# Gresham City Hall- programming document

**Megan Coyle, Aaron Frease, Tim Harkin, Brianne Johnson, Craig Riegelnegg**

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<td>42</td>
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</table>

**ARCH 549**  
**University of Oregon**
# Economic Development

<table>
<thead>
<tr>
<th>Values</th>
<th>Goals</th>
<th>Facts</th>
<th>Needs</th>
<th>Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>Interaction with other departments</td>
<td>- Work closely with other departments</td>
<td>- Adjacency to other departments and common areas in which to meet</td>
<td>- Share space with Urban Renewal</td>
</tr>
<tr>
<td></td>
<td>Comfort in the work environment</td>
<td>- They do not have control over their work environment</td>
<td>- Comfortable environment in order to get more work done</td>
<td>- HVAC controls in each office</td>
</tr>
<tr>
<td>Technological</td>
<td>Work more efficiently using technology</td>
<td>- Use technology on a daily basis</td>
<td>- Plug power control</td>
<td>- Place plugs near workspaces with easy accessibility</td>
</tr>
<tr>
<td>Safety</td>
<td>Protect confidential information</td>
<td>- No designated, secure storage</td>
<td>- Access to secure storage fairly frequently</td>
<td>- Lock on storage area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- No designated, secure conference room</td>
<td>- Separate, confidential conference room in order to handle private information</td>
<td>- Keep out of public realm</td>
</tr>
<tr>
<td>Temporal</td>
<td>Efficiency in managing spaces</td>
<td>- Conference rooms are double booked regularly as there is no central booking</td>
<td>- Central system for consistency throughout city hall to manage booking</td>
<td>- Online system to sign out conference rooms</td>
</tr>
</tbody>
</table>
Economic Development

- Urban Renewal
- Economic Development
- Planning
- Building Permits
- Development Engineer D.E.S.
Economic Development
## Gresham City Department of Economic Development Plan Areas - Current Future

<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>FUTURE</th>
<th>ROOM DIMS</th>
<th>TYP. AREA</th>
<th>TOTAL CURRENT</th>
<th>TOTAL FUTURE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no. of rooms</td>
<td>no. of rooms</td>
<td>feet</td>
<td>SF</td>
<td>SF</td>
<td>SF</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1</td>
<td>1</td>
<td>10' x 12'</td>
<td>130</td>
<td>130</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Conference Room</td>
<td>0</td>
<td>1</td>
<td>16' x 11'</td>
<td>160*</td>
<td>180</td>
<td>*shared space (UR)</td>
<td></td>
</tr>
<tr>
<td>Staff Cubicles</td>
<td>1</td>
<td>1</td>
<td>22' x 21'</td>
<td>462</td>
<td>462</td>
<td>462</td>
<td>4 occupants</td>
</tr>
<tr>
<td>Copy/Coffee Room</td>
<td>0</td>
<td>1</td>
<td>5' x 10'</td>
<td>50</td>
<td>0</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Reception</td>
<td>1</td>
<td>1</td>
<td>120*</td>
<td>120*</td>
<td>135*</td>
<td>*shared space (UR)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>922</strong></td>
<td><strong>872</strong></td>
<td><strong>1,052</strong></td>
</tr>
</tbody>
</table>

*shared space (UR)
## Values

### Efficient layout of built space
- Existing triangular layout produces inefficient space & dissatisfaction among occupants
- Public/Private not well defined
- Maximize usable space through planning
- Primarily rectilinear plan

### Provide gender specific facilities
- Currently minimal space dedicated to female firefighters
- Dedicated locker room/bathrooms
- Transparent division directly between lobby & public
- Construct 2 sets of gender specific locker room/bathroom facilities

### Secure separation of public/administrative space
- Current facility shares lobby with police station
- Lobby not currently secure
- Confusing building organization
- Clear organization and way finding
- Dedicated facilities
- Transparent division directly between lobby & public
- Group like functions together w/ circulation around them

## Technological

### Clear & unified organization of space and equipment
- Currently firefighter equipment is distributed haphazardly
- Consolidated space allowing for all special requirements
- Smaller storage divisions for specific uses
- Archive for paperwork
- Proper ventilation

## Temporal

### Provide for increased capacity
- Storms + weather emergencies, shift changes require more personnel on site
- Economic improvements will increase staff
- Spare generator to account for electrical/data
- Expandable space
- Have certain spaces be adaptable during times of crisis
- Provide more showers per bathroom

### Improve emergency response time
- Emergency response requires 5-minute response time
- Current facility too far from right of way
- Fast route to apparatus bays from living quarters
- Place building on site adjacent to main arterial
- Avoid placing building next to light rail stop
- Overdesign for systems
Fire Department

| Economic | Durability of Facilities | - Firefighting lifestyle produces heavy wear on a building | - Low maintenance materials that last as long as possible under heavy use conditions |
|          |                         | - Residential grade equipment is insufficient | - Concrete flooring |
|          |                         | - Tennis balls on chairs/boot scuffs on floors | - Commercial grade appliances & finishes |

| Aesthetic | Create presence/identity of building public | - Fire department wants a recognizable presence without suggesting exorbitant spending | - Appearance that is agreeable to the public |
|           |                                             | - Building will be visible to the public | - Historically evocative materials |
|           |                                             |                                           | - Community space |
|           |                                             |                                           | - Downplay expense of materials |

| Home-like atmosphere | - Firefighters spend a 24-hr shift in the living quarters every 3 days | - Flexible lounge space | - Scale spaces to domestic-style use |
|                      | - Cooking, laundry, sleeping quarters | - Exterior gathering space | - Open plan within communal spaces |
|                      | - Natural light & ventilation |
Fire Department

OVERALL ADJACENCY DIAGRAM

- PARKING LOT
- PUBLIC LOBBY
- RESTROOMS
- CONFERENCE ROOM
- APPARATUS BAY
- LIVING QUARTERS
- ADMINISTRATIVE OFFICE

- STREET

APPARATUS BAY:
- 4 BAYS @ 2 VEHICLES PER BAY
- EQUIPMENT STORAGE

LIVING QUARTERS:
- KITCHEN
- LIVING
- DINING
- PATIO
- WORKSTATIONS
- GYM
- LOCKER ROOM
- SHOWERS/BATHROOMS
- SLEEPING ROOMS

ADMINISTRATIVE OFFICE:
- FIRE CHIEF
- DEPUTY CHIEF
- (3) BATTALION CHIEFS
- SECRETARY
- ACCOUNTANT
- ACCT ASSITANT
- 1/2 TIME ADMIN ASSIST
- FIRE MARSHALL
- (7) DEPUTY FIRE MARSHALLS
Gresham City Hall

Fire Department
ADMINISTRATIVE OFFICE
ADJACENCY DIAGRAM

ADMINISTRATIVE GROUP

SECRETARY’S OFFICE

ACCOUNTANT + ASSISTANT ACCOUNTANT

1/2 TIME ADMIN. ASSISTANT

ASSISTANT TO FIRE CHIEF (MICHELLE)

FIRE CHIEF’S OFFICE

DEPUTY FIRE CHIEF’S OFFICE

FIRE MARSHALL’S OFFICE

7 DEPUTY FIRE MARSHALLS’ OFFICES

3 BATTALION CHIEFS OFFICES
Fire Department

LIVING QUARTERS

ADJACENCY DIAGRAM

LIVING  KITCHEN  DINING

LOUNGE  PATIO

SLEEPING ROOMS

APPARATUS BAYS

WORKSTATIONS

GYM

LOCKER ROOM

SHOWERS/ BATHROOMS
<table>
<thead>
<tr>
<th>EXISTING</th>
<th>FUTURE</th>
<th>ROOM DIMS</th>
<th>TYP. AREA</th>
<th>TOTAL CURRENT</th>
<th>TOTAL FUTURE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>no. of rooms</td>
<td>no. of rooms</td>
<td>feet</td>
<td>SF</td>
<td>SF</td>
<td>SF</td>
<td></td>
</tr>
<tr>
<td>Fire Reception Area</td>
<td>1</td>
<td>0</td>
<td>34' x 23'</td>
<td>782</td>
<td>782</td>
<td>0</td>
</tr>
<tr>
<td>Public Lobby</td>
<td>0</td>
<td>1</td>
<td>25' x 12'</td>
<td>300</td>
<td>0</td>
<td>300</td>
</tr>
<tr>
<td>Admin. Offices</td>
<td>0</td>
<td>1</td>
<td>34' x 23'</td>
<td>782</td>
<td>0</td>
<td>782</td>
</tr>
<tr>
<td>Admin. Reception &amp; Work Area</td>
<td>1</td>
<td>0</td>
<td>25' x 20'</td>
<td>500</td>
<td>500</td>
<td>0</td>
</tr>
<tr>
<td>Fire Chief's Office</td>
<td>1</td>
<td>1</td>
<td>17' x 12'</td>
<td>204</td>
<td>204</td>
<td>204</td>
</tr>
<tr>
<td>Fire Chief's Assistant</td>
<td>0</td>
<td>1</td>
<td>15' x 10'</td>
<td>150</td>
<td>0</td>
<td>150</td>
</tr>
<tr>
<td>Fire Marshal Office</td>
<td>1</td>
<td>1</td>
<td>15' x 10'</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Deputy Fire Chief Office</td>
<td>1</td>
<td>1</td>
<td>17' x 10'</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>Battalion Chief Office</td>
<td>1</td>
<td>1</td>
<td>17' x 12'</td>
<td>204</td>
<td>204</td>
<td>400</td>
</tr>
<tr>
<td>Deputy Fire Marshal Office</td>
<td>4</td>
<td>4</td>
<td>15' x 12'</td>
<td>180</td>
<td>720</td>
<td>720</td>
</tr>
<tr>
<td>Storage</td>
<td>4</td>
<td>2</td>
<td>13' x 10'</td>
<td>130</td>
<td>520</td>
<td>520</td>
</tr>
<tr>
<td>Break Room</td>
<td>1</td>
<td>1</td>
<td>19' x 10'</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>Management Analyst Office</td>
<td>1</td>
<td>1</td>
<td>14 x 10'</td>
<td>140</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td>Conference Room</td>
<td>1</td>
<td>1</td>
<td>20' x 20'</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Service Area</td>
<td>3</td>
<td>3</td>
<td>20' x 10'</td>
<td>200</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Wash Room</td>
<td>1</td>
<td>1</td>
<td>10' x 10'</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Apparatus Bays (double width)</td>
<td>3</td>
<td>4</td>
<td>69' x 18'</td>
<td>1,242</td>
<td>3,726</td>
<td>4,968</td>
</tr>
<tr>
<td>Exercise Room</td>
<td>1</td>
<td>1</td>
<td>18' x 13'</td>
<td>234</td>
<td>234</td>
<td>700</td>
</tr>
<tr>
<td>Day Room/ Open Office Area</td>
<td>1</td>
<td>1</td>
<td>25' x 21'</td>
<td>525</td>
<td>525</td>
<td>525</td>
</tr>
<tr>
<td>TV Area</td>
<td>1</td>
<td>1</td>
<td>25' x 20'</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Kitchen/ Eating Area</td>
<td>1</td>
<td>1</td>
<td>30' x 20'</td>
<td>600</td>
<td>600</td>
<td>800</td>
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<tr>
<td>Office</td>
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<td>0</td>
<td>12' x 10'</td>
<td>120</td>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>Report/ Emergency Command Room</td>
<td>0</td>
<td>1</td>
<td>30' x 20'</td>
<td>600</td>
<td>0</td>
<td>600</td>
</tr>
<tr>
<td>Bedroom</td>
<td>8</td>
<td>10</td>
<td>11' x 9'</td>
<td>99</td>
<td>792</td>
<td>990</td>
</tr>
<tr>
<td>Locker Room/ Showers</td>
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<td>2</td>
<td>30' x 13'</td>
<td>390</td>
<td>390</td>
<td>780</td>
</tr>
<tr>
<td>Bathroom</td>
<td>2</td>
<td>2</td>
<td>18' x 10'</td>
<td>180</td>
<td>360</td>
<td>360</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td></td>
<td>11,927</td>
<td>15,049</td>
<td></td>
</tr>
<tr>
<td>Circulation 15% of total</td>
<td></td>
<td></td>
<td></td>
<td>1,789</td>
<td>2,257</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>13,716</td>
<td>17,306</td>
<td></td>
</tr>
</tbody>
</table>
EXISTING BUILDING ANALYSIS:

- BUILDING NOT PROMINENTLY LOCATED, ENTRY HARD TO FIND
- WAYFINDING IS DIFFICULT THROUGHOUT THE BUILDING
- LONG, BLANK CORRIDORS ARE UNINSPIRING
- PUBLIC AND PRIVATE SPACE NOT CLEARLY DEFINED
- FLEET VEHICLES ARE TOO FAR AWAY
- NOT ALL SPACE IS USED EFFICIENTLY
- SKYLIGHTS ENHANCE STAIRWELLS
- NEAR MAX LINE
- PROXIMITY TO OTHER LOCAL GOVERNMENT FUNCTIONS
GOALS FOR CITY HALL:

- ACCESS TO NATURAL LIGHT
- ACCESS TO FRESH AIR
- AESTHETICALLY PLEASING COMMON SPACES
- ENCOURAGE CREATIVITY
- BETTER CONNECTION TO THE PUBLIC
- ACCESSIBILITY
- KEEP DEPARTMENTS TOGETHER
- SECURITY & SAFETY
- ENCOURAGE HEALTHY LIFESTYLE

DESIGN GOALS:

- LOCATE THE CITY HALL IN A PLACE OF PROMINANCE
- RESPOND TO SITE AND CLIMATIC CONDITIONS
- APPLY THE SAME DEVELOPMENT GOALS FOR DOWNTOWN GRESHAM TO THE CITY HALL
GRESHAM CITY HALL WILL HAVE A STRONG CIVIC IDENTITY AND RESPONSIBLY DRIVE FUTURE DEVELOPMENT WITHIN THE CITY.
Gresham City Hall

BUILDING PRECEDENT:
Minneapolis Central Library
Pelli Clarke Pelli Architects
Gresham City Hall

ZONING ANALYSIS: SITE 4

DRL-1:
- single family homes/duplexes
- distinct neighborhoods
- walkable

DTM:
- near transit
- commercial
- promote transit use

DCC:
- small scale
- walkable
- mix of old and new

DMU:
- mix of uses
- connection between pedestrians & vehicles
Gresham City Hall

NW DIVISION ST

N MAIN AVE

ARCH 549

University of Oregon

Site #4
Gresham City Hall

Site Context

ARCH 549

University of Oregon
Gresham City Hall

Site Context
Gresham City Hall

FINANCE AND MANAGEMENT / URBAN PLANNING / ENVIRONMENTAL SERVICES
FIRST FLOOR

Office Space
Support Space
Entry Vestibule
Common Space
Gresham City Hall

1ST FLOOR

2ND FLOOR

3RD FLOOR

POLICE STATION PLANS
1 - LOBBY
2 - CONFERENCE
3 - RESTROOM
4 - OPEN OFFICE
5 - ASSISTANT TO FIRE CHIEF
6 - FIRE CHIEF
7 - DEPUTY FIRE CHIEF
8 - BATTALION CHIEF
9 - FIRE MARSHALL
10 - DEPUTY FIRE MARSHALL
11 - REPORT / COMMAND CENTER
12 - STORAGE
13 - BREAK ROOM
14 - APPARATUS BAY
15 - TRAINING TOWER
Gresham City Hall

FIRE STATION - FLOOR 2

1 - KITCHEN
2 - DINING
3 - DAY ROOM / OFFICE
4 - TV ROOM
5 - PANTRY
6 - REFRIGERATOR/FREEZER
7 - STORAGE
8 - LOCKER ROOM
9 - SLEEPING ROOM
Gresham City Hall acts as a public face to the City of Gresham. Thus, the building should act as a catalyst for change and improvement. One place that the new city hall can encourage change is in energy usage. Emphasizing sustainable practices, Gresham has the opportunity to set a standard for other building projects in the area. By adhering to certain standards and calculating energy usage, Gresham City Hall would act as a benchmark and would encourage other buildings to set sustainability goals.

Currently, there are many sustainability standards to help evaluate energy consumption. The 2030 Challenge is a call for buildings to reduce their energy usage by 50% of the area’s average consumption. The existing Gresham City Hall, in order to meet the 2030 Challenge, would need to reduce its energy consumption by 55%, as the city hall currently uses $160, 403.29 per year on energy, which is more than an average building in the area. This can be seen in the Figure 1 Energy Start Target Finder Chart, as the Target and Average Building annual energy costs are lower than the current city hall. Our proposed design does not yet meet the 2030 Challenge either, but through more development of the building envelope and mechanical systems it could reach the target (Figure 5).

In general terms, energy consumption for Gresham City Hall is equivalent to an office building the same size. During business hours lights and air temperatures need to be controlled. After hours, the loads are lessened, as employees are not there. Many Gresham City Hall employees feel they need a comfortable work environment in order to be successful. Also, being an image of the city to the public, the employees want the city hall to uphold their views. This leads to needing energy efficient facilities that provide a sustainable, more comfortable work environment.

There are many strategies for keeping energy use low while still creating a comfortable work environment. Due to site restrictions, the proposed building is elongated in a north-south direction. By using low-e glass and blinds, light and heat gain can be controlled by the user, creating a more comfortable work environment. In studying annual energy usage, the primary way to save energy would be to use a joint natural ventilation cooling and mechanical heating instead of a conventional mechanical heating and cooling system (Figure 2: Maximum Efficiency compared...
to the Baseline). Simply changing the orientation from a primary western exposure to a southern exposure only lessened the need for lighting a small amount (Figure 3). By placing workspaces near windows, employees have access to natural light throughout the day. To optimize natural daylight, the depth of the floor plates should be small, no more than 50 feet, so that daylight can reach the center of the space (Figure 4). Keeping workspaces near windows can also give more control to one's personal climate, as windows can be opened at certain times of day to provide natural ventilation.

A more sustainable city hall not only creates a more productive work environment for the employees, but also encourages other local businesses to adopt sustainable practices. Sustainable cities are important to the future of our natural environment and thus our world. Therefore, making Gresham City Hall a sustainable catalyst will help not only the residents of Gresham but also the environment.
Figure 5

Energy and Carbon Results

- Proposed building energy use: 3,462.48 MBtu/yr
- Proposed building carbon emissions: 455.4 tons CO2/yr

Energy breakdown:
- Heating: 5%
- Cooling: 6%
- Lights: 28%
- Equipment: 61%

AIA 2030 Challenge - summary

Current design meets 2030 Challenge Target for:
- Design Building Energy Use Intensity: 47 kBTU/ft²
- Average Building Energy Use Intensity: 66 kBTU/ft²

Does not meet current target
- Administrative/Professional and Government Office

Analysis Details:
- Location: Portland, Oregon
- Climate File: PortlandTM2.dot
- Calculated: 09/Dec/2009 at 16:33
- Calculation period: 01/Jan - 31/Dec

The AIA 2030 Challenge provides a roadmap of targets for U.S. building projects, culminating in being carbon neutral by 2030.

Implementation of the Challenge requires the use of targets for building types presented in the current building stock.

Challenge targets for selected building type:

<table>
<thead>
<tr>
<th>Year</th>
<th>% Reduction</th>
<th>BTU/ft²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>50</td>
<td>27</td>
</tr>
<tr>
<td>2018</td>
<td>70</td>
<td>23</td>
</tr>
<tr>
<td>2020</td>
<td>90</td>
<td>20</td>
</tr>
<tr>
<td>2025</td>
<td>99</td>
<td>20</td>
</tr>
<tr>
<td>2035</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

For certain building types, targets are calculated using Energy Star methodology where energy consumption is normalized to reduction against average.
## Building Area Allocations

<table>
<thead>
<tr>
<th>Department</th>
<th>Area (sf)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fire Dept. Total</strong></td>
<td>21880 sf</td>
</tr>
<tr>
<td>Apparatus Bays</td>
<td>8085 sf</td>
</tr>
<tr>
<td>Administration</td>
<td>5865 sf</td>
</tr>
<tr>
<td>Living Quarters</td>
<td>6430 sf</td>
</tr>
<tr>
<td>Gym / Exercise</td>
<td>1500 sf</td>
</tr>
<tr>
<td><strong>Police Dept. Total</strong></td>
<td>35135 sf</td>
</tr>
<tr>
<td><strong>City Hall Total</strong></td>
<td>67500 sf</td>
</tr>
<tr>
<td>Public / Retail / Service</td>
<td>27286 sf</td>
</tr>
<tr>
<td>Common Dept. Space</td>
<td>5820 sf</td>
</tr>
<tr>
<td>Finance and Management</td>
<td>2400 sf</td>
</tr>
<tr>
<td>Urban Planning</td>
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<tr>
<td>Environmental Services</td>
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<tr>
<td>Office of Governance and Management</td>
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<tr>
<td>Community Development</td>
<td>5547 sf</td>
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<tr>
<td>Economic Dev./Urban Renewal</td>
<td>772 sf</td>
</tr>
<tr>
<td>Information Technology</td>
<td>2879 sf</td>
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<tr>
<td>City Attorney</td>
<td>1620 sf</td>
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