attention in order to ensure visibility. If the police station were to be in this location, Peace Plaza might need to be relocated.

Conclusions

It was the intention of the Fall 2010 design studio to develop a variety of schemes that would provide the City of Salem with new insight for the vision of developing a new police station. The 24 projects aimed to address the issues on the site and include the goals of the new police station. The hope was to illustrate the wide range of possibilities for the police station and the Civic Center as a whole as it strives to serve the Salem community in the most effective manner.

The students of the studio hope that their work on the designs and site planning will aid in the development of the Salem Police Station. The studio benefited from working closely with the clients and greatly appreciates the time the City of Salem staff and police spent working with the students.